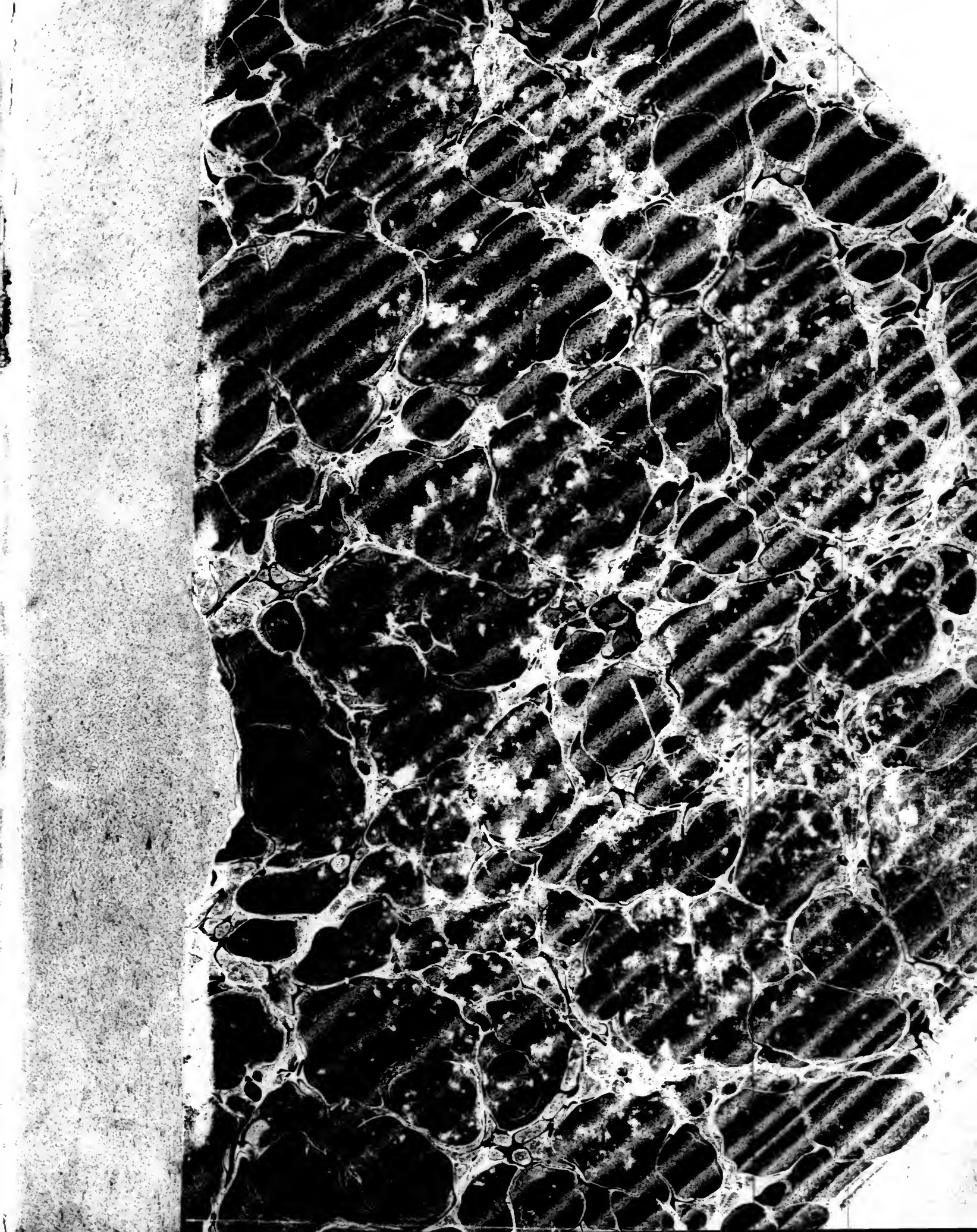


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American Railroad Journal.

Saturday, January 1, 1853.

Railroads in the United States in 1853.

With this number we present the annual review of the condition and progress of railroads in the United States.

The past season has been one of extraordinary prosperity both with our works in operation and in progress. The increased earnings of our roads over the past year will average at least 15 per cent upon their mileage, and 10 per cent upon their cost. This increase is due partly to the abundant crops which have prevailed throughout the country, to the great activity which has prevailed in every department of industry, and to the rapid extension of our railroad system. Every additional mile opened, adds directly to the traffic of those already completed.

The result of the past year has exerted a most favorable influence upon this kind of property. The market value of which has steadily appreciated. It has also tended to secure an increased degree of confidence in the security of works in progress, which has enabled them to negotiate their loans

with greater ease and upon better terms, than at any former period.

Our new works have been prosecuted with extraordinary activity and success. The uniform abundance of money which has prevailed throughout the year has supplied to them the means of construction as fast as wanted. We believe that there is no one of any importance that has been obliged to suspend or even to curtail its operations to any considerable extent from want of funds. Those interested in the several projects have contributed liberally, and have generally found no difficulty in providing a sufficient sum to form as the basis of a loan necessary to complete their respective works.

By the tabular statement annexed, it will be seen that there are 13,315 miles of railroad in operation in the United States, and 12,029 in progress against 21,693 in operation and in progress in 1852, showing an increase of the former of 2500 miles, and the latter of 1150 miles, viz:

STATES.	No. of miles in operation.	No. of miles in progress.	Total.
Maine.....	395	111	506
New Hampshire.....	500	42	542
Vermont.....	439	..	439
Massachusetts.....	1140	66	1206
Rhode Island.....	50	32	82
Connecticut.....	630	198	828
New York.....	2150	1004	3154
New Jersey.....	254	85	339
Pennsylvania.....	1211	914	2125
Delaware.....	16	11	27
Maryland.....	521	..	521
Virginia.....	624	610	1234
N. Carolina.....	249	248	497
S. Carolina.....	599	296	895
Georgia.....	857	203	1060
Florida.....	23	..	23
Alabama.....	236	666	902
Mississippi.....	95	875	970
Louisiana.....	63	200	263
Texas.....	32	..	32
Tennessee.....	185	509	694
Kentucky.....	94	659	753
Ohio.....	1418	1736	3154
Indiana.....	755	979	1734
Michigan.....	427	..	427
Illinois.....	296	1662	1958
Missouri.....	..	515	515
Wisconsin.....	56	417	473
Total.....	13,315	12,029	25,343

Tabular statement, showing the number of miles of railroad in operation and progress, January 1, 1853.

	Miles in operation.	Miles in progress.	Total.
Maine.....	315	127	442
New Hampshire.....	489	47	536
Vermont.....	380	59	439
Mass.....	1089	67	1156
Rhode Island.....	50	32	82
Connecticut.....	547	261	808
New York.....	1826	745	2571
New Jersey.....	226	111	337
Penn.....	1146	774	1920
Delaware.....	16	11	27
Maryland.....	376	125	501
Virginia.....	478	818	1296
N. Carolina.....	249	385	634
S. Carolina.....	340	298	638
Georgia.....	754	229	983
Alabama.....	121	189	310
Miss.....	93	273	366
Louisiana.....	63	..	63
Texas.....	..	32	32
Tennessee.....	112	748	860
Kentucky.....	93	404	497
Ohio.....	628	1892	2520
Michigan.....	427	..	427
Indiana.....	600	905	1505
Illinois.....	176	1409	1585
Missouri.....	..	515	515
Wisconsin.....	20	421	441
Total.....	10,814	10,878	21,693

The following tabular statement will show the increase of mileage of railroads from January 1, 1848, to January 1, 1851, (with the exception of 1850) viz:

	Miles in operation Jan. 1, '48.	Miles in operation Jan. 1, '49.	Total Jan. 1, 1851.
Maine.....	764	1114	257
New Hampshire.....	1674	2634	471
Vermont.....	..	914	366
Massachusetts.....	7044	8764	1042
Rhode Island.....	644	644	61
Connecticut.....	193	2704	450
In New England.....	12074	1678	2647
New York.....	744	1019	1469
New Jersey.....	2024	239	232
Pennsylvania.....	7204	7204	913
Delaware.....	16	16	16
Maryland.....	258	252	315
Virginia.....	406	406	306
N. Carolina.....	255	255	249
S. Carolina.....	204	204	270
Georgia.....	602	602	661
Florida.....	26	26	23
Alabama.....	92	111	112
Mississippi.....	95	95	95
Louisiana.....	504	504	89
Kentucky.....	28	28	77
Tennessee.....	..	..	..

Illinois.....	53	53	118
Indiana.....	86	86	226
Ohio.....	262	294	596
Michigan.....	264	264	357

Total.....5565 8856 6397

It will be seen that the increased mileage of lines in operation and progress during the past year is equal to 3668 miles.

In the above table, only such lines as are either in operation, or in actual progress, are intended to be embraced. There is in addition a large extent of line which will soon be prepared for contract. The increase for the present year will probably fully equal that of the past, while a greater extent will probably be completed.

Tabular statement showing the area, and the number of square miles to each mile of railroad in the several States:

	Areas.	Miles of railroad.	Square miles to each mile of R. R.
Maine.....	30,290	506	59.6
N. Hampshire.....	9,000	542	16.6
Vermont.....	10,212	439	23.2
Massachusetts.....	7,800	1206	6.4
Rhode Island.....	1,306	82	16
Connecticut.....	4,674	828	5.6
New York.....	46,000	3154	14.6
New Jersey.....	8,320	379	24.5
Pennsylvania.....	46,000	2125	21.6
Delaware.....	2,120	27	78.5
Maryland.....	9,356	521	18.4
Virginia.....	61,352	1234	49.6
North Carolina.....	45,000	497	90.5
South Carolina.....	24,500	895	27.4
Georgia.....	58,000	1060	54.7
Florida.....	59,268	23	2576
Alabama.....	50,722	902	56.2
Mississippi.....	47,156	970	48.7
Louisiana.....	46,431	263	176.4
Texas.....	237,321	32	7416
Tennessee.....	45,608	694	65.6
Kentucky.....	37,680	723	50
Ohio.....	39,964	753	12.7
Michigan.....	56,243	427	131.7
Indiana.....	33,809	1734	19.5
Illinois.....	55,405	1958	28.3
Missouri.....	67,380	515	138
Wisconsin.....	53,924	473	11.4

25,343

Table showing the population of the several States, and the number of inhabitants in each to one mile of railroad.

STATES.	Miles of railroad.	Population.	Inhabitants to one mile of railroad.
Maine.....	506	553,188	1152
New Hampshire.....	542	317,964	587
Vermont.....	439	314,120	715
Massachusetts.....	1206	994,499	83
Rhode Island.....	82	147,544	1799
Connecticut.....	828	370,791	447
New York.....	3,154	3,097,349	982
New Jersey.....	339	480,553	1417
Pennsylvania.....	2125	2,311,786	1088
Delaware.....	27	91,535	33902
Maryland.....	508	583,035	11477
Virginia.....	1234	1,421,661	1152
North Carolina.....	499	868,993	1748
South Carolina.....	895	668,507	747
Georgia.....	1060	905,999	855
Florida.....	23	27,401	3800
Alabama.....	902	771,671	855
Mississippi.....	970	600,555	6253
Louisiana.....	263	517,739	1968
Texas.....	32	212,592	6643
Tennessee.....	694	1,002,625	14436
Kentucky.....	753	982,405	13047
Ohio.....	3154	1,980,408	628
Michigan.....	427	397,654	9312
Indiana.....	1734	988,415	570
Illinois.....	1948	851,470	4349
Missouri.....	515	652,033	13245
Wisconsin.....	473	305,091	6452

The two statements immediately preceding will convey a pretty accurate idea of the probable extent to which the construction of railroads will be eventually carried in the United States. The state having the greatest number of miles in proportion to its area and population is Connecticut. This state has no large cities, and its people are either engaged in manufacturing or agriculture. There can be no reason why all portions of the eastern states, possessing an equally dense population, should not eventually have an equal number of miles of railroad in proportion.

Among the western states Ohio stands pre-eminent, having one mile of railroad to a little more than twelve square miles of territory, and to 638 inhabitants. This state will probably soon lead all others in the extent of its railroads, if not in the ratio they will sustain to area and population.

There can be no doubt that the construction of railroads in the South and West will continue, till all the States within those great divisions of the country are as well supplied as Ohio. This would require the construction of over 80,000 miles, estimating the occupied area of the country to be 1,000,000. But in Ohio railroads have been in progress only a few years, and the present one will add many hundred miles probably to its present aggregate. There can be no doubt that for many years to come, railroads will continue to be constructed in an equally rapid ratio to that they have for a few years past. Nearly every part of the U. States is well adapted to their cheap and expeditious construction, and in a country like our own, they replace their cost in a very few years, in the saving effected in the cost of transportation.

We have in preparation, a statement, showing the cost of the several routes, and the aggregate cost in the aggregate; but we prefer to delay its publication until we receive copies of the returns that many of our companies make to their respective legislatures, at the commencement of the year. Estimating the cost of our roads in operation at \$30,000 per mile, which probably slightly exceeds the fact, the total amount expended upon such, would be about \$400,000,000; at the same average the roads in progress will cost \$361,000,000; the whole \$761,000,000. It is probable that the amount expended in railroads in this country within three years from this time, will exceed this sum.

Should our future operations be conducted by the same prudence, and good sense that have characterized the past, we have little reason to fear any injurious consequences from the investment of so vast an amount of our available capital. So long as our projects are constructed only in anticipation of the wants of our existing business, and are made to follow the natural channels and directions of commerce, instead of being made instruments of selfish, or unscrupulous managers, they will prove an inestimable boon to the community, as well as yield a lucrative return to their stockholders.

The large incomes of our roads, and their successful management, the fact that their franchises are universally exempt from taxation, as are the shares and loans, are attracting a large amount of money from the capitalists of Europe. The amount of call for our securities from this quarter is fully equal to the supply of such as are adapted to the foreign market. There can be no doubt that foreign orders will increase, rather than diminish.

The past year has been signalized by a number of important events in the history of roads; among which have been the completion of the Baltimore

and Ohio, the opening of a through line through Pennsylvania, and the union of the roads of the two great divisions of the country by the completion of the Lake Shore roads. All the most important western cities have now railroad connections with the East. Our lines of road have been pushed more than 1000 miles directly into the interior, and the Mississippi river is nearly reached at two points.

On the whole we have good reason to congratulate ourselves for the extraordinary prosperity of this great interest, which is now becoming the paramount one in the country. A little self complacency will be pardoned, when it is seen that a nation of only 25,000,000 of people, are building more miles of railroad and will soon have a greater extent of line than all the world besides, and that we have done what no other nation has, made them profitable investments by good management, and instrumental in bettering the condition of every person in the community.

Tabular statement showing the number of miles of railroad in progress and in operation in the United States, January, 1853.

MAINE.

ROADS.	Miles in operation.	Miles in progress.
Androscoggin and Kennebec.....	55	..
Atlantic and St. Lawrence.....	150	..
Buckfield branch.....	13	..
Bangor and Piscataquis.....	12	..
Kennebec and Portland.....	60	..
Bath branch.....	9	..
Portland, Saco and Portsmouth.....	51	..
Calais and Baring.....	6	..
Machias port.....	8	..
York and Cumberland.....	10	43
Androscoggin.....	20	..
Penobscot and Kennebec.....	..	55
Bangor and Milford.....	..	13
Total.....	395	111

NEW HAMPSHIRE.

Boston, Concord and Montreal.....	71	22
Cochecho.....	28	..
Concord.....	35	..
Concord and Claremont.....	25	..
Contocook Valley.....	14	..
Great Falls and Conway.....	13	..
Manchester and Lawrence.....	26	..
New Hampshire Central.....	26	..
Northern.....	82	..
Portsmouth and Concord.....	47	..
Sullivan.....	25	..
Wilton.....	15	..
Cheshire.....	54	..
Ashuelot.....	23	..
Eastern.....	16	..
White Mountain.....	..	20
Total.....	500	42

VERMONT.

Connecticut and Passumpsic River.....	61	..
Rutland and Burlington.....	119	..
Vermont Central.....	164	..
Rutland and Washington.....	12	..
Vermont Valley.....	24	..
Benning branch.....	6	..
Western Vermont.....	53	..
Total.....	439	..

MASSACHUSETTS.

Berkshire.....	21	..
Boston and Lowell.....	29	..
Boston and Maine.....	83	..
Boston and Providence.....	53	..
Stoughton branch.....	4	..
Boston and Worcester.....	69	..
Cape Cod branch.....	28	..
Dorchester and Milton.....	3	..
Eastern.....	58	..
Essex (Salem to Lawrence).....	21	..

Fall River.....	42	Sackett's Harbor and Ellisburg.....	17	VIRGINIA.		
Fitchburg.....	67	Troy and Boston.....	32	Richmond and Danville.....	65	75
Fitchburg and Worcester.....	18	Canandaigua and Niagara Falls.....	..	Richmond and Petersburg.....	22	..
Lowell and Lawrence.....	13	Syracuse and Binghamton.....	..	Clover Hill.....	15	..
Nashua and Lowell.....	15	Sodus Bay and Southern.....	..	South Side.....	50	60
New Bedford and Taunton.....	33	Potsdam, Watertown and Sacket's Har.....	..	Manassas Gap.....	..	75
Newburyport.....	15	Lake Ontario and Auburn.....	..	Petersburg and Roanoke.....	60	..
Norfolk County.....	26	Genesee Valley.....	..	Seaboard and Roanoke.....	80	..
Old Colony (Boston to Plymouth).....	45	Buffalo and Olean.....	..	Appomattox.....	9	..
Petersboro' and Shirley.....	23	Lebanon Springs.....	..	Winchester and Potomac.....	32	..
Pittsfield and N. Adams.....	20	Total.....	2,150	Virginia Central, including Blue Ridge.....	104	75
Providence and Worcester.....	44	NEW JERSEY.		Virginia and Tennessee.....	50	155
South Shore.....	11	Belvidere and Delaware.....	15	Orange and Alexandria.....	40	50
Stony Brook.....	13	Burlington and Mount Holly.....	6	Richmond, Fredericksburg and Potomac.....	76	..
Western (Boston to Albany).....	117	Camden and Amboy.....	64	Greenville and Roanoke.....	21	..
Worcester and Nashua.....	46	Camden and Essex.....	35	Northwestern.....	..	120
Vermont and Massachusetts.....	77	New Jersey.....	31	Total.....	624	610
Housatonic branch.....	11	New Jersey Central.....	64	NORTH CAROLINA.		
South Reading branch.....	9	Trenton branch.....	6	Gaston and Raleigh.....	87	..
Salem and Lowell.....	17	Union.....	33	Wilmington and Weldon.....	162	..
Grand Junction.....	7	Total.....	254	North Carolina Central.....	..	223
Harvard branch.....	1	PENNSYLVANIA.		Weldon and Cleveland.....	..	25
Lexington and West Cambridge.....	7	Alleghany Portage.....	36	Total.....	249	248
Connecticut River.....	52	Beaver Meadow.....	36	SOUTH CAROLINA.		
Troy and Greenfield.....	..	Carbondale and Honesdale.....	24	South Carolina.....	241	..
South Reading branch.....	9	Columbia and Philadelphia.....	82	Greenville and Columbia.....	163	..
Charles River branch.....	..	Westchester branch.....	9	Charlotte and South Carolina.....	110	..
Stockbridge and Pittsfield.....	22	Corning and Blossburg.....	25	King's Mountain.....	25	..
Palmer and Amherst.....	12	Cumberland Valley.....	52	Laurens.....	15	16
Total.....	1140	Hazleton and Lehigh.....	10	Spartanburg and Union.....	..	60
RHODE ISLAND.		Little Schuylkill.....	20	Wilmington and Manchester.....	45	117
Stonington.....	50	Extension to Tamencud.....	..	Charleston and North Eastern.....	..	103
Providence, Hartford and Fishkill.....	..	Mine Hill.....	30	Total.....	599	296
Total.....	50	Mount Carbon.....	7	GEORGIA.		
CONNECTICUT.		Pennsylvania.....	221	Central.....	191	..
Hartford and New Haven.....	62	Philadelphia, Reading and Pottsville.....	92	Georgia.....	175	..
Hartford, Providence and Fishkill.....	50	Philadelphia and Norristown.....	17	Macon and Western.....	101	..
Housatonic.....	98	Germantown branch.....	6	Western and Atlantic.....	140	..
Middletown branch.....	10	Philadelphia and Trenton.....	30	Southwestern.....	50	59
Naugatuck.....	62	Philadelphia, Wilmington and Balt.....	98	Rome branch.....	20	..
New Haven Canal.....	45	Schuylkill Valley.....	25	Muscogee.....	51	21
New London, Willimantic and Palmer.....	66	Summit Hill and Mauch Chunk.....	25	Atlanta and West Point.....	52	35
New London and New Haven.....	50	Whitehaven and Wilkesbarre.....	20	Milledgeville.....	17	..
New York and New Haven.....	76	Williamsport and Elmira.....	21	Eaton and Milledgeville.....	..	20
Norwich and Worcester.....	66	Franklin.....	22	Wilkes county.....	..	18
Collinsville branch.....	11	Dauphin and Susquehanna.....	16	Athens branch.....	39	..
Air-line.....	102	Strasburg.....	7	Waynesboro'.....	21	50
Danbury and Norwalk.....	24	Lykens Valley.....	16	Total.....	857	803
Middleton branch.....	10	Nesquehoning.....	5	FLORIDA.		
Total.....	630	Room Run.....	5	St. Marks and Tallahassee.....	23	..
NEW YORK.		Chester Valley.....	22	ALABAMA.		
Albany and Schenectady.....	17	Lehigh, Delaware, Schuylkill and Susq.....	..	Montgomery and West Point.....	88	..
Albany and West Stockbridge.....	38	Pine Grove.....	5	Mobile and Ohio.....	33	30
Buffalo and Niagara Falls.....	22	Beaver Meadow.....	12	Alabama and Tennessee.....	40	160
Cayuga and Susquehanna.....	33	York and Cumberland.....	25	Alabama Central.....	..	112
Hudson and Berkshire.....	31	Sunbury and Erie.....	..	Memphis and Charleston.....	75	206
Hudson River.....	144	Lackawanna and Western.....	50	Girard.....	..	280
Lewiston.....	3	Catawissa.....	..	Total.....	236	666
Long Island.....	98	Delaware and Susquehanna.....	..	MISSISSIPPI.		
New York and Erie.....	464	Philadelphia and Westchester.....	..	Raymond.....	7	..
Northern.....	118	Pennsylvania Coal company.....	47	St. Francis and Woodville.....	28	..
Oswego and Syracuse.....	35	Hempfield.....	..	Vicksburg and Brandon.....	60	..
Rensselaer and Saratoga.....	32	Alleghany Valley.....	108	Mobile and Ohio.....	..	273
Rochester and Syracuse.....	104	Columbia branch.....	19	Mississippi Central.....	..	180
Straight line between Rochester and Syracuse.....	..	Hanover branch.....	13	Canton and Jackson.....	..	75
Little Valley and Erie.....	..	York and Wrightsville.....	13	New Orleans, Jackson and Northern.....	..	400
Saratoga and Washington.....	39	Lancaster and Harrisburg.....	37	Total.....	95	878
Saratoga and Schenectady.....	22	Susquehanna.....	..	LOUISIANA.		
Schenectady and Troy.....	20	Pittsburg and Steubenville.....	..	Carrollton.....	6	..
Skaneateles and Jordan.....	5	Franklin Canal.....	26	Clinton and Port Hudson.....	24	..
Syracuse and Utica.....	53	Northeast.....	19	Lake Pontchartrain.....	6	..
Corning and Blossburg.....	14	Total.....	1,215	Mexican Gulf.....	27	..
Buffalo and Rochester.....	76	DELAWARE.		*New Orleans, Jackson and Northern.....	..	200
Troy and Greenbush.....	6	New Castle and Frenchtown.....	16	New Orleans and Opelousas.....	..	200
Utica and Schenectady.....	78	Wilmington branch.....	..	Total.....	63	200
Watertown and Rome.....	97	Total.....	16	TEXAS.		
Albany and Northern.....	..	MARYLAND.		Buffalo Bay, Brazos and Colorado.....	..	32
Albany and Susquehanna.....	..	Annapolis and Elkridge.....	21	TENNESSEE.		
Buffalo and State line.....	69	Baltimore and Ohio.....	379	Nashville and Chattanooga.....	105	54
Buffalo and New York city.....	92	Washington branch.....	38	East Tennessee and Georgia.....	80	30
Buffalo, Corning and New York.....	45	Frederick branch.....	3			
Canandaigua and Elmira.....	67	Baltimore and Susquehanna.....	57			
Plattsburg and Montreal.....	25	Westminster branch.....	10			
Rochester and Niagara Falls.....	76	Hanover.....	13			
Rutland and Washington.....	64	Total.....	521			

East Tennessee and Virginia.....	130	Indiana Northern.....	135	portation, the United States government shall have preference over all others. Congress reserves power to regulate charges for freight and passengers, the former never to fall below cost, nor the latter below the average rate per mile on first class roads in the United States.
Winchester and Hunsville.....	46	Ohio and Mississippi.....	170	6. The Secretary of War shall cause the road to be located immediately, and advertise six months in each State for the construction of the road through the territories of the United States; and at the end that time he shall select the proposal which shall (1) insure the completion of the road within the shortest time; (2) insure them to be kept in good repair, and surrendered to the United States within the shortest time, not to exceed thirty years.
Mobile and Ohio.....	1194	Lafayette and Indianapolis.....	62	7. The contractors shall be a body corporate and politic during the period of their contracts, and for five years after.
Nashville Southern.....	100	Wabash Valley.....	200	8. As soon as 100 miles shall have been completed and put in operation, the President shall issue patents for <i>four fifths</i> of the land set apart along the line of the road so completed; and so on until the whole road shall be finished, when all the lands granted shall be conveyed.
McMinnville branch.....	30			9. It shall be stipulated in the contracts that a certain number of miles of the road shall be completed in each year, so arranged that the whole shall be completed within ten years.
Total.....	185	Total.....	7554	10. The road shall remain the property of the contractors during the period specified in their contracts.
KENTUCKY.		ILLINOIS.		11. The privileges of free transit and transportation shall be secured to the United States during the whole period of the contracts.
Frankfort and Lexington.....	29	Illinois Central.....	699	12. If the States named fail to accept the terms within the time specified, the Secretary of War may award contracts for the construction of the road to the contractor having charge of the line of which such roads and branches are extensions.
Louisville and Frankfort.....	65	Galena and Chicago.....	92	13. Upon the expiration of the time during which the road and branches is to remain the property of the contractors, so much of them as may lie within any State may be surrendered to that State on the same terms as are prescribed to the States specified in the act.
Maysville and Lexington.....	67	Rock Island and Chicago.....	50	14. The road shall be well constructed, with all the modern improvements, with six foot gauge and iron rail, weighing not less than 64 pounds to the yard.
Covington and Lexington.....	94	Central Military Tract.....	135	15. Commissioners shall be appointed by the President and Senate to protect the public interest in regard to the road.
Lexington and Danville.....	36	Peoria and Oquawka.....	85	In a memorial to Congress on the necessity, importance and practicability of a railroad from the Mississippi to the Pacific Ocean, the question of its profit is considered—Fifty thousand persons go annually to California, and it costs each \$300 to get there, making a sum of \$15,000,000. Supposing that the railroad can carry them for \$200, this travel will yield \$10,000,000. The road will be 2000 miles long, and it is estimated will cost \$50,000 per mile, or an aggregate of \$100,000,000, so that 50,000 passengers would yield an interest of 10 per cent on travel alone. It is further assumed that at least \$5,000,000 will annually be derived from freight, and that it will cost, to keep the road in repair, \$5,000,000, which would still leave 10 per cent. for the Government, or the stockholders, or the contractors, whoever should build it.
Louisville and Nashville.....	180	Ohio and Mississippi.....	145	State Policy of Illinois.
Mobile and Ohio.....	95	Northern Cross.....	54	
Louisville and Nashville.....	95	Sangamon and Morgan.....	54	The Chicago Press, in a commendatory notice of the Terre Haute and Alton railroad, concludes with the following remarks in reference to the "State Policy"
Shelbyville branch.....	18	Chicago and Mississippi.....	72	"The above road which now comes before the public under such favorable auspices, has had peculiar favors granted it by the state; and to aid its interests, citizens of Illinois, equally meritorious in every respect, and possessing equal rights with those specially favored, have been for a long time debarred the privilege of building a road. There can be no further reason for the exercise of such policy in the future. This road has all the start that its friends could wish. It is time therefore that they cease hostility towards the Terre Haute and Illinois town road, and suffer their neighbors to begin its construction. We trust that the last fight between them, in our legislature has been fought. If "policy" has been deemed a sufficient cause for
Henderson and Nashville.....	130	Aurora branch.....	13	
Total.....	94	St. Charles branch.....	7	
MISSOURI.		O'Fallon's Coal-road.....	8	
Pacific.....	315	Belleville and St. Louis.....	20	
Hannibal and St. Joseph.....	200	Terre Haute and Alton.....	171	
Total.....	515	Mississippi and Atlantic.....	145	
OHIO.		St. Louis and Chicago.....	85	
Cleveland and Columbus.....	135	Alton and Mount Carmel.....	17	
Columbus and Lake Erie.....	60	Total.....	296	
Dayton and Springfield branch.....	24	WISCONSIN.		
Findlay branch.....	16	Milwaukee and Mississippi.....	50	
Little Miami.....	84	Fond du Lac and Rock River Valley.....	240	
Mad River.....	134	Total.....	50	
Sandusky and Mansfield.....	56		390	
Xenia and Columbus.....	54	A Railroad to the Pacific.		
Bellefontaine and Indiana.....	50	The gigantic project of a railroad across our territory to the Pacific, has been introduced into the United States Senate by Mr. Gwin. According to this plan, the road is to have at its eastern end, on the Mississippi river, two lines connecting it with the Atlantic through the north and south respectively, and two at its western end, connecting it with the Pacific through Oregon and California. The contractors for its construction receive in payment alternate sections of public lands forty miles through the States, and eighty miles wide through the intervening territories. At the end of thirty years it is to be surrendered to the United States. The mail, troops, and other transportations of the Government shall always be free upon it. The following syllabus will furnish a general idea of the main features of the bill, and of the policy contemplated:		
Cincinnati and Marietta.....	33	Section 1. Authorises the President to contract for the construction of a railroad from a point on Red River, near the south west corner of Arkansas, with a branch to the Gulf coast, through Texas, to a point on the eastern boundary of California; and from the western boundary of Missouri and Iowa, to meet this road at the eastern boundary of California; thence to run to some suitable port in Oregon.		
Erie and Kalamazoo.....	33	2. Appropriates the right of way, 200 feet wide, throughout its entire length, for the use of the road; and a quantity of land, equal to the alternate sections, for forty miles on each side of said road and branches.		
Springfield and London.....	19	3 To connect the eastern end of said road with the Atlantic, provision is made for two lines eastward from the Red River—one through Louisiana, and the other through Arkansas, and two others are through Iowa, and the other through Missouri; and alternate sections of land for twenty miles on each side of each line, are granted to each of those States respectively; and for the purpose of extending the road westward, from the eastern boundary of California to the Pacific, a like quantity of land is granted to the State of California.		
Cleveland and J. Pittsburg.....	100	4. If any of the lands herein granted shall have been disposed of by the United States Government, the deficiency is to be made up by selections from the nearest unimproved public lands.		
Cleveland N. and Toledo.....	87	5. The States of Louisiana, Arkansas, Texas, Missouri and Iowa, are required to commence the construction of the roads within their respective States, within one year from the first session of the next Legislature after the passage of this act, and to complete them within five years, and the State of California is to complete hers within ten years. The United States mails, troops, goods, munitions and official persons are to be carried on this road for ever free of expense; and in all cases of trans-		
Cleveland P. and Ashtabula.....	72			
Columbus U. and Piqua.....	102			
Cincinnati W. and Zanesville.....	160			
Cincinnati H. and Dayton.....	60			
Dayton and Western.....	42			
Greenville and Miami.....	33			
H. Milton and Eton.....	42			
Hillsboro' and Cincinnati.....	37			
Iron.....	12			
Junction.....	110			
Ohio and Indiana.....	131			
Ohio and Mississippi.....	20			
Ohio and Pennsylvania.....	185			
Ohio Central.....	59			
Scioto and Hocking Valley.....	30			
Steubenville and Indiana.....	156			
Springfield, Mt. Vernon and Pittsburg.....	110			
Dayton and Michigan.....	140			
Hudson and Akron branch.....	13			
Cincinnati and Dayton.....	20			
Carrollton branch.....	20			
Tu-carawas branch.....	20			
Wheeling and Wellsville.....	38			
Total.....	1418			
MICHIGAN.				
Central.....	228			
Southern.....	133			
Pontiac.....	25			
Tecumseh branch.....	8			
Erie and Kalamazoo.....	33			
Total.....	427			
INDIANA.				
N. Albany and Salem with branch round				
L. Michigan.....	140			
Jeffersonville.....	66			
Madison and Indianapolis.....	86			
Shelbyville branch.....	16			
Rushville branch.....	20			
Knightstown branch.....	27			
Lawrenceburg and Indianapolis.....	904			
Indiana Central.....	72			
Newcastle and Richmond.....	108			
Indianapolis and Bellefontaine.....	83			
Perru and Indianapolis.....	224			
Terre Haute and Indianapolis.....	72			
Evansville and Illinois.....	26			

overriding the rights of a portion of our citizens for the last ten years, we think the time has now come when justice should be regarded as paramount.

Disasters on the Lakes in 1852.

Capt. G. W. Rounds, agent of the North-Western Insurance Company, furnishes the Buffalo Express with a list of disasters on the Great Lakes during the year 1852.

We copy the totals, the recapitulation, and Mr. Rounds's closing remarks:

Total loss of property for 1852.....\$992,639
Total loss of life.....296

RECAPITULATION.

Whole amount of loss by collisions.....\$261,950
Whole amount of loss by other casualties. 730,709
The amount of loss by steam vessels has been.....633,620
The amount of loss by sail vessels has been.....359,039
The amount of loss by American, has been 907,487
The amount of loss by British, has been... 85,172
Amount of loss on Lake Ontario by steam 49,350
Amount of loss on Lake Ontario by sail... 29,589
Amount of loss on Lake Erie by steam... 543,470
Amount of loss on Lake Erie by sail.... 197,830
Amount of loss on Lake Huron by steam. 16,000
Amount of loss on Lake Huron by sail... 53,600
Amount of loss on Lake Michigan by steam.....800
Amount of loss on Lake Michigan by sail 78,020
Amount of loss on Lake Superior by steam 24,000

Of the two hundred and twenty-nine disasters, here detailed, seven occurred in the month of April, nineteen in May, twenty-four in June, fifteen in July, sixteen in August, twenty-one in September, twenty-seven in October, eighty-five in November, (55 in one gale of the 11th and 12th,) and fifteen in December. Six steamers, seven propellers, and thirty-five sail vessels have gone out of existence entirely. In many instances the amount of losses as above stated have been matters of estimate, as many must necessarily be; but much pains and care have been taken to procure, in each case, the opinion of competent men who were most familiar with the circumstances. Regarding the loss of life by the steamer Atlantic, there are various opinions; her agents and proprietors contending it did not exceed one hundred and fifty, while many who were somewhat familiar with the circumstances set it as high as three hundred, and some even higher. The former I deem somewhat under the mark, and the latter much above. The agents can no doubt tell quite correctly how many went on board of her, but no one can tell how many were carried ashore from her by the propeller.

Northern Railroad Company.

On Saturday last, the following persons were elected directors of this company:—B. W. Smith, Isaac Gilmor, C. J. Orton, J. C. Morrison, M. P. P., Hugh Scobie, James Mitchell, Duncan Macdonald, G. H. Cheney, E. C. Hancock, Angus Morrison and W. A. Baldwin. Some of the stockholders complained that no report from the directors was laid before them; but the Vice-President answered questions that were put. In reply to Mr. Whittemore, the Vice-President stated that the amount to be paid for the road was £6,250 a mile; that the contractors had already received about £140,000 in stock, of which they had sold £50,000 in the City of Toronto. That they had received in Company's Bonds £50,000; in County Simcoe Bonds £50,000. That they had not as yet received any of the Government guarantee, altogether they were entitled to receive about £90,000; that 55 miles were graded and bridged; timber was prepared for 65 miles; 32 miles of track were laid; iron had been got out for 54 miles, and chains and spikes for 47 miles; and there was a sufficient quantity of iron at Quebec for 20 miles more. It was also stated that it was expected that the line would be open to Lake Huron by the 1st of August next, the time specified by the contract; and that the cars would be running to Bradford by the first of May next; and to Mitchell's corners in February; that the Commissioners had insisted on the Company having many more locomotives and cars than the Board would otherwise have thought it necessary to procure. A contract for 200 cars had been made with Messrs. McLean & Wright, of

Montreal, who have established a workshop here, and are under contract to turn out the cars at the rate of one per day after the first of May next. Besides these, the contractors themselves were making cars. Mr. Good, of this city, had contracted for a part of the locomotives, and others had been ordered from the United States."—*Leader*.

Lake Erie, Wabash and Alton Railroad.

The project of a railway connection of Toledo, on Lake Erie, directly with the Mississippi river, at this point, is at the present time exciting considerable interest along the whole extent of the proposed line. In many respects, the advantage which it offers, both with respect to travel and traffic, are equal, if not superior to any other road looking towards the Mississippi river, and there is no doubt, that immediately upon its construction, it will be one of the best paying roads in the State.

A survey of the route from Lake Erie has been completed to a point on the Indiana State line, between Danville and Williamsport, and is, we understand, in the highest degree favorable. The engineers in charge not being authorized to proceed further, stopped there; but since, as we learn from the Danville Citizen, they have extended the line as far West as that place. As a act of incorporation has yet been granted to this company, through Illinois, it is not determined which direction the road shall take, but a straight line will cause it to intersect the Terre Haute and Alton road in the neighborhood of Shelbyville; and we have no doubt that such will be the line of its direction.

The citizens of Danville, and the country intermediate, are taking active steps to secure a charter for this project at the approaching session of our Legislature, and there is every prospect that they will be successful. Once incorporated, we have every reason to believe that the road will be speedily constructed.—*Alton Telegraph*.

A Highway to the Pacific.

What the Mediterranean Sea was in the early ages of the world, the Pacific Ocean promises to become in future. On every side of that vast ocean, new empires are rising. They are rising, too, with a celerity that defies history and almost supercedes speculation. Fifty years ago the Pacific was the ocean of pastoral romance—the watery girdle of a thousand islands of the blest. The great continent which looked down into these mighty and tranquil waters were either barren wilds or ancient and mysterious empires. Enterprise there was none, signs of life there were few. But now? Sydney and San Francisco stretch their hands across the ocean. Two Anglo Saxon empires already sway the shores and islands of the Pacific, while their fleets fill its ports with the commodities of nations, and carry thence to the older latitudes of the north the golden produce of the tropics. China and Japan, sealed for centuries against the inroads of commerce and civilization, are about to be forced open by the course of events. But that which adds most singularly to the importance of the Pacific Ocean, is the fact that on all sides it seems to be enclosed between the most prolific gold fields of the earth.—The destiny in store for this mighty sea and its glittering coasts is a subject for poetic speculation—but the great material want of the old world every day growing more imperative, is a ready access by way of the Isthmus of Panama to this highway of the region of gold and colonization. Thus, every item of intelligence from the Isthmus has for Europeans a profound interest; and already there are schemes abroad for seizing by force the narrow strip of land which divides the two oceans in the centre of America, and holding it in the name of nations by a joint occupation of the great Powers.

Meantime, certain well known parties are pushing on the scheme for a ship canal! and the last number of the Panama Star contains the particulars of a concession, for twenty-nine years, made to them by the Government of New Grenada. The date of this new privilege, given at Bogota, is the 1st of June, 1852, and the canal is to be completed within ten years, and a prerogative of four years longer, if required, should one-third of the work be then finished. The company receive with the grant 100,000 fanegas of land to be selected by them in any part of the Republic. The harbors on both the Pacific and Atlantic are to remain free and neutral.

The New Grenadian government is to receive three per cent of the profits for eight years, and five per cent for the remaining nineteen years. The company are to make a deposit of £24 000 as a guarantee, within twelve months from the date of the grant. The parties receiving this grant are Dr. Edward Cullen, Sir Charles Fox, John Henderson and Thomas Brassey. Before these parties can proceed with their plans, however, the consent of the Panama railway company must be obtained: and from the rival character of that design this is not unlikely to prove the most difficult part of the negotiation.—*London Athenæum*.

Baltimore and Ohio Railroad.

Mr. Swann, the able president of the Baltimore and Ohio railroad company, made a very interesting exposition of the affairs of that company at the meeting of the board on Saturday last. On the subject of the coal trade his remarks will meet the approbation of all who are interested in the Cumberland coal region.

After repeating his former declarations in regard to the policy of fostering the Maryland coal trade, Mr. Swann said the time had come when it was necessary that the company should lay another track to accommodate that business. Applications, he said, were daily pouring in upon him for facilities of that kind, and he believed that not far short of 1,000 000 tons of coal could be transported over the road during the present year, if the situation of the company was such as to justify it. The list of applications already on file showed a demand for 409 hopper cars and 127 gondolas daily, from the mining companies in Alleghany county. The receipts of the company were now \$35 000 per month from coal. The Cumberland Coal and Iron company were investing \$100,000 in barges and propellers to ply regularly between Baltimore and New York. The Parker Vein company were building 10 steamers for the same purpose. There was in fact every indication of a large and prosperous coal trade, and the company were bound to make arrangements to meet it.

The total outlay to accommodate a trade of 600,000 tons, inclusive of that already done, was stated at about \$1,500 000, that is to say for second track, cars and machinery, in addition to the present stock. Mr. Swann recommended that this amount should be raised by the issue of the bonds of the company, as also \$1,000,000 for cars and machinery previously ordered for the general trade. Mr. Swann also added that the second track was to be laid as well west as east of Cumberland.

The board immediately complied with Mr. Swann's recommendations, and authorized the Finance committee to issue bonds to the amount of \$2,500,000 for the purposes proposed.

Cleveland and Mahoning Railroad.—At a meeting of the stockholders held in Warren, on the 15th ult., Jacob Perkins was re-elected president of the company, and Henry Wick, Dudley Baldwin, Charles L. Rhodes, David Todd, Charles Smith, Frederick Kinsman, and Jacob Perkins, directors. The Warren correspondent of the Democrat writes:

"The company expect to put the road under contract within 60 days. So that the Cleveland and Mahoning railroad has come to be a 'fixed fact.' I understand that the road is nearly located between your city and this place."

The Welland Canal is closed, and the receipts for the season are given as follows:—

1852.....	\$242,000
1851.....	204,000
Increase.....	\$38,000

Thus as the revenues of the Erie Canal diminish, those of the Welland increase. It is true that the figures appear diminutive when compared with those of the Erie Canal, but they are none the less admonitory. With an enlarged canal here, we could bid defiance to all foreign competition. But without such enlargement, there are several channels which will prove successful competitor for a very considerable portion of the trade of the West.—*Evening Journal*.

Wisconsin.

Milwaukee and Mississippi Railroad.—The road is progressing rapidly, and the business on the finishing portion of it, shows a very favorable state of traffic. The annexed statement exhibits the gross receipts in each of the past seven months, from April 1 to October 31, 1852:

April.....	\$2,826 18	August.....	\$5,618 22
May.....	3,780 58	September....	9,306 25
June.....	5,163 36	October.....	15,072 12
July.....	4,419 76		

Total.....\$46,195 36

Expense from Jan. 1 to Oct. 1 including construction trains.....\$24,320 76

Add for Oct. not reported, including damages from accident, say.....5,500 00

Total.....\$29,824 76

Being for ten months—average.....2,992 47

7 months—from April 1 to November 1, at.....\$2,982 47 is 20,877 47

Net earnings.....\$25,318 47

It appears that the bonds of the Milwaukee and Mississippi railroad company, cannot be used for banking purposes until the company shows net earnings sufficient to pay the interest on the bonds for the year preceding the time of offering them.—The bonds are for \$600,000 at eight per cent.—Thus \$48,000 must be secured for one year. The net earnings for the seven months ending 31st of October were \$25,318 07. Estimating the earnings of the next three months at only \$36,000, which less the average expenses, would yield \$27,052 59, making the net proceeds \$52,360 66 for the ten months ending 31st January next, by which time the bonds can be used for banking purposes.

Massachusetts.

Northampton and Westfield R. R.—The Northampton and Westfield railroad Corporation has been organized, by the choice of the following board of directors:—Samuel Williston and A. L. Strong, Easthampton; Wm. Clark, David Damon, Charles Smith, and A. H. Bullen, Northampton; Joel Hayden, Williamsburg; N. Lyman Strong, Southampton; and H. B. Smith, Westfield. The directors subsequently chose Samuel Williston President, and Charles Smith, Clerk and Treasurer. The stockholders authorized the directors to arrange with the directors of the Hampden railroad company, for a union of the two corporations, wherever they shall deem it expedient.

South Shore Railway Company.—The annual meeting of the stockholders of this company was held last week in Boston at the Old Colony Depot, Kneeland, street, and was called to order by the President, A. C. Hersey.

The Treasurer, Gilman Davis, read a report, from which it appears that the present state of the finances is as follows:—Assets, (in bonds, shares, notes and cash,) \$17,074; Debts, (in notes, coupons, and sums of dividends due,) \$12,345. There are some land damages not estimated, for which there is an offset.

The total cost of the road has been \$430,148 63. Of this there have been charges as follows:—For graduation and masonry \$124,757; land damages, \$92,110; iron, \$65,679; construction, \$33,121; depot buildings, \$29,540; miscellaneous, \$15,824; superstructure, \$15,964; bridging, \$13,448; engineering, \$13,364; fencing, \$5030; signs, \$1314. Of this \$128,000 is due on bonds of 1860; \$10,766 on notes payable, \$6,500 on bonds of 1855, &c. &c.

The following gentlemen were elected a board of directors:—A. C. Hersey, J. W. Loud, L. Souther, J. Loud, Jr., E. L. White, J. C. Doane, W. Sohler, R. C. Hooper.

At a meeting of the board of directors held subsequently, A. C. Hersey was re-chosen President, J. W. Loud, clerk, and Gilman Davis, treasurer.

Fall River Railway.—A meeting of the directors of this Company was held December 16, 1852, and the following account was given of the financial condition of the Company, on the 30th November:

Bills receivable and cash on hand.....	\$55,589 69
Wood, coal, iron and other materials.....	35,615 62
	\$91,405 31
Total liabilities of the Company.....	4,225 21

Balance in favor of the Company.....\$87,180 10

Surplus of former years.....29,590 62

Net earnings of past year unappropriated.....\$57,569 48

Add for dividend paid in July, 1852.....42,000 00

Total net earnings of year ending Nov. 30, 1852.....\$99,569 48

A semi-annual dividend of four per cent was declared, payable on Monday, January 3, 1853. After the payment of the same, there will remain on hand a surplus to new account of \$45,180 10.

Financial Statement of the Michigan Central Railroad.

Dec. 1, 1852. Dr.

To capital stock.....\$4,000,000 00

To Bond account, viz:

6 per cent. sterling bonds, not convertible.....\$399,946 22

7 per cent. bonds, not convertible.....92,000 00

8 per cent. bonds, not convertible.....1,164,450 00

8 per cent. bonds, convertible.....2,411,000 00

Total.....\$4,067,396 22

To bills payable and receivable—balance of this account.....223,061 30

To income account, balance of this account.....323,735 54

Total.....\$8,614,193 06

Dec. 1, 1852. Cr.

By construction, purchase of road...\$2,000,000 00

" " No. 2 expenditures since purchase.....6,077,147 44

By cash in hand of J. W. Brooks, superintendent and engineer.....150,458 18

By cash in hands of U. Tracy Howe, local treasurer.....139,690 21

By New Albany and Salem railroad company.....223,010 00

Total.....\$8,614,193 06

RECEIPTS OF ROAD.

1852. Income Account.

June 1, to balance of account per report this day.....Dr. \$2,158 89

June 30 to receipts.....94,001 92

July 31 to ".....84,926 10

Aug. 31 to ".....86,433 35

Sept. 30 to ".....109,068 39

Oct. 31 to ".....156,305 84

Nov. 30 to ".....161,003 83

Total.....\$693,907 82

1852. Dec. 1, to balance of this account.....\$323,735 54

1851. Contra. Cr.

June 30, by operating expenses.....\$43,083 04

July 31, " ".....34,518 34

Aug. 31, " ".....49,978 01

Sept. 30, " ".....30,793 02

Oct. 31, " ".....40,174 33

Nov. 30, " ".....52,142 25

By interest and miscellaneous.....129,483 30

By balance.....323,735 54

Total.....\$603,907 82

It will be seen that the bond account is increased beyond its limit of Four Millions of Dollars; this, however, is a merely temporary increase; the bonds due and payable the 1st proximo, together with those which will be converted on that day will reduce the issue to something below Four Millions.

The Great Western railroad, (Canada West,) is in a progressive state, and, with the New Albany and Salem road, from Michigan city to the Ohio river, and with the various lines from Chicago to the Mississippi, now rapidly drawing to a completion, (although the receipts from the present winter's business, after the close of navigation, may be small,) the prospects of the company, for the future, were never so encouraging than at the present time.

Kentucky.

Big Sandy Railroad.—Mr. Westbrook, the engineer of this road, has made a reconnaissance of the route between Lexington and Big Sandy, and says that there will be no difficulty in finding a practicable, direct, cheap route on which to locate the road. He says he has never seen a mountain country so favorably situated for railroad purposes, as that through which a portion of this road will pass. One or two short tunnels will have to be made, and one of these will be cut through a coal bank having a stratum of coal of about six feet in thickness. There are also other coal banks which will be cut by the road, and in addition to this, it will pass immediately through the iron and timber region. Mr. Westbrook is of opinion that there is no road in the country that will pay better than this, when it shall be completed, and certainly there is no road of equal importance to Lexington.—*Covington Journal.*

Ohio County Bonds.

Below we give a report of the decision of the Supreme Court of Ohio, in reference to the legality of the subscription made by the county of Crawford to the Ohio and Indiana railroad company. The case has excited much interest in Ohio, and the decision is important from the influence it may have upon similar subscriptions. The facts of the case are sufficiently set forth in the report. It will be seen that the verdict is altogether in favor of the company.

The complainants, eleven in number, on November 9, 1850, filed their bill in the Court of Common Pleas of Crawford county, showing, among other things, that they are citizens and resident taxpayers of said county, owning, respectively, several tracts of real estate situate in said county, and several amounts of personality therein, subject to taxation. That, at the October election, 1848, a majority of the citizens of said county, on a proposition submitted to them for that purpose, by their votes, authorized the Commissioners of said county to subscribe the sum of \$100,000 to the capital stock of the Ohio and Pennsylvania railroad company, but that no subscription had been made under such authority. That said county commissioners have subscribed \$100,000 to the capital stock of the Ohio and Indiana railroad company, and have issued bonds for the payment of \$10,000 of said subscription, and delivered them to said railroad company, payable in fifteen years, with interest, at the rate of six per centum per annum. That the directors of said company are about to negotiate said bonds, to raise money to build the road, and that said commissioners were to meet on the 23d of November, 1850, for the purpose of issuing bonds to secure the payment of the balance of the stock so subscribed. That said subscription was an unconstitutional and otherwise invalid act.

The bill prays the allowance of an injunction to restrain the issuing of any more bonds upon said subscription, and the negotiation and sale of those already issued, and the levying and collection of any tax for the payment of principal or interest on account of said bonds. A provisional injunction, as prayed, was allowed by the President Judge of said court.

The answer of the railroad company, protesting that said bill is multifarious, and its matter not a subject of equity jurisdiction, admits the subscription of stock and the issuing of bonds, as charged, and claims that said subscription was authorized and required by the act of the General Assembly of Ohio, passed March 23, 1850, entitled "an act to authorize the commissioners of Crawford county to subscribe stock in railroad companies."

After a series of intermediate proceedings, which

it is not necessary here to notice, at the March term of said Court of Common Pleas, 1852, a decree was rendered dissolving said injunction and dismissing the bill; from which decree an appeal to this court has been perfected, and it is now submitted for our consideration.

It is objected to the exercise of chancery jurisdiction in this case,

First—That the bill is multifarious; and the case of *Armstrong v. the Treasurer of Athens county*, 10 Ohio R. 235, is cited in support of this position. While we respect the decisions of that court, and feel bound to adopt them as our rule of decision, until they are overruled, yet it may be remarked that this point was not made in the pleadings nor urged by counsel in that case, and the rule there laid down is in direct conflict with all the other authorities upon the subject, and with the well established practice of our own courts in analogous cases. It is a most common and familiar practice for several creditors, having entirely separate and distinct claims, of whatever variety of character and amount those claims may be, to join in one proceeding to reach the effects of their common debtor; and we think it would be difficult to suggest any good reason, founded in principle or sound policy, why the holders of realty in Athens county, derived from a common source, and claimed to be subject to a common exemption from taxation, as one of the incidents of title by which each tract is held, should not be permitted to join in one proceeding to test that single question, but should be driven to a multiplicity of actions to accomplish that one purpose. Considering the rule, however, to be settled by that case, we think the present case is clearly distinguishable from that, in this: that in the Athens county case the tax had been levied, and the bill sought merely to enjoin its collection from either of the complainants; and although the court might say in such a case, that each party could have his remedy in trespass or otherwise for the collection from him of an illegal tax, that neither of the parties had any interest in the question of the collection of the tax from the other; yet the levying a tax upon a county affects the whole county alike; it is a question of common interest and concern, affecting alike all the subjects of taxation in the county, although the holders of them may not have a joint or exactly equal interest therein. If the doctrine contended for by defendant's counsel be true, then it would be incompetent for all the inhabitants of a county to unite in one proceeding to restrain their own commissioners from levying an illegal or unjust tax upon them. We are satisfied to say that all of the citizens of a town or county, upon whom a tax is about to be levied, have a common interest to avoid the tax, and any one or more of them may sue, in chancery, on behalf of himself or themselves, and the other inhabitants of such town or county. The bill is not liable to the objection of multifariousness.*

But it is also contended by defendants.

Second—That the bill does not present a case for equity jurisdiction. We consider, however, that the jurisdiction of a Court of Chancery to interfere, by injunction, when public officers are proceeding illegally or improperly, under a claim of right, to do any act to the injury of the rights of others, is established by numerous well adjudged cases.†

And this brings us to the consideration of the question, whether this subscription of stock by the commissioners of Crawford county has been made in pursuance of law, or whether it is an assumption

of authority on their part, the exercise of which it is our duty to restrain.

On the 26th of February, 1846, the legislature passed an "act to authorize the commissioners of Knox and other counties to take stock in a railroad." By the terms of this act the county of Crawford, among others, was authorized to become a subscriber to an amount not exceeding \$100,000, to the capital stock of any company theretofore, or which might thereafter be incorporated, to construct any railroad which, of itself, or in conjunction with other companies, might open a direct communication through the county, and to or near its county-seat. But before the commissioners could subscribe the stock, the question of subscription was to be referred to the qualified voters of the county at the annual spring or fall election, and receive the consent of a majority thereto. Local Laws, vol. xlv., page 192.

On the 24th Feb., 1848, the "act to incorporate the Ohio and Pennsylvania railroad company" was passed, with power to construct a railroad from the town of Mansfield, in Richland county, eastwardly, by the way of the towns of Wooster, Massillon and Canton, to some point in the eastern boundary line of Ohio, within the county of Columbiana, thence to the city of Pittsburg; and from said town of Mansfield, westwardly, by the way of Bucyrus, in Crawford county, until it intersects the west line of the State of Ohio, at such point as may be determined by said company to be most eligible. The general railroad law of 1848 is made a part of this charter. Local Laws, vol. xlv., page 262.

On the 20th of March, 1850, "the act to incorporate the Ohio and Indiana railroad company" was passed, with capital stock to the amount of \$2,000,000, and authority to construct a railroad, commencing at a suitable point to be selected by said company on the Cleveland, Columbus and Cincinnati railroad, near 'Sultz' tavern, in the county of Richland; thence to Bucyrus, in the county of Crawford; thence to Upper Sandusky, in the county of Wyandot; and thence, on such route as the directors of said company, or a majority of them, may select, to the western line of the State of Ohio, and thence to Fort Wayne, in the State of Indiana.

The fourth section of this act provides "that the county commissioners of any county through which said railroad may be located, by and with the consent of a majority of the legal voters of such county, . . . be, and they are hereby authorized and required to subscribe, in the name and for the benefit of such county, to the capital stock of said company, any sum not exceeding \$100,000," etc. Local Laws, vol. xlvii., page 297. This charter is also subjected to the restrictions of the general railroad act of Feb. 11, 1848. Curwen's Statutes, chap. 817.

On the 23d of March, 1850, "an act to authorize the commissioners of Crawford county to subscribe stock in railroad companies" was passed and took effect. The first section directs "that the commissioners of Crawford county be, and they are hereby authorized and required to change the subscription heretofore authorized by a vote of the people of the county to be made to the Ohio and Pennsylvania railroad, and to subscribe to the capital stock of any company or companies which are now or may hereafter be incorporated to construct a railroad commencing or terminating at any point in, or passing through, or adjoining the town of Bucyrus, the county seat of said county, the sum of \$100,000." Local Laws, vol. xlviii., page 277.

"An act regulating the mode of proceeding where county commissioners may be authorized by law to subscribe to the capital stock of railroads, turnpike roads, or other incorporated companies of this State," was passed and took effect February 28, 1846. General Laws, vol. xlv., page 82. Curwen's Statutes, chap. 694.

The first section of this law enacts, "that whenever the commissioners of any county in this State shall, hereafter, be authorized to subscribe to the capital stock of any railroad, . . . it shall be the duty of said county commissioners to give at least twenty days' notice, in one or more newspapers printed and of general circulation in the county authorized to make such subscription, to the qualified voters of said county, to vote at the next annual election to be held in the several townships, . . . for or against the subscription, as aforesaid; and if a majority of the electors aforesaid, voting at said

election, for or against a subscription as aforesaid, shall be in favor of the same, such authorized subscription may be made, but not otherwise."

The "act regulating railroad companies," above referred to, (General Laws, vol. xlv., page 40,) prescribes the manner of organizing, and becoming ready to transact business.

Five of the corporators named are authorized to open books for subscriptions to the capital stock of the company; by giving notice, and as soon as \$50,000, or ten per cent. on the capital stock is subscribed, they may give notice for a meeting of the stockholders to choose directors, a majority of whom, after being chosen, form a quorum for doing business, to make by-laws, etc. They may elect a President, Secretary and Treasurer, and after taking an oath to faithfully discharge their duties, they become an organized company, and may proceed to survey, locate and construct such road as their charter authorizes to be made.

The question whether the power conferred by these several acts might be exercised consistently with the provisions of the late constitution of Ohio, is considered as settled by the Clinton county case, decided at the recent term of the Supreme Court, and is not now urged by counsel. But it is claimed that the act of February 28, 1846, above referred to, is in no sense repealed by the act of March 23, 1850, but that the powers conferred by that last-named act must be executed in conformity with the provisions of the act of February 28, 1846; that both statutes must be taken together, and considered as *in pari materia*, and that no subscription could be made under the act of March 23, 1850, unless such subscription was first authorized by a vote of the people had according to the provisions of said act of February 28, 1846. This proposition has been argued by counsel at great length, and with consummate ability, and after giving to it that consideration which the importance of the question and of the interests involved require, so far as our opportunities have allowed, we have brought our minds to the conclusion that the act of March 23, 1850, does not necessarily repeal, and has no necessary connection with the act of February, 1846; the object and effect of which is merely to prescribe the terms and restrictions upon which subsequent delegations of authority to make county subscriptions to railroad and other companies should be exercised. The act of March 23, 1846, does not profess to confer an original power or authority to make a subscription; it simply recognizes an existing authority in the commissioners of Crawford county, to make a subscription of \$100,000 to the Ohio and Pennsylvania railroad, and authorizes its change to a subscription of stock in the Ohio and Indiana railroad company. It must be conceded, that in the absence of the provisions of the act of February, 1846, or upon its express or vital repeal, it is competent for the legislature to confer upon the commissioners directly, and without any vote of the people, authority to make this subscription; but they have not done so. The legislature, acting upon the fact, that at the October election, 1848, in pursuance of the act of February 24, 1848, to incorporate the Ohio and Pennsylvania railroad company, and also in conformity with the provisions of the act of February, 1846, the people of Crawford county had authorized their commissioners to subscribe \$100,000 on their behalf to a railroad, and that the authority thus conferred had not been exercised, but still existed, simply changes the direction in which the authority thus conferred shall be exercised. The act of March 23, 1846, does not create an authority to make a subscription of stock, but expressly recognizing the existence of that authority, authorizes and requires a change of the subscription upon the terms and conditions specified in the act. The power conferred by the act of March 23, 1850, has been exercised; the subscription of railroad stock heretofore authorized by a law and by a vote of the people of Crawford county, has been "changed" to an investment in the stock of the Ohio and Indiana railroad company; the liability of the county to pay the \$100,000 of stock so subscribed has thus been already created; \$10,000 of the bonds of the county by which such liability is evidenced, have been issued; and as these bonds create merely a formal obligation to pay a liability shown to exist, we see no reason to restrain the commissioners of the county from issu-

* Story's Equity Pleadings, sec. 112, 113, 114, and 121; Mitford's Pleadings, 408; Cooper v. Alden, Corning v. Lawrence, 6 Johnson's Chancery R.; Fellows v. Fellows, 4 Cowen's R. 682; Attorney General v. Heelis, 2 Simmons and Stewart.

* Mohawk and Hudson River railroad v. Archer, 6 Paige, 88; Oakley v. Trustees of Williamsburg, 1 Paige, 264; Gardner v. Trustees of Newburg, 2 Johnson's Chancery R. 162; Belknap v. Belknap, 1 Johnson's Chancery R. 463; Cooper et al v. Alden; Bonaparte v. Camden and Amboy railroad company, Baldwin's Circuit Court R. 205; Corning v. Lawrence, 6 Johnson's Chancery R. 440; Livingston v. Livingston, 1 Johnson's Chancery R. 497; Shand v. Aberdeen Canal company, 2 Dow, 519; Bradley v. Comas, 2 Humphrey R. 428.

ing a sufficient number and amount of such bonds to cover the liability created by the change of subscription.

The injunction heretofore granted to this case is therefore dissolved, and the bill dismissed at the costs of complainants.

American Railroad Journal.

Saturday, January 1, 1853.

"The Great Six Feet Gauge Project."

We have already spoken of this project, which is to be a grand line of railroad, with a gauge of six feet, from the Erie road, at or near Olean, via Warren, Penn., and Warren, Ravenna, Akron, Mansfield and Dayton, Ohio, to Cincinnati. Still further to magnify the importance of this project it is proposed that this gauge shall be carried to the Mississippi on the one hand by the Ohio and Mississippi railroad, and to Chicago on the other, probably by the Ohio and Indiana railroad, and the Fort Wayne and Chicago railroad. On the east, the Erie railroad is to be connected, at Binghamton, with Albany, by the Albany and Susquehanna road. A new and grand avenue is thus proposed from the Hudson to the Mississippi, which is to supplant all others, from its greater directness and superior excellence of construction. For this work a competent charter exists in Ohio. For the Pennsylvania portion, a charter peculiar to that State, in which the real objects are concealed under the guise of some harmless title, exists.—This charter provides for the construction of a railroad from Pittsburg to Erie, with a right to construct branches through the counties adjoining those through which the road runs. The owners of this charter, we understand, propose to allow the Erie railroad company, or those wishing to carry the six feet gauge through Pennsylvania, to construct the branches which shall accomplish this object, provided the same parties shall subscribe the sum of \$450,000 to the main trunk from Erie to Pittsburg. This offer, we are informed, is likely to be, if it has not been already, accepted; so that we may soon look for the commencement of operations upon this great work.

This project, so imposing from its magnitude, has been dressed out in the most seductive manner to win popular favor. The six feet gauge is urged as a strong argument in its favor, from the superior capacity of roads having this gauge for transportation. Its directness over other routes now followed, is also insisted upon. It has also the charm which always invests every great enterprise, and it has created an impression upon the popular mind never before made by any similar project. It has set Ohio in a blaze, and New York manifests more interest in it than she is accustomed to do even in her own most important works.

The project, however, is likely to meet with more difficulties from the opposition of Pennsylvania than from lack of means or popular feeling. The six feet gauge is an abomination in the State. It is forbidden by Statute. The friends of this line claim, however, that they are exempted from this prohibition, from the fact that their charter was obtained before the gauge Law was passed. Desperate efforts are being made to defeat the project by the Lake Shore and the Pennsylvania roads, and we learn that Mr. Alfred Kelly has gone to Philadelphia for the purpose of invoking the aid of the legal authorities of that State, to place the above project in the limbo, from which his company barely escaped. Whatever may be the result of

this movement we are unable to predict. We only know that both sides are confident of success.

That sufficient means can be obtained in the present state of the money market, and the high favor in which railroads are held, to carry out this project, we have little doubt. The influence of the Erie railroad in this city is paramount, and the endorsement of the scheme by that company would only be necessary to secure the means at once; and provided no legal obstacles exist, we see not much reason to doubt its speedy construction.

We are in favor of the wide gauge—so called, but in this country, this is no longer a question of principle, but expediency. Its advantages are not so great, as to outweigh the inconvenience of adopting it upon a single line, all the connections with which, have a different gauge. This we believe is the opinion of the most ardent supporters of the broad gauge.

Is not this fact conclusive against extending the wide gauge through Ohio? Should the narrow gauge be adopted, we presume that no one would think of extending the above project into that State further than is necessary to form a connection with its roads now in operation and progress. These would secure to it all the connections wanted, and will be ample to meet the wants of the people. If then the superiority of the wide gauge is overbalanced by the argument of inconvenience resulting from its use, in connection with the narrow one, should not precedent and experience guide in this case?

If the public would be benefitted by the above road, we should cheerfully do all in our power to promote its construction. We do not now wish to be understood as opposing it. The project may be a proper one, but we confess, that upon slight reflection we think it will do more harm than good. We are afraid of its effects upon Ohio. It would either render a change of gauge of other roads necessary, or what is more probable, it would give birth to a great number of new projects with a gauge adapted to the great trunk. Such would be the inevitable result. New rival roads would be built that would not be constructed without such stimulus, and which are not called for by the business wants of the community. We can see no other result, than that a new batch of projects would spring into existence, absorbing a great amount of capital, without any substantial basis, or means of support, and producing in the end, the most disastrous consequences. Should railroad companies in operation, adopt their gauge to the new project, the result would be the same in kind, only less in degree.

We are not disposed to encourage new projects in Ohio, which would in any degree become rivals for those already in operation. There are now in the State, about 3,150 miles of road in operation and progress, which will cost when fully completed and equipped, about \$25,000 per mile, or an aggregate of over \$75,000,000. This immense sum will have been expended in permanent investment within a very few years, which have been periods of extraordinary prosperity. But we all know that there is an ebb tide in affairs of business as regular, and as necessary, as in nature; and it is the dictate of wisdom to prepare for its reflux, to avoid being caught on the rocks and sands.

It is now high water with the roads of Ohio. It is not the safest course for the people of this State to pause before they commence new projects; to allow the "gristle of youth to ripen into the bone of manhood," to see how they stand; to place themselves in a position to defend the vantage ground

they have gained, to see whether any mistakes have been committed, and to gather new lights for the future, from the experience of the past?

This is our opinion most decidedly. We are as friendly to this new project as we should be to any similar one, but we do not want to see another fire-brand thrown into Ohio. It would set the whole West in a blaze. The people of this section of the country are proverbially mercurial in their temperaments, and they are already sufficiently excited upon the subject of railroad construction. They have invested as much of their own means, as can be profitably or conveniently done, and most of the companies in the West are still in this market for money. Let them wait, till the projects now in hand are completed; till their present financial wants are supplied; till their liabilities are provided for, and an "account of stock taken," as the necessary steps to a renewed forward movement, and in the right direction.

The proposed road is in some respects an important one, and could the Ohio gauge be adopted we should like to see it constructed. In this case its influence would harmonize with the interests of other roads. It would open a new outlet, without stimulating new projects, or rendering necessary a change in the old. Its construction however can add but little to the general business or prosperity of the country. That portion of Ohio to be traversed by it, is already well accommodated by railroads. The Pennsylvania division is not, but this lack will soon be supplied by the Sunbury and Erie road, which will have a terminus at New York as well as at Philadelphia, and will bring Western Pennsylvania and Ohio much nearer this city than by any more Northern route. We shall in this manner secure all the business and commercial advantages predicated by the proposed road without its construction. The distance saved by it over the present routes are not so great as outweigh the objections stated, and the roads already in operation and progress will be amply sufficient to transact all the business that will be thrown on them for some years to come.

We suggest deliberation and caution. As far as the railroads of Ohio are concerned success has been achieved. Let not this success be staked upon a new hazard, nor endangered by any imprudent or unwise step.

Missouri.

Iron Mountain Railroad.—We called attention yesterday morning to the opening of the books for subscription to this important road. We are gratified to be able to state that during yesterday, the first day, the amount of bona fide subscriptions was over one hundred thousand dollars. Action so prompt and liberal shows a just appreciation of this important enterprise. We have no doubt that the sum already subscribed can and will speedily be increased to \$250,000 of individual subscriptions in St. Louis.

We have often spoken of the importance of this road from St. Louis to the heart of an inexhaustible coal and mineral region. Further arguments are scarcely needed now, in favor of a line which commends itself, in every view so forcibly. As the southern connection of the North Missouri road, as a trunk road through a distinct and important part of the state, as an enterprise fraught with the greatest good to the future prosperity of St. Louis, no less than to the regions whose immensely valuable resources it will develop—in every respect it eminently deserves the encouragement which it is receiving. We have no doubt that it will receive its full share of attention in the deliberations of the legislature, or that our own representatives will do their duty in its behalf.—*St. Louis Intel., Dec. 9.*

Financial Statement of the Providence and Worcester Railroad:

It appears by the eighth annual report of the Directors of the Providence and Worcester railroad company for eleven months, ending Nov. 30, 1852, that the total receipts were.....\$233,744 65
Total expenses.....104,387 33

Earnings after deducting expenses.....\$129,356 22
Deduct interest on Bonds, &c., during 11 months.....17,337 83

Net income during eleven months.....\$112,019 19
Dividend paid July 1, 1852.....\$43,725 00
Dividend payable Jan. 1, 1853.....43,725 00

Surplus.....\$24,569 19
Total amount placed to construction account.....1,731,498 18

Property on hand, bills receivable.....\$1,968 00
Balance due from corporations, &c.....6,720 07
Wood, oil, iron and other materials on hand.....23,147 68
Cash in Treasury.....\$39,107 50
Less amount cash balances due to connecting roads for their proportion of receipts.....1,216 43

.....\$37,891 07 \$69,726 82
\$1,801,225 00

Represented by capital stock.....\$1,457,500 00
Bonds.....300,000 00

Leaving for dividend payable Jan. 1, 1853.....\$43,725 00

Tunneling of the Alleghany Mountain.

One of the tunnels on the Alleghany railroad, now constructing, is to be 3,670 feet in length. Its area at the widest space within the lines of the masonry, will be about 24 feet, and the spring of the arch will begin about 16 feet from the crown of the arch. The arch itself of the Tunnel will be rather of an oval form, one of the most beautiful structures which conic sections can afford. The greater part of the vast arched excavation will be inlaid with strong and substantial masonry. More than half this masonry will be composed of sand-stone, well laid in hydraulic cement; and the remainder will be hard burnt brick. This whole masonry will be 22 inches thick. The tunnel passes the Alleghany Mountain in Sugar Run Gap, and lies partly in Blair and partly in Cambria county. Taking into account the length of the Tunnel, and its interior breath, and the quantity and solidity of its masonry, it may be regarded as the largest work of the kind in the United States. About 400 men are employed upon it.

Our List of Railroads.

Our Subscribers will oblige us by sending us any correction in our published list of railroads in today's paper.

Cumberland Valley Railroad.

The report of the affairs of this company is brought up to the first of Oct. 1852. From it we learn that extensive repairs have been made upon the bridge at Harrisburg. The structure has been put in line and strengthened by lateral braces and a new track laid on it. The report alludes to the organization of a company for the purpose of constructing a road from Bridgeport on the line of the Cumberland Valley road to Sunbury. Tributary to this projected road, are the Dauphin and Susquehanna, the Lyken's Valley and the Trevorton and Shamokin railroads, bringing an extensive coal region within 25 to 40 miles of the Cumberland Valley.

The following is an abstract of the financial statement:

Cost of road including real estate.....\$1,202,911 83
Materials for use.....8,381 28
Old bars and material for sale.....9,973 06
Cash items.....33,877 83

Total.....\$1,265,144 00
Stock.....\$1,184,500 00
Mortgage loan.....13,000 00
Liabilities.....20,355 80

Revenue 1st Jan. 1852.....\$ 22,145 87
Nine months revenue.....96,471 37

.....\$118,617 14

Less expenditures.....\$ 41,727 91
Interest.....1,446 42
Dividends 1st April.....28,154 60

.....\$1,265,144 01

The total tonnage for the nine months was \$89,790.950 pounds, and the total number of passengers carried during the same period 43,103. The mileage of the passenger trains 55,447, and that of the freight trains 36,316.

SUBSCRIBERS

Wishing for missing numbers to complete their volumes, must send for them within thirty days, to be sure of being supplied.

Stock and Money Market.

There is little doing the present week. The holidays and the near approach of the New Year, has had its usual effect to suspend operations. though prices are well sustained. A good demand still continues for sound securities for investment.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, JANUARY 1, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853.....100 1/4
U. S. 6's, 1856.....108 1/4
U. S. 6's, 1862.....113 1/4
U. S. 6's, 1862—coupon.....114
U. S. 6's, 1867.....114 1/4
U. S. 6's, 1868.....120 1/4
U. S. 6's, 1868—coupon.....20
Indiana 5's.....102 1/2
Indiana 2 1/2's.....59
" Canal loan 6's.....97
" Canal preferred 5's.....47
Alabama 5's.....98
Illinois 6's, 1847.....86 1/4
Illinois 6's—interest.....59
Kentucky 6's, 1871.....112
Maryland 6's.....109
New York 6's, 1854-5.....108
New York 6's, 1860-'61-'62.....115
New York 6's, 1864-'65.....118
New York 6's, 1 y., 1866.....119
New York 5 1/2's, 1860-'61.....112
New York 5 1/2's, 1865.....113
New York 5's, 1854-'55.....108
New York 5's, 1858-'60-'62.....109 1/2
New York 5's, 1866.....114
New York 4 1/2's, 1858-'59-'64.....101
Canal certificates, 6's, 1861.....103 1/4
Ohio 6's, 1856.....109
Ohio 6's, 1860.....109
Ohio 6's, 1870.....114
Ohio 6's, 1875.....114
Ohio 5's, 1865.....106
Ohio 7's, 1851.....105 1/4
Pennsylvania 5's.....99 1/4
Pennsylvania 6's, 1847-'53.....101
Pennsylvania 6's, 1879.....99 1/2
Tennessee 5's.....93
Tennessee 6's, 1880.....108
Virginia 6's, 1886.....112

CITY SECURITIES—BONDS.

Brooklyn 6's.....105
Albany 6's, 1871-1881.....107 1/4
Cincinnati 6's.....106 1/4
St. Louis.....97 1/4
Louisville 6's 1880.....97 1/4
Pittsburg 6's, 1869-1871.....103 1/4
New York 7's, 1857.....108
New York 5's, 1858-'60.....103
New York 5's, 1870-'75.....104
New York 5's, 1890.....105
Fire loan 5's, 1886.....105
Philadelphia 6's, 1876-'90.....106
Baltimore 1870-'90.....107
Boston 5's.....102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867.....115 1/4
Erie 2d mortgage, 7's, 1859.....107 1/4
Erie income 7's, 1855.....101 1/4
Erie convertible bonds, 7's, 1871.....102
Hudson River 1st mort., 7's, 1869.....109 1/4
Hudson River 2d mort., 7's, 1860.....100
New York and New Haven 7's, 1861.....105
Reading 6's, 1870.....93
Reading mortgage, 6's, 1860.....99
Michigan Central, convertible, 8's, 1860.....110
Michigan Southern, 7's, 1860.....100
Cleveland, Col. and Cin. 7's, 1859.....123
Cleveland and Pittsburg 7's, 1860.....102
Ohio and Pennsylvania 7's, 1865.....108
Ohio Central 7's, 1861.....98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Dec. 23.	Dec. 30.
Albany and Schenectady.....	112 1/4	113
Boston and Maine.....	107 1/4	106
Boston and Lowell.....	109	109 1/4
Boston and Worcester.....	105	106 1/4
Boston and Providence.....	91 1/4	92
Baltimore and Ohio.....	95 1/4	98
Baltimore and Susquehanna.....	34	34
Cleveland and Columbus.....	129	130
Columbus and Xenia.....	—	—
Camden and Amboy.....	150	—
Delaware and Hudson (canal).....	130	130
Eastern.....	100	96
Erie.....	95 1/4	97
Fall River.....	—	—
Fitchburgh.....	103 1/4	106 1/4
Georgia.....	—	—
Georgia Central.....	—	—
Harlem.....	72	73
" preferred.....	115	111 1/4
Hartford and New Haven.....	129	129
Housatonic (preferred).....	35	35
Hudson River.....	75 1/4	75 1/4
Little Miami.....	120	120
Long Island.....	36 1/4	32
Mad River.....	99	99
Madison and Indianapolis.....	109	111
Michigan Central.....	111 1/4	103 1/4
Michigan Southern.....	132	127 1/4
New York and New Haven.....	115 1/4	115 1/4
New Jersey.....	132	132
Nashua and Lowell.....	—	—
New Bedford and Taunton.....	117	117
Norwich and Worcester.....	53 1/4	53
Ogdensburg.....	27 1/4	30 1/4
Pennsylvania.....	49 1/4	49 1/4
Philadelphia, Wilmington & Balt.....	39 1/4	38
Petersburg.....	—	—
Richmond and Fredericksburg.....	105	105
Richmond and Petersburg.....	35	35
Reading.....	98	98 1/4
Rochester and Syracuse.....	125	124 1/4
Stonington.....	57 1/4	57 1/4
South Carolina.....	122 1/4	122 1/4
Syracuse and Utica.....	133	132
Taunton Branch.....	115	115
Utica and Schenectady.....	143	143
Vermont Central.....	17 1/4	17 1/4
Vermont and Massachusetts.....	20	22 1/4
Virginia Central.....	40	40
Western.....	102	100 1/4
Wilmington and Raleigh.....	57 1/4	57 1/4

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

New Route between Cincinnati and New York.

We learn that arrangements have been completed, by which a new route for travel and freight between Cincinnati and New York, will be brought into use with the opening of Lake navigation, composed of the Cincinnati, Hamilton and Dayton, and Mad River roads. A line of steamers to ply between Sandusky and Buffalo, and either the Central, so called, and the Hudson River, or the Erie roads. Two magnificent steamers are now in course of construction at Buffalo, to be completed during the winter, for the Lake portion of the route, which will make a daily line each way. Passengers will leave Cincinnati and New York, respectively, in the morning, will reach Sandusky and Buffalo the same evening, and pass the night upon the lake. The trip, it is calculated, will be made upon the average in 35 hours. By these arrangements, an exceedingly expeditious and comfortable route, will be formed, and travellers will reach their destination in good condition, having the advantage of a night's sleep, at the same time that they are moving at high speed. We understand that the boats are being constructed with especial reference to safety as well as speed. All the main keelsons for strengthening and stiffening them, are much larger and heavier than usual, and double-bolted throughout. There are seven in number, running the length of the boat fore-and-aft. The sides and frames are braced throughout with diagonal iron braces, similar to those used in the Collins' steamers on the Atlantic, which bind the hull of each boat together with almost a solid net-work of iron, and must add immensely to their strength and safety.

The holds of these boats are to be divided into four compartments by water-tight bulkheads, which will render their sinking almost an impossibility, in case of collision. No pains will be spared by the enterprising proprietors in rendering these boats as strong as wood and iron can make them.

They are to be propelled by some of the largest and most powerful steamboat engines in the world, one of which was built by the Allaire Works in New York, and the other by J. P. Morris & Co., of Philadelphia. Their dimensions are as follows: Diameter of cylinder 82 inches with 12 feet stroke. Beams, 12 feet wide by 24 feet long. The bed-plates, condensers, air-pumps, openings, etc., are all large in proportion, enabling the engines to work more power than the size of the cylinders would indicate. The boilers, of which there are to be three in each boat, 11 feet in diameter, by 30 feet long, are built at the manufactories of Messrs. Sidney Shephard and John Newman, of Buffalo.

The boats, when completed, will be 330 feet long, 40½ feet beam, and 14 feet depth of hold, making them each about 1800 tons Custom House measurement. These boats are built under the superintendence of Captain M. Hazard and John J. Hollister, Esq., who give every assurance that they are to be built in the best, safest and strongest possible manner. Their experience and enterprise afford a sufficient guaranty that they will be all that the service can require of them; and so far as speed and safety are concerned, they must command the confidence of the travelling public.

The expeditious manner in which the portion of the route between N. Y. and Buffalo is run is well known. The average speed of the express trains may be put down at 35 miles per hour, making the running time only about 13 hours. This is altogether the fastest time made upon any long lines

in this country. The Ohio portion of the line will for the first time be in suitable condition the coming season for equally high speed. The Cincinnati, Hamilton and Dayton road was in the outset constructed as a first class road. The Mad River road has now received a heavy T rail upon its whole line, and is now said to be in admirable condition.

What is still better, we understand that the *through* fare upon this route is to be put at the low figure of \$10. The distance being not far from 890 miles, the rate charged will only be a trifle more than one cent per mile; which is certainly low enough to satisfy the travelling community, and sufficiently high, we believe, to secure a remunerating traffic to the route.

The above is the first move in the right direction toward putting down rates of fare upon long lines, in proportion to distance travelled. The step taken by this line cannot fail to be followed by others.—The fare from New York to Chicago should be also placed at \$10, though the distance is a little greater than to Cincinnati. The roads that make up both lines have a local traffic which yields lucrative incomes, and the *through* business can be accommodated with but a slight additional outlay. The effect of such low rates will be to increase immensely the amount of travel, but to secure it to northern routes. Think of making the trip from New York to Chicago, a distance of nearly one thousand miles for \$10, and compare this with the expense only a year or two, or to make the contrast still greater, ten years since.

The lines of travel connecting New York and the West, are thus about to throw down the gauntlet upon the subject of fares. Will our Pennsylvania and Baltimore friends take it up? Will they transport passengers from New York to Cincinnati by way of Philadelphia and Baltimore for \$10? Six-tenths of this sum is now used up in getting to Baltimore. Obstacles more difficult to be surmounted than are physical ones, are yet to be overcome, to place the last named lines on a par with their Northern rivals.

Journal of Railroad Law.

The following case, tried in our Common Pleas, on the 23d ult., was brought to recover damages for personal injury:

Alfred Everson agt. New Haven Railroad company.—Plaintiff in June, 1851, was driving a dearborn or wagon, on the track in the Bowery, when the wagon was struck by a four horse freight car, upset, and considerably injured. In defense the difficulty was said to have been caused by the negligence of plaintiff himself, the sides of the dearborn being down, so that he could not see the car. On the other hand it was said that there was no person to take care of the car but the driver, and that if there had been a person to take charge of the brakes when the plaintiff crossed the track, the car might have been stopped in time to avoid the collision. It was also denied that the collision was caused by any person in the employment of the New Haven railroad company, but that the horses and driver belonged to the Harlem railroad company, a contract having been made by which the Harlem company were to convey the cars of the New Haven company to Thirty-second street. On the part of the plaintiff it was contended that this did not absolve them from liability. It was shown that the New Haven cars, in the city, are conveyed by the Harlem company, and are not under the control of the conductors of the New Haven company while passing the point named. The non-suit was refused. The plaintiff is a colored man and was not owner of the wagon. It appeared that he was driving on the other track some little distance ahead of the car, and turned short to cross the track ahead of the car.

The judge reserved for the consideration of the full court, the question whether or not the defendants were absolved from any liability in this case in consequence of their arrangement with the Harlem railroad company. In arguing this question the counsel for defendants relied in part upon the late decision of the Court of Appeals by which it was declared that where a contract for excavating earth was entered into between A & B, and B, the party who was to do the work, assigned his contract to C, whose servants by means of their own negligence injured the plaintiff, that plaintiff must bring his action against C, to whom, as master, the servants were immediately liable. In other words, the responsibility of the master relates to his own servants, and not to the servants of those to whom he has assigned his contract.

Judge Daly, who presided at the trial, charged the jury substantially as follows: "When a party brings an action for an injury arising from a collision, he must show that he has not in any degree contributed to the injury by his own negligence.

The law does not in such a case regard the degree of negligence. If the plaintiff has been remiss to any extent, he cannot claim damages of another whose acts may have combined with his own in occasioning the injury complained of.

It is necessary, however, in a controversy like this, to take into consideration the respective conditions of the parties to this suit. Inasmuch as a railway car is limited to a particular track from which it cannot deviate, while the driver of an ordinary vehicle may divert his movements at pleasure, it follows that a greater degree of caution in avoiding collisions is demanded of the latter than of the former. On the other hand, in the case of a collision at sea, between a steamer and a sail vessel, the steamer can take her course without regard to wind or tide, while an ordinary sail vessel must be in a considerable degree affected by both. Hence the former having greater facility in avoiding collisions, is especially called upon to do so.

Yet, in view of the advantages enjoyed by a railway company in the temporary exclusive enjoyment of a portion of the public highway, they are bound to use every reasonable effort for the purpose of preventing any damage to others.

The defendants had offered evidence tending to show that the plaintiff was at the time of the accident intoxicated. And where there is, in a case like this, a conflict in the evidence of the parties, relative to the facts connected with the collision, the intoxication of the plaintiff may have much materiality, as furnishing a presumption that he may have been guilty of the negligence with which he was charged. But in the present case, the evidence of drunkenness was too doubtful to be important.

The evidence conflicted in regard to the distance which existed between the car and the wagon when the plaintiff turned his horses to cross the track. To weigh the testimony in this respect was the province of the jury. But very little reliance must ordinarily be placed upon the evidence of witnesses in regard to the relative distances of bodies, especially when rapidly moving. If the jury believed that the plaintiff turned too sharply—and incautiously—then there was certainly an end of the case.

The question as to whether or not the company was remiss in not employing a brakeman must be decided by the jury. The Superintendent of the road testified that there was no necessity for employing a brakeman in the city, and that no brake-

man was there employed, as the efforts of the driver alone would amply suffice to stop the car.

The jury rendered a verdict of \$50 for the plaintiff.

Georgia Railroad.

REPORT OF THE CENTRAL RAILROAD AND BANKING COMPANY OF GEORGIA TO THE STOCKHOLDERS.

The board has great pleasure in placing before you the accompanying report of the general superintendent on the operations of the road department for the year ending, 1st December inst.

The cash receipts in Bank for the year have been:

From road earnings prior to 1st December, 1851.....	\$57,722 84
Since, to 7th December, 1852, the dividend day.....	879,864 91

	\$937,587 75
Bank earnings.....	72,214 08

Total cash receipts from road and bank.....	\$1,009,801 83
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The cash expenditures have been:

Current railroad expenditures.....	\$437,882 50
Current bank expenditure.....	15,687 84
For interest.....	21,570 17
For dividends (being at the rate of 8 per cent per annum.....)	270,362 00—\$745,502 51

Leaving a surplus of.....	\$264,299 32
which surplus has been disposed of as follows:	

Carried to cost of road.....	\$100,000 00
Carried to reserve fund.....	164,299 32—\$264,299 32

The reserve fund as you will see by the accompanying statement, under the hand of the cashier, is at this day, \$281,057 03. There is a sum of about \$17,000 due for road hire to the Augusta and Waynesboro' company, which, when adjusted, will be charged to that fund. The balance uncollected of last year's earnings, as shown by the 17th report was.....\$64,467 61
Paid into bank, as shown above..... 57,722 84

Leaving still a balance of.....\$6,744 77
which balance is accounted for as follows:

Due by the Georgia and East Tennessee company.....	\$1,653 60
Due by the Savannah and Macon treasurers.....	1,982 90
Allowed per deductions on various accounts.....	3,108 18—\$6,744 77

The item due by the treasurers shows the whole sum lost in the year 1851, by insolvency and otherwise. A part of it may yet be collected. The board feels that due diligence has been used in collecting \$748,207 86 with so little loss.

The sum paid into bank from earnings of 1851-2, from 1st Dec. 1851, to 7th December, 1852, (dividend day) is..	\$879,864 91
Leaving uncollected on Dec. 7, 182..	565,643 37

Total of the year.....\$945,508 58

The financial condition of the company is shown in the statement of the cashier.

Since the last report, the company has paid up its subscription to the Augusta and Waynesboro' company and the sum of \$58,554 84 on account of the Fort Valley Branch of the Southwestern road.

The company by its subscription of old iron rails at \$30 per ton, holds stock to the amount of \$20,000 in the Milledgeville and Gordon railroad company, and the sum of about \$25,000 in the Eatonton railroad company. The account with the Eatonton railroad company will soon be adjusted, and then our railroad account will receive a credit for the stock in the last named company. The board has agreed to take the Eatonton road, so soon as the same shall be entirely finished, and to keep it up and work it according to the policy of this Co.,

for the sum of \$14,000 per annum. It is expected that the road will be finished by the 1st of February next. There is a fair prospect that the Augusta and Waynesboro' road will be opened to Augusta by the 1st day of November next. That road is worked by this company on a lease of 4 years from January, 1852. It is important to the interest of this company, that it should be opened its entire length as speedily as possible.

The branch of the Southwestern road from Fort Valley to the town of Butler, where it will join the Muscogee road, will be opened by the 1st of April next, when our connection with Columbus will be perfect. The road from Columbus to Opeleika has all been placed under contract, and the grading will be finished by the end of the ensuing year. In a few months hereafter, we may expect our railway connection to be complete to Montgomery, Alabama.

The South-Western road is to be extended to Americus. It is believed that this extension will be finished early in 1854.

The operations of our road for the year past have been satisfactory; its earnings have far exceeded any representation which has ever been made to you. The late freshet causing a delay of eight days in the day passenger line, and of twelve days in the night passenger and freight lines, caused the November receipts to fall off very much. The freight destined for our line was diverted however, to a very small extent. The sum of \$15,000 will, undoubtedly, cover not only the expense of replacing the track but all loss on freight and passengers. The board is fully sensible of the importance of raising the track in those low places which have twice sustained injury by extraordinary freshets, viz: in 1841 and in 1852. The task can be accomplished without interference to the operations of the line.

The rapidly increasing freighting business of the company will call for large additions to the motive power and cars. Since the junction at Macon it is found that we have not, by a large number, the proper complement of burthen cars. The running of cars to Chattanooga, Rome, Newnan, Oglethorpe, and Columbus, requires us to add within a year 100 to the number we now have, and, of course, new cars to a considerable extent must be provided to replace those which may be worn out and broken up. We cannot hope to stop short of the number of 1,000 cars as the measure of our force, at the moment of the completion of the lines above referred to. It is gratifying to know that the increasing income of the company is likely to keep pace with the demands for additional motive power.

The Central railroad should, as early as practicable be placed among the first class railroads of the Union. Beside full preparation for freighting business, (our great source of revenue,) we should not fail to attract passengers by furnishing proper accommodations for them throughout the line. As soon as the Augusta and Waynesboro' line shall be opened through to Augusta, it is reasonable to expect that the crossing of travel through Georgia, will be over our road from Miller to Macon. There will be two lines across the state of about equal length, but the important points,—Macon and Columbus, being on the lower crossing, it is not assuming too much to say, that the throng of passengers will pass on the upper 110 miles of the Central road. You will now see more clearly the great importance of the superintendent's recommendation to renew the iron on this upper part of the road.

The board has kept constantly in view of the action of the stockholders at their meeting of March, 1851. It hopes to accomplish what the stockholders then contemplated, and to do more, if the policy is steadily pursued, of making our road what it ought to be, in track, in motive power, in freight and passenger accommodations, before there shall be any declarations of dividends beyond 8 per centum per annum, or any increase of our capital by a dividend of stock. If for all these important ends, much more money shall be found necessary than was contemplated in March 1851, we have the satisfaction to see that our revenue has been vastly augmented beyond the estimate of that period. The ability of the company promises to be great enough to meet any excess of outlay.

But beside and beyond the absolutely necessary improvements referred to, care should be taken to begin, at once, adequate provision (by sinking fund) for the renewal of the iron on the lower part of the road where it is now nearly new. The pressure on our road is already great, but there will be a very large and continuing increase of tonnage to pass over it, and the iron will of course wear out. It will require the annual sum of at least \$30,000 to be set apart with this view.

The board desires to impress on you the importance of being content, for the present, with the regular payment of 8 per cent. on your investments. By that course you will soon have a road of great value—with no more material pressing want, and not likely to be diminished in value, even on the declaration of a liberal stock dividend.

It is due to the superintendent, Mr. M. B. Millen, and to the supervisors of road, Messrs. Whilden and Willey, and their subordinates, to say that the board highly estimates the service which they rendered upon the occasion of the late freshet.

R. R. CUYLER, President.

Savannah, Dec. 14th, 1852.

The following is the statement of the financial condition of the company on the 7th December, 1852:

RESOURCES AND PROPERTY.

Railroad and appurtenances.....	\$3,378,132 31
Notes and bills discounted and bills receivable.....	492,952 83
Due by other banks.....	165,799 64
Due by agents and other companies.....	105,795 88
Stock in other companies.....	488,354 84
Banking house and other real estate.....	16,074 95
Specie.....	\$105,497 43
Notes of other banks.....	22,112 00
	\$4,774,710 18

LIABILITIES.

Capital stock.....	\$3,500,000 00
Bonds due by the company.....	306,187 00
Bank notes in circulation.....	251,311 00
Suspense account.....	5,875 96
Due other banks and companies.....	79,678 25
Individual deposits.....	102,540 95
Unclaimed dividends.....	17,274 79
Dividends declared this day.....	139,858 00
Railroad earnings since 1st December, 1852.....	136 20
Balance being "reserved fund".....	281,857 03

\$4,774,710 18

The operations for the year ending 30th Nov., 1852, are shown below:

Aggregate earnings.....	\$945,508 28
" expenses.....	537,882 50

Net profit.....\$507,625 78

These expenses are classified:

As maintenance of way including labor, salaries, and all expenses connected with the repair department.....	\$116,470 72
Maintenance of machinery and motive power, including wages of engine men.....	123,633 56
Maintenance of cars, including material, labor, oil, etc.....	50,597 65
Transportation expenses, including wages of conductors, agents, clerks, etc.....	137,321 15
Incidental.....	9,859 42

\$437,782 50

Since the last report 1,200 tons of T rail have been laid down, and 1,200 more have been ordered, and are daily expected. Sixty-four miles of the road now laid with a light rail, remain to be provided for. The removal of 40 miles of this rail is recommended during the coming year.

The construction of the depot at Savannah has not advanced so rapidly, as was anticipated. The material for the roof of the engine house and its adjacent buildings is of corrugated iron, and as it has to be imported from Europe the completion of this portion of the work cannot be hoped for under six

months. The sum of \$123,152.25 has been thus far expended on this depot.

The Augusta and Waynesboro', and Milledgeville and Gordon roads are in good repair. In view of their completion and that of the Columbus railroad, the purchase of 14 additional engines and the construction of six passenger and 100 burden cars is recommended.

The through passengers for the year, from 1st December, 1851, to 1st Dec., 1852, was:

Up.....	8,630
Down.....	6,747
Total.....	15,377

Way passengers for the same period:

Up.....	22,530
Down.....	21,929
Total.....	44,459

Statement of the number of bales of cotton transported from 1st Dec., 1851, to 1st Dec., 1852.

Months.	Through.	Way.	Total.
December.....	27,299	8,706	36,005
January.....	24,654	8,701	33,355
February.....	20,499	7,503	27,999
March.....	24,827	2,909	27,736
April.....	15,321	1,119	16,440
May.....	7,805	827	8,632
June.....	3,698	188	3,886
July.....	2,644	56	2,700
August.....	1,815	137	1,952
September.....	3,205	993	4,198
October.....	17,674	8,244	25,919
November.....	23,879	9,507	33,386
Total.....	183,320	48,880	231,210

Statement of the earnings of the road for the year just closed, compared with the previous one.

	1851.	1852.	Increase.
Up thro' freight.....	\$247,134 16	249,933 99	2,799 83
Down way.....	78,265 20	78,217 16	*4,804
Down thro' ".....	202,011 72	348,404 03	146,392 31
Down way ".....	73,182 76	92,908 53	19,725 77
Up thro' passage.....	38,219 85	36,473 41	*174,644
Up way do.....	27,954 82	38,918 70	10,963 88
Down thro' do.....	31,398 55	31,242 37	*156 18
Down way do.....	23,840 80	34,913 59	11,072 79
U. S. Mail.....	26,200 00	34,496 50	8,296 50

Tot. earnings. \$748,207 86 945,508 28 199,251 08
Decrease bro'ght down..... 1,950 06

Tot. increase. \$197,300 42
Bales cotton thro' 111,433 00 182,320 00 70,887 00
" " way. 39,433 00 48,890 00 9,457 00

Tot. bales cot. 150,866 00 231,210 00 80,344 00

* Decrease.

Pennsylvania Railroad Stock.

We learn from the Pennsylvanian that, on the 29th ult., the balance of the stock of the Pennsylvania railroad, making \$10,000,000 in all, was sold at par to a commercial house in that city. The sale amounted to 1,250 shares.

It must be very gratifying to the stockholders to know that the road is in such a prosperous condition as to be able to dispose of such a large amount of its stock at par.

This road is one of the greatest improvements in the Union, and, if properly managed, cannot fail to be a source of great profit to the company.

Nashville and Her Railroads.

The people of Davidson county, (Nashville,) are to vote on the 15th January inst., on the question of a county subscription in the aggregate of \$1,000,000, to the following railroads: for the Louisville and Nashville road \$300,000, Northwestern road \$800,000, Tennessee and Alabama road \$200,000, and Edgefield and Kentucky road \$200,000.—These roads are all to concentrate in Nashville.

Virginia and Tennessee Railroad.

FIFTH ANNUAL REPORT TO THE STOCKHOLDERS.

Gentlemen: An interesting event has called you together. It has always been to me a source of unaffected pleasure, to meet the stockholders in general council, and receive the aid of their combined wisdom in the management of their affairs. In discharging the duty of laying before you a report of the transactions for the past year, I am happy to congratulate you on the favorable condition of the company.

It will be remembered, in my last report, it was announced to you that a letting had been advertised to take place at Wytheville, of so much of the work between that point and the Tennessee line, as the condition of the finances would permit. Accordingly, on the 12th of December last, all the heavy work on that division, estimated at \$220,000, was let to contractors of responsibility, on very favorable terms; ten per centum of the amount of their respective contracts being payable in stock of the company at par. At the same time a contract was concluded with David Graham, Esq., of Wythe county, to furnish all the castings required for the track, including turnouts, bridges, and other structures on the line of the road between Salem and Wytheville, to be delivered at such times and places as may be required—to be of the best quality, and made in the best manner, to be inspected by the company's agent; for which he is to receive 2½ cents per pound, and to take 15 per cent of his contract in the stock of the company at par.

In accordance with the wish of the stockholders, I attended the meeting of the Southwestern Railroad Convention, which assembled at New Orleans January 5th, 1852. Notwithstanding the severity of the season, which prevented many from reaching the city, there were in attendance more than six hundred delegates, representing eleven States of the south, southwest and west.

The session of the convention was marked with harmony, and a very large amount of information essential to the organization of a southern system of internal communication, was contributed and diffused.

The most valuable results are already apparent in the organization of several important railroads, and in the concerted impulse given to improvements in the south.

Without giving in detail the proceedings of the convention, it will be sufficient to state, that it recommended,

1st. The construction of such improvements as may be sufficient to keep open at all seasons, a communication between New Orleans and the producing interior, of which that city is the natural market.

2d. The construction of railroads radiating from the Gulf and Atlantic cities of the southern, western and southwestern States.

3d. The construction of a National railroad to the Pacific, one branch of which should terminate north, and another south of the mouth of the Ohio river.

The southern branch, apparently preferred by the convention, will consist of certain railroads, commencing upon the Mississippi, passing through the States of Arkansas, Louisiana and Texas, uniting in a common stem at El Paso, and passing by way of the Gila river, or by some line of junction with the National railroad to California.

4th. The route across the Isthmus of Tehuantepec was recommended as the best temporary communication with California, until the National road to the Pacific shall have been completed.

5th. A southwestern National road from Washington city to New Orleans, passing through the States of Virginia, Tennessee, Alabama, Mississippi and Louisiana, constituting the shortest practicable line of mail and travel transit, and consisting of the following continuous sections now under construction, to wit: the Richmond and Lynchburg railroad, the Virginia and Tennessee railroad, the Georgia and Tennessee railroad, the Alabama and Tennessee railroad, the Selma and Jackson railroad, the New Orleans and Nashville railroad.

You will observe that the Virginia and Tennessee railroad is included in this proposed plan of connection between New Orleans and New York. I am happy to assure you that it is regarded as a most important section by the cities of New Or-

leans and Mobile, as well as by the interior interests which directly or indirectly look to it as their thoroughfare to the east.

This recognition will have an important effect upon our interests. Not only will the Virginia and Tennessee railroad be regarded as the great mail and travel route between the most important sections and cities of the southwest, the city of Washington and the cities of the north; but, so soon as the Isthmian crossing or National railroad recommended by the convention shall be opened, it must derive from the southwestern National road, or from its connection with the Memphis and Charleston railroad, a large proportion of the intercourse between California and the eastern Atlantic States. We should not, therefore, in the prosecution of this work, lose sight of the consideration, that its revenues will be greatly increased by the successful prosecution of the great southwestern system of which it is so important a part. It will be, therefore, important that we should maintain correspondence and concert with the various connecting sections, in order that uniformity of fare and freights, and reciprocity of transshipment charges shall be provided for; so that we may thus constitute one great route as to all through communication, leaving to each local section the advantage to be derived from the general prosperity.

A contract has been made with Grutwell, Allies & Co., through their agent, James Dunlop, Esq., of Petersburg, for 1000 tons of iron, of the same pattern and quality as that heretofore purchased of them (7 rails 60 lbs. per lineal yard) deliverable at City Point or Bermuda Hundred; for which they are to receive \$37 50 per ton—the company paying the duties thereon to the U. S. government, (30 per cent), making the entire cost there \$48 75 per ton. A small lot of 40 tons (same size) has been purchased of the Richmond transportation company, delivered on the Basin bank in Richmond, at \$40 50 per ton. Likewise, 130 tons have been bought from the Petersburg Insurance company, and is now being delivered in Richmond at the price of \$41 per ton.

These purchases, with the stock on hand, will complete the track to the basin of the Alleghany Mountains.

From the inadequacy of the capital stock to complete the road, the board found themselves compelled either to allow the work to be arrested in its progress, or to resort to some system of credit by which it could be prosecuted. In this posture of affairs, parties came forward proposing to equip and complete the road at fair cash prices, receiving in payment therefore six per cent coupon bonds of the company; the coupons payable in the city of New York, and the principal payable in Lynchburg 20 years after date. These bonds, it was proposed, should be convertible into the stock of the company, at the pleasure of the holders, at any time before the 1st of January, 1860; it at the time of such application, there should remain unsubscribed, of the increased capital stock of the company, a sufficient amount of that stock to meet such demand.

As this involved no sacrifice on the part of the company, the board did not hesitate to accept the proposition. Accordingly contracts have been entered into with Messrs. Charles Scott and Charles Coleman, for all the graduation and masonry, which had not been previously put under contract, with Mr. Francis Denmead, for laying down the track, and building the superstructure of all the bridges between Salem and the Tennessee line; and with Mr. F. B. Deane, Jr., for all the castings necessary to complete the road, and to furnish the cars requisite to stock it. These contracts contemplate the completion of the road to the Tennessee line by the 1st of January, 1855.

The board deemed themselves fortunate in being able thus to secure the early completion of the work, which would otherwise have lingered, awaiting the tardy action of the legislature for the means of progress. When it is remembered, what a large sum would have been lying comparatively idle for the want of the finishing contribution, and what large benefits will be realized by the stockholders as soon as the road shall have reached its destination, the great value of the arrangement effected by the board must be fully appreciated.

Inasmuch as a large amount of revenue will be

derived from travel, it was believed expedient to offer such facilities to stage lines, connecting with the road, as to promote travel by cheapening the cost, and improving the means of conveyance. Accordingly, an agreement has been entered into with Messrs. Wm. P. Parish & Co., by which the advantage of a through ticket is secured to them; and they have established cheap and expeditious lines of stages from your road to Knoxville, Tenn., and also to the several Virginia Springs, Charleston Kanawha and Guyandotte. It is confidently believed, that these arrangements will bring over your road a valuable travel, and add largely to its revenue.

A contract has recently been concluded with the Postoffice department for carrying the U. S. mails daily, (Sundays excepted) for which service the company is to receive \$50 per mile—one seventh off (as is usual) for the rest days; and a similar contract has been granted Messrs. Wm. P. Parish & Co. to carry the mails by stages, from the western end of the railroad to Knoxville, Tenn.

It appears that the number of shares held by others than the State, now certified to the Board of Public Works, is 10,147. The State's subscription, made in corresponding proportion, to wit:—three-fifths, is 15,000 shares—making together of capital stock, \$2,517,700. Subsequent subscriptions made by individuals and counties, on the books of the company, not certified to the Board of Public Works, amounting to 880 shares, will draw from the State its quota of 1,320 shares; thus increasing the capital stock of the Company to the amount of \$220,000.

It will be borne in mind, at the last annual meeting, it was reported to you that there was then wanting \$131,100 of private subscriptions to fill up the capital stock of the company. I have now to state, that this amount has been reduced to the small sum of \$75,000.

The balance reported in the treasury at the last annual meeting was \$219,998 05: amount received in cash and 6 per cent. bonds, \$1,293,751 91,—making a gross sum of \$1,515,749 57. The disbursements of the current year have been \$1,350, 631 63; leaving in the treasury, at the end of the fiscal year, (30th September) in cash and 6 per cent. bonds, a net balance of \$164,917 94.

The receipts from all sources, since the organization of the company, to 30th September, 1852 have been \$2,247,844 33. The expenditures during same period, \$2,182,926 39. Leaving of the capital stock outstanding and unpaid, \$817,073 61. This outstanding balance, and the amount already provided for, by work let to contract, payable in the bonds of the company, to wit, \$500,000, with the revenues to be derived from transportation, which may be safely estimated at \$120,000, making a gross amount of \$1,437,073 61 available means, will constitute the actual resources, for the wants of the treasury, during the current year.

The report of the agent of transportation shows that the receipts from passengers and freight to Liberty, a distance of 25 miles, from the commencement, on the 30th March, till 30th June, (three months), were \$9,562 93. On the 4th July, another section of 14 miles was opened to Buford's (making in all 39 miles,) when the receipts for the three months ending the 30th September were \$14,937 90—making in the aggregate, from the commencement, the sum of \$24,500 83. The receipts for the month of October were \$6,500. The transportation of iron and timber for the company's use, have exceeded \$5,000. Thus shewing the whole earnings of the road, for three months on 25 miles, and four months on 39 miles, to be \$36,000 83.

It is confidently believed, when opened to Salem, which will be done in a few weeks, the receipts for transportation will exceed \$10,000 per month.

During the past year requisitions have been made for the whole amount due from private stockholders, in monthly instalments. These requisitions have not been met with their usual promptness;—consequently, it has been found necessary to resort to temporary loans, as was authorised at your last meeting, to enable the company to meet its exigencies. The interest charged to delinquents will meet the expense of these loans.

With the capital stock taken up, the company will be placed beyond the dependence on State aid. The entire grading, masonry, bridges, superstruc-

ture, and rolling stock are under contract, and the means provided to meet the cost. For whatever additional sums of money which the company may require to complete their work, they will be able to sell their bonds, without difficulty, in the money market, it being now agreed, among capitalists, that when the capital stock of a railroad company is paid in and expended on construction, and a portion of the road in operation, and where the proceeds of bonds offered for sale, *bona fide*, are intended to be expended in completing the work, these bonds are as safe securities as are offered in the money markets.

If the small remaining balance of stock shall be made up the Virginia and Tennessee railroad will be put in a self-sustaining—an entirely independent position.

In many of the States railroads are constructed by individual enterprise. It would be singular, in view of their success, if a road in our State, commanding a trade and travel like that of the Virginia and Tennessee Company, and with so large a proportion of the means necessary to its completion, provided, should fail to complete its works without further state aid.

In obedience to the resolution adopted at your last meeting, application was made to the Legislature for such increase of the capital stock as might be sufficient to enable the company to complete and equip their road to the Tennessee line. The committee on internal improvements reported a bill to the House of Delegates, increasing the capital of the Virginia and Tennessee Railroad Company one million of dollars; when the Legislature determined to hold an adjourned session, the whole subject of internal improvement was postponed till that period, and will then come up for a full consideration, when, in the opinion of many members, the State will afford such means to the principal unfinished improvements as will ensure their speedy completion. The weightiest possible consideration, indeed, demand that the execution of this great work should not be retarded even for a day.

It will, beyond all doubt, when finished to the Tennessee line, bring a revenue to the State Treasury, and be a profitable investment to the stockholders. Passing through a country of exceeding richness, agricultural and mineral, it will bring to the cities of Virginia a vast trade. Moreover, its rapid progress to the Tennessee line will have a stimulating effect on the improvements in East-Tennessee, which are links in the great chain of connection that will unite the Virginia and Tennessee road with the Mississippi at Memphis. Under such circumstances, procrastination would be a serious loss, not merely of money, but of great agricultural, commercial and social advantages.

In view, however, of the uncertainty attending Legislative action, and to prevent any delay in the early completion of your improvement, I earnestly recommend, that authority be given to the Board of Directors to negotiate a loan of one million of dollars, and that they be empowered to execute a mortgage or lien on the whole property of the company to secure its payment. It is a sound rule, when contracting a debt, to provide such means as will ensure the prompt payment of the interest, and a gradual but certain extinguishment of the obligation. Failing in this, debt will enlarge, interest will augment, and no certain means can be relied on for meeting engagements. Credit is best maintained when adequate provision is made in due time for liabilities; and without this, there is danger of great hazard, and embarrassment in your finances.

In the discharge of my official duty, the cardinal object ever held in view, has been rigidly, without favor or affection, so to act as that injustice should be done to none, justice to all. When evidence was satisfactory, claims have been promptly settled without partiality. A company which is not just in its dealings, cannot claim the affection or respect of the community. So far as my feeble health would permit, the closest attention has been paid to the great concerns of the company. I have endeavored to have order and efficiency in all the departments of its service, accompanied by a rigid responsibility on the part of receiving and disbursing agents, and the fact is gratifying, that in the collection and disbursement of its funds, amounting

to \$2,182,936 39, there has not been the loss, by default, of a single dollar.

In closing this, my last annual report, I take great pleasure in bearing testimony to the zeal and untiring devotion, which has characterised the members of the Board, who have been, and are now associated with me in carrying on your business. Each one has rendered me efficient aid, and I trust it will not be regarded as out of place in me to bear this testimony thus publicly. In severing the connection which has heretofore united us, I beg leave to express my unabated anxiety for the prosperity of the company, and to tender to each and all of you, the assurance of my best wishes for the success of your efforts, as well of my high respect and esteem.

All which is most respectfully submitted.

O. G. CLAY, President.

Sunbury and Erie Railroad.

Mr. Tucker, President of the Reading railroad, has addressed a letter to Mr. Fulton, President of the Sunbury and Erie railroad, from which we make the following extracts:—

I regret that my time will not enable me to trace the progress of New York and Philadelphia from the period when the latter had the ascendancy in commerce and population. I think that it would appear that the change in the position of the two cities is to be greatly attributed to the early connection which New York secured with the trade of the lakes by her canal, and which has since been perfected by her railroads. The growth of the cities, towns and villages in Northern New York, which has been greatly influenced by these facilities for transportation and travel, have been most marvellous. I refrain from the comparison with Northern Pennsylvania, which is vastly richer in mineral and agricultural wealth. But you do not desire, I know, these generalities, but rather my judgment upon those points which my experience may be supposed to render it of value.

The city of Erie, in our own State, is admitted to be the best harbor on the lakes. It is the proper point from which to base our calculations, as here the various lines of railroad diverge; with their different gauges, viz: to Ohio and the great West, with a gauge of four feet ten inches, to New York, with a gauge of six feet, and to Philadelphia, (for in the argument I will assume the Sunbury and Erie railroad to be made, and see what it can do in the competition for the great trade of the West,) with a continuous gauge of four feet eight and a half inches.

I will now consider the advantages and difficulties of these three main railroad routes from Erie eastward:

1st. The New York and Erie route.

From Erie to State Line, 6 feet gauge, 19 miles.
State Line to Dunkirk, 4 feet 10 " 28 "
Dunkirk to Sufferns, 6 " " 427 "
Sufferns to Jersey City, by Paterson,
now Union, Road 6 feet gauge, 32 "
Jersey City to New York by Ferry, 1 "

507 miles.

With three transshipments, viz: at State Line, Dunkirk, and Jersey City.

2d. Buffalo and Albany route:

From Erie to State Line, 6 feet gauge, 19 "
State Line to Buffalo, 4 feet 10 " 60 "
Buffalo to Albany, 4 " 8 " 323 "
Albany to New York, (Hudson River
Railroad,) 144 "

560 miles.

With three transshipments, viz: at State Line, Buffalo and Albany.

3d. Sunbury and Erie route:

From Erie to Philadelphia, 4 feet 8 1/2
inch gauge, the entire distance, 428 miles.
Viz: from Erie to Williamsport 240 miles.
" Williamsport to
Tamaqua, 90 "
" Tamaqua to Philada, 98 "

Or from Erie to Philadelphia, via Williamsport, thence down the Susquehanna to Harrisburg, by Harrisburg and Lancaster and Columbia railroads, 427 miles.

Or, from Erie to Harrisburg, as above, and thence to Philadelphia, through Reading by the proposed Lebanon Valley road, 444 miles.

The immense and decided superiority of the Sunbury and Erie route over the others, in consequence of its freedom from the necessity of frequent transshipments, will not be sufficiently appreciated by those not familiar with railroad traffic. A change of one ton of merchandise from one car to another, is about equal to the cost of transporting it for fifty miles. This may be regarded by many who have not reflected on the subject, as an exaggerated estimate, but it can readily be verified. The cost of mere transportation is from $\frac{1}{4}$ to $\frac{1}{2}$ cents per ton per mile, with ordinary gradients, and varying as the grades are more or less favourable, which for 50 miles is from 25 to 37 $\frac{1}{2}$ cents per ton.

You will readily perceive that the cost of unloading one ton of merchandise from a car, removing it to another and reloading it, cannot be much less, and this independent of the other considerations arising from the delay of the cars and of the merchandise, and the damage to the latter by the more frequent handling.

What then is the distance, thus considered, from Erie to the two great Atlantic cities—
From Erie to New York, via the New York and Erie railroad, actual distance 507 miles. Add three transshipments, at 50 miles each, 150 "

657

Ditto, via the Albany and Buffalo route 560 "
Add three transshipments, 160 "

710 "

From Erie to Philadelphia, via the Sunbury and Erie, Cattawissa, Little Schuylkill and Reading roads, 428 miles.

It would seem to be unnecessary to pursue the comparison further, but there are other important advantages to which I will briefly allude.

The ascending and descending grades on the three routes are as follows, viz:

New York and Erie, 12,675 feet.
Buffalo and Albany, 11,200 "
Sunbury and Erie, 8,560 "

These figures may slightly vary from exactness, but not sufficiently to affect results.

If we assume the usual estimate that a rise and fall of 60 feet is equal to one mile of distance on a level, and introduce into the calculation the equivalent of increased distance for each transshipment, we have the comparative total distance, actual and equated, as follows, viz:

New York and Erie route, 868 miles.
Buffalo and Albany, 570 "
Sunbury and Erie, 570 "

Thus we see that in actual and equated distance, the Sunbury and Erie route has an advantage of 298 miles, which at the rate of transportation, (about $\frac{1}{4}$ cents per ton per mile,) usually required or moderate profits, with a large traffic, is equal to, \$4, 50 per ton, and a saving of at least 30 hours in time.

I have made these comparisons, assuming that the Cattawissa route would be adopted, as I learn that this road will be completed at once. It is comparatively immaterial whether this line or the one to Harrisburg be selected, as the little increase of distance by the latter is equalized by superior grades.

I learn that apprehensions are entertained by some that the trade may be diverted from Philadelphia, at Tamaqua, by the projected road from Tamaqua to Easton, and thence to New York.

An investigation of this question will show these results, viz:

From Erie to Williamsport, 4 feet 8 $\frac{1}{2}$ gauge, 240 miles.
Williamsport to Tamaqua, do. 90 "
Tamaqua to Easton, do. 60 "
Easton to New Brunswick, do. miles.
New Brunswick to Jersey City, 4 feet 10 inches, 76 "
Jersey City, 1 "

467 "

With two transshipments, viz: at New Brunswick and Jersey City.

Or, from Erie to Easton, 4 feet 8 $\frac{1}{2}$ inches in gauge, 390 miles.
Easton to Elizabethport, 84 "
Elizabethport to New York by steamer, 14 "
468 "

With one transshipment at Elizabethport.

Thus it appears that the distance from Tamaqua to New York is 138 miles, to which is to be added the transshipments, while from the same point to Philadelphia, with infinitely superior gradients, the actual distance is but 98 miles, leaving 40 miles in favor of the latter.

We think our Philadelphia friends could so thoroughly convince themselves of the truth of these statements, as to take up and construct the above work. It would certainly afford great relief to the Press, which has been teeming with arguments upon this subject, since railroads were first thought of.

This road should be built, and if its managers will place the project in New York hands, the stock could be made up in this city in 24 hours, with an understanding that Philadelphia should be equally favored in its management, or in other words, that every person using the road, should have equal freedom to go to one city or the other.

Mr. Tucker is altogether out of the way in his statement of the rise and fall on the Buffalo and Albany line. From Lake Erie to the Hudson, by the Albany route, the grade is descending or very nearly level. In going in an opposite direction, only the natural inclination of the country has to be overcome, which amounts to about 600 feet. But we are willing to allow all the advantages claimed if Philadelphia will build the above road.

Commerce of the United States.

STATEMENT showing the value of imports and exports each year, since 1820, to the present time.

Year.	Total Exports.	Total Imports.
1821.....	64,974,362	62,585,724
1822.....	72,156,281	83,241,541
1823.....	74,699,030	77,579,267
1824.....	75,986,557	80,549,007
1825.....	99,535,368	96,340,075
1826.....	77,595,322	84,974,477
1827.....	82,324,827	79,481,068
1828.....	72,264,686	88,509,824
1829.....	72,358,671	74,492,527
1830.....	73,849,508	70,876,920
1831.....	81,310,583	103,191,124
1832.....	87,176,943	101,029,266
1833.....	90,140,433	108,118,311
1834.....	104,336,973	126,521,332
1835.....	121,693,577	149,895,742
1836.....	128,663,040	189,980,177
1837.....	119,419,376	140,980,177
1838.....	108,486,616	113,717,404
1839.....	121,028,416	162,092,132
1840.....	132,085,946	107,141,519
1841.....	121,851,803	127,946,177
1842.....	104,691,534	100,162,087
1843.....	84,346,480	64,753,799
1844.....	111,128,278	108,434,702
1845.....	114,646,006	117,254,564
1846.....	113,488,516	121,691,797
1847.....	158,735,502	146,545,638
1848.....	154,032,131	154,998,928
1849.....	145,755,820	147,857,439
1850.....	151,898,720	178,136,318
1851.....	218,388,011	216,224,932
1852.....	209,573,222	212,502,744
	3,546,627,368	3,797,806,597

Excess of imports in 32 years..... \$251,179,229

* Owing to a change in the termination of the commercial year, only nine months are included in 1843.

Or about 8 per cent on the aggregate amount of imports.

COIN AND BULLION.

Statement—Exhibiting the amount of coin and bullion imported and exported annually, from 1821 to 1852 inclusive; and also the amount of importation over exportation, and of exportation over importation during the same years.

Year*.....	Imported.	Exported.
1821.....	\$8,064,890	\$10,478,059
1822.....	3,369,846	10,810,180
1823.....	5,097,896	6,372,987
1824.....	8,379,835	7,014,552
1825.....	6,150,765	8,797,055
1826.....	6,880,966	4,704,533
1827.....	8,151,130	8,014,890
1828.....	7,489,741	8,243,476
1829.....	7,403,612	4,924,020
1830.....	8,155,964	2,178,773
1831.....	7,305,945	9,014,931
1832.....	5,907,504	5,656,340
1833.....	7,070,368	2,611,701
1834.....	17,911,632	2,076,758
1835.....	13,131,447	6,477,775
1836.....	13,400,881	4,324,336
1837.....	10,516,414	5,976,249
1838.....	17,747,116	3,508,046
1839.....	5,595,176	8,776,743
1840.....	8,882,813	8,417,014
1841.....	4,988,633	10,634,332
1842.....	4,087,016	4,813,539
1843.....	22,320,335	1,520,791
1844.....	5,830,429	5,454,214
1845.....	4,070,242	8,606,495
1846.....	3,777,732	3,905,268
1847.....	24,121,289	1,907,739
1848.....	6,360,224	15,841,620
1849.....	6,651,240	5,404,648
1850.....	4,627,792	7,522,994
1851.....	4,967,901	29,231,880
1852.....	5,453,592	29,541,391
	\$273,871,366	\$252,163,319
	252,163,319	

\$21,708,047 imports over exports in 32 years.

It should be noted that the gold received from California, which, prior to 1850, had been classed as a foreign import, was in that year, as it has been since, reckoned as a domestic product. This makes and will continue to make, a great difference in the apparent results. For whereas, if California had continued to be a foreign country, the returns would have shown a constant and large excess of specie imported over specie exported,—now, under precisely the same state of facts as to the gold brought from California, the figures show a contrary result.

Ohio.

Cincinnati, Hillsborough and Parkersburg Railway.—The middle division of this railway, (which was noticed so favorably by President Swann in the late annual report of the Baltimore and Ohio railroad,) is now advertised for contract. The Eastern division, uniting at Parkersburg with the rails running from this city, will be ready for contract early in the Spring, and the whole will be vigorously urged to completion, so as to open the line through to Cincinnati as soon as the North Western Virginia railway can be finished.

Sixty miles of this line are now working Eastward of Cincinnati, and doing a very heavy business in freightage the peculiar products of Western agriculture.

We call the attention of contractors to this line, which is of the greatest importance to Baltimore, as affording our great railway to the West, its shortest and best passage across Southern Ohio, to unite with the Ohio and Mississippi railroad at the city of Cincinnati.

The policy heretofore indicated by Mr. Swann, is the prompt extension of both the great arms connecting with Wheeling and Parkersburg. The Central Ohio road is now under contract throughout its entire length, and the Cincinnati and Hills-

boro' road which it is now proposed to let, will complete the Southern combination. Baltimore is deeply interested in both these great lines, and will use her best exertions to promote the interests of both. Terminating on the Ohio river more than ninety miles apart, they can never stand in the relation of rivals; and we confidently predict that the day is not distant, when both Wheeling and Parkersburg, will become the centres of a trade which can hardly be estimated in its effect upon the commercial prosperity of the city of Baltimore.—*Baltimore Patriot*.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Sole Manufacturers,
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.
THE Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.
November 3, 1849.

lv

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,**

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of

**Railroad Iron, Chairs, or
any kind of Machinery.**

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

38

Railroad Iron.

5000 TONS Railroad Iron, weighing about 59 lbs. per yard, "Erie" pattern of G. L. and "Crawshaw" manufacture, now on the way from the shipping ports in Great Britain to this port, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.

December 4, 1852.

41

Notice to Contractors.



Alleghany Valley Railroad Lettings.

SEALED Proposals will be received at the Company's Office, in Fourth street, Pittsburg, until the 22nd day of February, 1853, for doing the Grading, Masonry and Bridging on the portion of said road, between Pittsburg and Kittanning, Armstrong County, a distance of 42 miles. The line will be divided into Sections of about one mile in length, and bids may be made for one or more or all of said sections.

Plans, Profiles and Specifications will be ready for inspection on and after the fifth day of February.

Proposals will be received for the Grading, Masonry and bridging, and also for the superstructure, and finishing said 42 miles, complete, (except furnishing iron.)

Bids will be received and considered, for the entire work, (except furnishing iron,) from Pittsburg to the New York State line.

Satisfactory references will be required from bidders not personally known to the Company.

For further information, application may be made personally, or by letter, to Hon. William F. Johnston, President of the Company, or to George R. Eichbaum, Esq., Associate Engineer, or to the subscriber.

W. MILNOR ROBERTS, Chief Engineer.

By order of the Board of Managers.
Office of the Alleghany Valley Railroad Company, Pittsburg, December 20th, 1852.

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible—

7 per ct. bonds of Canandaigua and Corning

R.R., payable in.....New York, 1860

Do. Buffalo, Corning and New York do.....1867

Do. Western Vermont Railroad.....do. 1861-71

Do. Evansville and Illinois.....do.....1862

8 do. Michigan Central.....Boston, 1860

Do. Peoria and Oquawka.....New York, 1862

1st Mortgage—

7 per ct. bonds, Corning & Blossburg do.....1871

Do. Mansfield and Sandusky.....do.....1860

7 per ct. Vermont Valley.....do.....1860

Do. Troy and Bennington.....Troy, N. Y. 1861

Do. New Jersey Central.....New York, 1860-70

Do. Dauphin and Susq. Coal Co. do.....1871

Do. Brunswick Canal Co.....do.....1857

Also, second mortgage bonds of many of the above

companies, and—

7 per ct. bonds Saratoga and Wash. N. York, 1862

Do. Troy and Boston.....do.....1864

Do. Muscogee Railroad.....Savannah, 1862

Do. Huron and Oxford.....N. York, 1862

Also, Georgia 7 per ct. State stocks,

interest payable semi-annually.....do.....1872

City of Savannah 7 per cent. bonds,

interest payable semi-annually.....do.....1870-76

7 per ct. bonds of the Town of Huron,

Erie county, Ohio.....do.....1861

10 per ct. City of Keokuk, Iowa, Keokuk, 1863

6 per cent, City of Memphis.. Philadelphia, 1880

10 per cent. City of San Francisco, San Fran. 1870

12 " " Benicia, California, N.Y. 1855

12 " " Sacramento, do. Sacramento.

7 per cent. Atlantic Steamship Co., N. York, 1855

12 per cent. Improvement Scrip of the

State of Wisconsin for improve-

ment of Fox River.....do.....1862

Troy and Rutland railroad Stock, with guarantee

of 4 per cent. dividend and one half surplus profits

of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of

4 per ct. div'd by Saratoga and Washington R. R.

Also, Stock of the Cambria Iron Company.

Stock in the Western Vermont R. R. Co.

Stock in the Mad River R. R. Co.

Stock in the Buffalo, Corning and New York

R. R. Co.

Stock in the Mansfield and Sandusky R.R. Co.

Stock in the Southern Bank of Kentucky.

Stock in the Mechanic's Bank of N. Y.

Stock in the East River Insurance Co.

The Cold Spring Iron Works, INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to—

John Kinsman, Esq., Superintendent Eastern Rail-

road, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.

E. T. Osborn, Esq., Superintendent of the Mad River

and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder.

Address HENRY MELLUS, Agent,

Boston, Mass.

or, GEO. W. PRESCOTT, Sup't.

Otis, Mass.

November, 12, 1852. ly

Railroad Iron.

5000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.

December 4, 1852.

41

The Cambria Iron Company,

ORGANIZED under the laws of Pennsylvania, with a capital of \$1,000,000, propose embarking in the manufacture of Railroad Iron, at Johnstown, Pennsylvania. The location they have secured offers advantages superior, it is confidently believed, to any other in this country. Iron Ores, semi-bituminous Coal, Limestone, and nearly every article required for the manufacture of Iron, exist in inexhaustible quantities, on the spot; and these deposits are now worked, and the minerals delivered, cheaper than at any other known point now occupied for the manufacture of Iron. The Pennsylvania Canal and Central Railroad pass through the property, and cross each other at the spot where the mineral veins are most thoroughly opened out; and which location, for its other advantages for facility of manufacturing, and vicinity to a populous borough, has been selected for the establishment of Railroad Iron Works, and for the erection of other Blast Furnaces, in addition to those now in operation.

The attention of capitalists disposed to embark in an enterprise which offers a remunerating profit, even on the low prices of iron current before the rise of the last six months, and which promises to be very lucrative while anything like present rates prevail, and also of Railroad Companies desirous of making arrangements for Iron Rails to be delivered in 1853, is called to this enterprise.

Out of the capital named above, the sum of \$360,000 has been devoted to the purchase of about 30,000 acres of land, upon which there are six blast furnaces, which cost, including the personal property accompany them, \$350,000. Three of these furnaces are now in successful operation, and by next spring, with an outlay of about \$6,000, the other three can go into blast; and at the present price of pig iron, these six charcoal furnaces would realise a net profit of six per cent on \$1,000,000 capital.

The company contemplate erecting four more blast furnaces, for smelting with coke the iron ores at Johnstown, and also works for manufacturing railroad iron. To do this, they will require subscriptions in all to the amount of \$600,000, and to carry on most profitably the manufacture and disposal of rails, the whole chartered capital should be raised. Subscription lists, providing that no subscription shall be binding unless bona fide subscribers for the amount of \$600,000 are obtained by the 1st January next, and pamphlets descriptive of the advantages of the locality and estimates of costs, can be had of the undersigned.

D. M. WILSON, Newark,
EDWARD F. GRANT, New York,
SAMUEL H. JONES, Philadelphia,
JOHN HARTSHORN, Boston,
T. F. SECOR, New York,
G. S. KING, Johnstown,
P. SHOENBUGER, Pittsburg,
RHEY, MATHEWS & CO., Pittsburg,
or at the office of the Provisional Committee, at
SIMEON DRAPER'S, 46 Pine st.

The subscriber is prepared to enter into contracts to deliver RAILROAD IRON to Companies requiring it in 1853.

SIMEON DRAPER.

Iron.

200 Tons Fishkill Charcoal Iron for sale on reasonable terms, also from 1000 to 5000 tons Fishkill Hematite Ore—delivered at Poughkeepsie or New York. Samples of the ore may be seen at the store of Messrs. Hoffman, Bailey & Co., No. 62 Water st., New York. Enquire by letter to
NORMAN M. FINLAY,

Poughkeepsie, Dutchess county, N. Y.
July 10, 1851.

A. Whitney & Son, PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 311f

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

Volcano Quartz Mining Co.VOLCANOVILLE, EL DORADO COUNTY,
CALIFORNIA.

BOOKS for subscription to \$75,000 of the stock of this company are now open at the office of the company, 78 BROADWAY, New York.

The uncommonly rich claims of this company hold out inducements, to those who are disposed to invest capital in quartz mining in California, not surpassed, if, indeed, equaled, by those of any other company in that state.

The extraordinary richness of our quartz, as was witnessed by thousands at the late Fair of the American Institute, and the extent of our claims, together with the peculiarly favorable location for economical working upon a large scale, will ensure the most ample and satisfactory returns upon the investment.

It is well understood by practical men that, with machinery working twenty tons of quartz, paying two cents per lb., large profits will be realized upon each day's work. It is the intention of the company to obtain machinery sufficient to work fifty tons per day, and to work it in the most economical manner, by which they feel confident of being able, from their stock which will yield from two cents to twenty dollars to the lb., to make returns to their shareholders which will not only satisfy, but surprise them.

It will be seen, by reading the pamphlet, containing the charter, the laws of California, and the details of our plans of operation, that our estimates are based upon two cents per lb., and the expenses of working the mill are but, at present high prices for labor, while it is well known to all who reflect upon the matter that, as the cost of labor shall be reduced, the income will be materially enhanced.

If we work 40 tons per day, and yet two cents per lb., it will yield \$16, while three, four, or five cents per lb., would give a proportionate increase of receipts, the expenses of working the mill would not be increased a dollar, and will be less than \$470 a day.

Subscriptions can be made by mail, enclosing, ten per cent on the amount, of the balance, twenty per cent to be paid on the 29th of Nov. inst., and seventy per cent on the 29th day of December next, when certificates of stock will be issued.

Pamphlets, containing the statute of California in relation to corporations, the rules and regulations of our locality, the charter and by-laws of the Co., together with much other interesting and useful matter, including a map of a portion of the northern mining regions may be had gratis at the office of the company, No. 78 Broadway, or by mail on application, (postage paid.)

TRUSTEES OR DIRECTORS.

NICHOLAS DEAN,
ROBERT M. STRATTON,
NATHANIEL CONKLING,
D. K. MINOR,
JOB S. HEARN,
SUMNER WHITNEY,
BENJAMIN C. DONNELLAN,
JAMES CLOUDSLEY
JAMES ALLEN,

} of New York

} of California.

D. K. MINOR, President,
JAMES CLOUDSLEY, Vice President.

NICHOLAS DEAN, Treasurer.
NATHANIEL CONKLING, Secretary.
New York, Oct. 25, 1852.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Avg. 28, 1852. Sm.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

To Railroad Contractors.

SEALED PROPOSALS, addressed to either of the undersigned, will be received at Hillsborough, Highland county, Ohio, until the 1st day of February next, at noon.

For the Graduation and Masonry of the Middle Division of the Cincinnati, Hillsborough and Parkersburg Railway, extending from Hillsborough, Highland county, to a point near Jackson, Jackson county, Ohio, about 56 miles.

The line will be ready for examination early in January, and Profiles and Specifications of the work will be exhibited at the Engineer's office, in Hillsborough, for one week prior to the 1st day of February.

This Railway forms the recognized continuation across Ohio, of the Baltimore and Ohio, and North Western Virginia Railways, and being located as a link, in the great through line between Baltimore and St. Louis, will be found in every way worthy of the attention of able and enterprising contractors.

The remainder of the line to the Ohio river will be ready for contract about the 1st day of May next.

JAMES M. TRIMBLE, President.
ELWOOD MORRIS, Chief Engineer.

Notice to Contractors.

OHIO AND MISSISSIPPI RAILROAD,
FROM CINCINNATI TO ST. LOUIS.

SEALED PROPOSALS will be received at the Office of the Company, in the City of Cincinnati, until Thursday, the Sixth day of January next, for the Grading, Masonry and Bridging of 115 miles of the OHIO AND MISSISSIPPI RAILROAD, extending from the intersection with the Jeffersonville and Columbus Railroad, in Jackson county, to Vincennes, in Knox Co., Indiana, comprising all the work on the Road not at present under Contract.

The above contains a large amount of heavy work, including two Tunnels and five large Bridges.

Profiles, Plans and Specifications will be exhibited on and after the 20th inst., at the office in Cincinnati, for the entire line, and in Vernon and Vincennes for the respective divisions, and all necessary information will be given by Mr. D. Hardenbergh and Mr. N. A. Gurney, Division Engineers on the line.

The right is reserved of accepting such proposals as shall be deemed best calculated to secure the prompt and faithful execution of the work. Contractors will be required to commence work immediately.

Proposals will also be received at the same time and place, for the furnishing and delivery of the Cross Ties required between Aurora and Vincennes, and laying Track from Cincinnati to Vincennes.

O. M. MITCHEL, Consulting Eng. & Com'r.
DANIEL MORTON, Chief Engineer.
H. C. SEYMOUR & COMPANY.
Cincinnati, Dec. 10th., 1852.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. ly*

E. DEWOLF, Jr.

To Civil Engineers and Surveyors.

A CIVIL ENGINEER and Surveyor of very great experience in every detail of locating designing and constructing Public Works, especially Railroads, is desirous of a situation, he has been engaged practically for the past sixteen years, and can produce the most satisfactory testimonials.

Address D. F. care of Geo. Gilchrist.
1 m-52 432 Washington-st. N. Y.

\$200,000 SEVEN PER CENT. CONVERTIBLE BONDS OF

the NEW-CASTLE and RICHMOND RAILROAD.—The undersigned offer for sale TWO HUNDRED SEVEN PER CENT CONVERTIBLE BONDS for \$1,000 each, of the NEW-CASTLE and RICHMOND RAILROAD COMPANY, with Interest Coupons attached, payable semi-annually at the office of the Ohio Life Insurance and Trust Company, in New York. The Bonds are payable at the same place in fifteen years and are convertible into the stock of the company within five years.

These Bonds are secured by a mortgage executed by the Company to George Carlisle, of Cincinnati, and Joseph B. Varnum of New York, Trustees of the road from Richmond in Wayne County, to New-Castle in Henry County, including the superstructure, iron rails, depots, tolls, privileges and franchises of the Company. This mortgage is the FIRST AND ONLY LIEN upon this section of the Road, which is a part of the great Trunk Railroad from Cincinnati to Chicago.

The New-Castle and Richmond Railroad extends from Richmond to Logansport, 103 miles, the whole of which is under contract, and about one thousand hands are now employed on the road.

The total amount of stock subscribed upon the whole road is \$509,400. The stock applicable to the construction of the road from Richmond to New Castle is \$250,900.

This railroad passes through the most fertile, populous and highly improved part of Ohio and Indiana, and it must become the great route for freight and travel between Cincinnati and Chicago and the Northwest.

The local business alone would be sufficient to make the road profitable. The counties of Indiana through which it runs produce annually more than two millions of bushels of wheat, five millions of bushels of corn, one hundred and fifty thousand hogs, and fifteen thousand cattle, a large part of which must be transported to market on this road.

The iron rails for more than fifty miles of the road have been purchased. Ten miles of the road, from Richmond to Washington, will be completed and in operation in November next, which will make a continuous railroad of about 70 miles from Cincinnati, by way of Hamilton, Eaton and Richmond.

The holders of the bonds will have for their security the obligations of the company, with subscriptions of stock to the amount of more than half a million of dollars, and a mortgage upon the road from Richmond to New Castle, with the iron rails, superstructure, tolls and franchises of the company.

CARPENTER & VERMILYE, 44 Wall-st.
CAMMANN WHITEHOUSE & Co. 56 Wall-st.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston.

LOW MOOR IRON.

WM. BAILEY LANG, 9 Liberty Square, Boston, Sole Agent in the United States and Canada for the Low Moor Iron Co., is prepared to receive orders for this justly celebrated Iron, and offers for sale an assortment of the Round sizes which he now has in store, and which for strength, soundness and uniform quality, stands without a rival.

Superior Cast Iron Gas and Water Pipes.

THE Subscriber is prepared to contract for the supply of CAST IRON PIPES required by Gas or Water Companies, Corporations, etc., delivered in any Seaport in the Union, on reasonable terms. These Pipes are cast on the most improved principle by the best Founders in Scotland, from a superior quality of Pig Iron remelted, are guaranteed to resist a pressure of 300 lbs. to the square inch, or greater if necessary, and to be soft enough to drill easily and freely. Full information regarding price, and references to parties in the United States now using the Pipes, can be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Renfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st., New York.

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AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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American Railroad Journal.

Saturday, January 8, 1853.

Tennessee.

East Tennessee and Virginia Railroad.—The reports of the officers of this company have been received presenting a summary of the condition of the enterprise at the close of the last year. The report of the President, Samuel B. Cunningham Esq., states that the application of the company to the Legislature of Tennessee had been entirely successful. That body having not only authorized the Governor to issue Bonds of the State to the amount of \$8,000 per mile for purchasing iron and equipment as fast as the road is graded, in common with the other leading roads in the State, but also granted an extraordinary appropriation of \$300,000 for bridging and masonry. In pursuance of the Acts granting this State aid a canvass of the entire stock list was made which resulted in the return of \$308,000 of the individual subscriptions as undoubtedly good and \$54,000 were considered doubtful, though of these latter a number have since met their calls. The necessary certificates having been made out at the April session, the Bonds of the State of Tennessee to the amount of \$300,000 were handed over to the agents of the company, of these bonds \$156,000 were satisfactorily negotiated in New York by Gen. Jackson who visited that city for the purpose. Ten thousand dollars were previously disposed of in Tennessee. In August last

the County of Washington voted to subscribe \$50,000 to the stock of the company. Offers have been made for the purchase of the County bonds to be issued under this vote by citizens of the State.

The cost of grading, bridging and masonry is put down by the engineer at the maximum cost of \$850,000. Thus far the work has progressed with in his estimates. The means for the completion of the work on which the company can rely are embraced in the following table.

Private subscription, good.....	\$309,800 00
" " doubtful.....	54,000 00
Washington county subscription.....	50,000 00
Stock in contracts already made amounting to about.....	234,621 00
Stock of E. T. R. R. Co., yet debited with about.....	211,300 00
State bonds of the state of Tennessee.....	300,000 00
Premium received on state bonds sold.....	13,578 84
Interest received on state bonds when sold.....	3,630 81
Supposed premium on the remainder of state bonds.....	10,720 00
To this may be added 20 per cent on the bridges payable on stock bonds, which may be about.....	4,000 00
33 1/3 per cent offered to be taken in bonds for grading from McBee's to Knoxville.....	15,000 00
	\$1,206,850 65

In addition to these there are other resources to be depended on. One million and forty thousand dollars are appropriated for the iron and equipment of the road, supposing its length to be 130 miles. So large a contract warrants the calculation in the opinion of the president that the manufacturer or his agent will take payment by subscribing to the stock to the amount of at least 20 per cent. which would be equal to \$208,000. In addition to this, reliance can be placed in an issue of bonds or an appropriation of the profits in case a large portion of the road is put in operation, to complete the remainder.

County subscriptions are strongly urged to aid in the erection of depots, station houses, cars, shops, etc., as by such a policy the stock of the company, and the direction and management of the road will be secured within the state. In case of the refusal of the counties to take stock, an issue of bonds convertible into stock, will unquestionably secure all the money needed.

The board have now let to contractors all the road from the Virginia line on the east to McBee's

Ferry, the grading as well as bridges, to be finished by July '54. Many of the contractors are now at work and others ready to commence. This comprises about 115 miles, and leaves only about 15 miles between McBee's Ferry and the termination of the east Tennessee and Georgia road to fill out.

A resolution has also passed to let out the span between McBee's and Knoxville by the 27th Dec. last. The road, it is believed will be ready for the iron as soon as either of the approaching roads can make connections with it.

The report concludes with a defence of the policy pursued by the company in letting out the work in detached sections, there being no finished road or commercial city at either terminus to get the iron and equipments for the road. The road was commenced relying on the uncertain navigation of the Holston until the completion of the East Tennessee and Georgia road. The rapid advance of the Virginia and Tennessee road, and the action of the Legislature however, so entirely changed the condition of the company that the speedy graduation of the whole line was at once undertaken.

The following statement taken from the report of the treasurer exhibits the financial condition of the company on the 9th Nov., 1852:

Balance due from individual stockholders.....	\$317,741 96
" due from Washington Co.....	50,000
" due from East Tenn. R. R. Co.....	211,300
Amount paid for engineering, land-damages, salaries, etc.....	24,523 67
Graduation, masonry and bridging.....	43,225 60
Cash and bonds.....	314,381 72
	\$961,172 95
Capital stock subscribed.....	625,000
Bonds issued, redeemable in stock.....	11,475
Premiums on bonds sold.....	13,579 66
Interest.....	262 32
Bonds of the State of Tennessee.....	300,000 00
Amount to credit of sundry persons.....	1,231 32
Per centage retained on work.....	6,823 65
	\$961,172 95

We learn from the report of the Chief engineer, Lloyd Tilghman, Esq., that the graduation on 9 sections of the road to the town of New Market, has been completed in a substantial manner. The contracts from King's Meadow to near the town of Jonesborough are in active progress. The stone work on the bridges crossing the Holston, Watauga, Lick Creek and lower Holston, has been let to able and experienced contractors, and are advance-

ing rapidly. The bridge over the Holston has been arranged so as not to interfere in any way with the passage of steamboats, a clear water way of 62 feet above dead low water having been given, more than sufficient to pass any boat that has yet attempted to navigate that portion of the stream.

The Chief Engineer is confident that the cost of the entire road will fall within the original estimate, and the total distance will be materially reduced. It is recommended to procure at once a relinquishment in favor of the company of the right of way. Mr. T. also advises that a portion of the rolling stock be at once ordered, and that arrangements be also made for a supply of spikes and chairs at some of the iron establishments in the vicinity, as being better and cheaper than can be supplied from abroad.

Should the year prove favorable, the hope is entertained that all the work under contract will be finished by the 1st of January, 1854.

Great Central Six Foot Gauge Railroad. THROUGH OHIO, UNDER THE WARREN AND FRANKLIN RAILROAD CHARTER.

This road, it now seems, is to become one of the great and leading channels of communication between the east and the west.

At a meeting of the officers of the company, held at Franklin on the 25th inst., delegates were in attendance from New York city, Cincinnati, Ashland, Medina, Summit, Portage and Trumbull counties. On comparing notes it was found that sufficiently available means could at once be brought into requisition to put the main portions of the work under contract from the State line to Ashland. Propositions for connections to form a complete line with the six foot gauge to the city of St. Louis, by the way of Cincinnati, were before the board for their consideration.

In view of the flattering prospects of the company, the board resolved, immediately, to prosecute the surveys now in progress to an early completion; and put the work under contract as soon as it could be got in readiness by the engineers, and the right of way secured. Most of the line has already been examined by a competent engineer, and no grades found to exceed forty feet to the mile. Two corps of engineers, under Gen. Robinson, are now at work upon the line between Akron and Ashland.

In the meantime it is expected that the subscriptions along the line, so well commenced, will now be thoroughly circulated, so that all may have an opportunity to take their proportion of the stock which must meet the most sanguine expectations of all, in the way of large dividends.

It is now ascertained that the different lines of road out of Cincinnati, are ready to adopt the six foot gauge to form a connection with this company, and that means are abundant to continue this line to perfect the connection.

The Ohio and Mississippi railroad company, from Cincinnati to St. Louis have already adopted the six foot gauge.

This great line of road, from New York city to St. Louis, when completed, will be formed by the following connections, viz: From the city of New York, by the New York and Erie company, to Little Valley; from Little Valley through Randolph and Jamestown, New York, to the State line of Pennsylvania, near the head waters of French Creek, by the New York City company; from the State line down the valley of French Creek through Meadville to the State line at Kinsman, in the north-east corner of Trumbull county, Ohio, by the Erie and Pittsburg company, which has power to build branches through the counties through which their main line from Erie to Pittsburg, passes, and also the county adjoining. (This line through Pennsylvania, will be built on the branch right.) From the Ohio line the road will pass the towns of Warren, Newton Falls, Ravenna, Franklin, Akron, (passing near Seville in Medina county to Ashland) and Galion, under the Warren and Franklin charter, a charter granted and the company organized under the old constitution, with

power to build the road from Warren to Franklin, and to extend the same to the State line east, and the State line west, or to terminate at any intermediate points, or to connect with any other road.

This line, it will at once be seen by tracing it upon the map, connects at Galion, or Crestline, with the Fort Wayne road to Chicago, the Belle fontaine and Indiana road to St. Louis, and by its continuance to Cincinnati with the six foot gauge, connecting there with the Ohio and Mississippi road; thus giving a great continuous six foot road from New York to St. Louis, passing through some of the best portion of Ohio and Pennsylvania at present unprovided with roads.

Can any one doubt the accomplishment of this great work? Should any one doubt its importance, let them trace its location upon the map and they will at once see its importance and the strength of its position.

If stock of the Lake Shore road with but one side contributing to its way business, is worth in market \$120 for \$100, what are the probabilities of the value of this stock—with a rich country on each side contributing—when the road shall be completed?

At this meeting the company was reorganized, and the board now consists of Warren Kent, of Franklin, President, Zenas Kent and Thomas Earl, of Franklin, B. B. Clark, of Ashland, D. Upson, of Talmadge, William Porter, of Newton Falls, and L. J. Idings, of Warren, directors.

Henry A. Kent, Esq., of New York, and Hon. J. G. Reznor, of Cincinnati, were appointed agents to negotiate generally for the interest of the company, subject to the approval of the board.—*Western Reserve Chronicle*.

General Railroad Law of Indiana.

[PASSED MAY 11, 1852.]

SECTION 1. *B: it enacted by the General Assembly of the State of Indiana*, That any number of persons, not less than fifteen, being subscribers to the stock of any contemplated railroad, may be formed into a corporation for the purpose of constructing, owning and maintaining such railroad, by complying with the following requirements:

Whenever stock to the amount of at least fifty thousand dollars, or one thousand dollars for each and every mile of the proposed road shall have been subscribed, the subscribers to such stock shall elect directors for such company from their own number, and shall severally subscribe articles of association, in which shall be set forth the name of the corporation, the amount of the capital stock of the company, (which may be increased from time to time, if necessary, to a sum equal to the actual cost of constructing the road, together with the cost of the right of way, and motive power, together with all other appurtenances and expenses necessary for the completion and running of such road,) the number of shares of which said stock shall consist; the number of directors, and their names, to manage the affairs of the company; the name of the place from which, and the place to which the proposed road is to be constructed, and each county into which or through which it is intended to pass, and its length as near as may be. Each subscriber to such articles of association shall state his place of residence, and the number of shares taken by him in such company.

Sec. 2. Articles of association formed in pursuance of the provisions of the foregoing section shall be filed in the office of the Secretary of State, and thereupon the persons who shall have subscribed the same and all persons who shall from time to time become stockholders in such company, and their successors, shall be a body politic and corporate, in perpetuity, by the name stated in such articles of association, and shall be capable of suing and being sued, and may have a common seal and may make and alter the same at pleasure; and shall be capable in law, of purchasing, holding and conveying any real and personal property whatever, necessary for the construction of such road, and for the erection of all necessary buildings and yards, and appurtenances for the use of the same. A copy of any articles of association filed in pursuance of this act, and certified to be a copy by the Secretary of State or his deputy, shall, in all courts, and places be presumptive evidence of the incor-

poration of such company, and of the facts stated therein.

Sec. 3. The directors named in the first section of this act, shall open books for subscription to the capital stock of the company, at such times and in such places as a majority of them may direct, due notices of which shall be given; and in case a greater amount of stock shall be subscribed than the whole capital required by such company, the directors shall distribute such capital stock, so subscribed, as equally as possible among the subscribers; but no share thereof shall be divided in making such distribution, nor shall a greater number of shares be allotted to any one subscriber than by him subscribed for.

Sec. 4: There shall be an annual meeting of the stockholders, to be held in one of the counties in which, or through which such road is proposed to be or may be constructed, for the election of directors, to serve for the ensuing year; notice of which, appointing a time and place, shall be given by the directors chosen as provided in the first section of this act, for the first annual election, and afterwards by their successors in office; which notice shall be published not less than twenty days previous thereto, in a newspaper published in each county through which such road shall be intended to run (if there be stockholders residing therein) in which a newspaper shall be published; and, if no newspaper be published, then by six written or printed notices put up in the most public places in such county. Three judges of elections shall be chosen by the board of directors previous to any annual meeting of the stockholders, who shall be stockholders but not directors at the time of such elections, whose duty it shall be to receive the votes of the stockholders at such elections for directors, and who shall openly count the votes and declare the result, and shall furnish the directors elected at such meeting of the stockholders with a certificate of their election, which certificate shall be evidence of their authority to act as such directors. Not less than seven, nor more than thirteen directors, shall be chosen at such meeting of stockholders, by ballot, and by a majority of the votes of the stockholders being present in person, or by proxy; and every such stockholder, being so present at any election for directors, shall be entitled to give one vote for every share of stock which he may have owned for ten days next preceding such election; but no stockholder shall vote at any such election upon any stock except such as he shall have owned for ten days. No person shall be a director unless he shall be a stockholder, owning stock absolutely in his own right, and qualified to vote for directors at the election at which he shall be chosen. The directors shall hold their office for one year, and until others are elected in their places.

Sec. 5. Meetings of the stockholders may be called at any time during the interval between the annual meetings, by the directors, or by the stockholders owning not less than one-fourth of the stock, by giving thirty days public notice of the time and place of the meetings, in the manner provided in the next preceding section for the annual meetings; and when any such meeting is called by the stockholders, the particular object of such meeting shall be stated in such notice: and if at any such meeting, thus called, a majority in value of the stockholders are not represented in person or by proxy, such meeting shall be adjourned from day to day, not exceeding three days, without transacting any business; and if within said three days, stockholders having a majority of the stock do not attend such meeting, then the meeting shall be dissolved.

Sec. 6. At a regular meeting of the stockholders of any such corporation, it shall be the duty of the president and directors in office for the preceding year, to exhibit a clear and distinct statement of the affairs of said company, and at any meeting of the stockholders, a majority of those present in person or by proxy, may require similar statements from the directors, whose duty it shall be to furnish them when thus required: and at all general meetings of the stockholders, a majority in value of the stockholders in such company may remove any president or any director of such company, and elect others in their stead: *provided*, notice of such intended removal shall have been given as required in the two last preceding sections.

Sec. 7. In case it shall happen, at any time, that an election of directors shall not be made on the day designated by the by-laws of the company, when it ought to have been made, the company, for that reason, shall not be dissolved, if, within ninety days thereafter, they shall hold an election for directors, in such manner as shall be provided by the by-laws of the company. There shall be a president of the company, who shall be chosen by and from the directors, and also such subordinate officers as the company, by its by-laws, may designate, who may be elected or appointed, and required to give such security for the faithful performance of the duties of their office, as the company by its by-laws may require: *Provided*, that nothing herein contained shall be so construed as to prevent the stockholders from removing a president, and electing another in his place in the manner prescribed in the last preceding section.

Sec. 8. It shall be lawful for the directors to call in and demand, from the stockholders respectively, any sums of money by them subscribed, in such payments or instalments as the directors shall deem proper, under the penalty of forfeiting the shares of stock subscribed for, and all previous payments made thereon, if payment shall not be made by the stockholders within thirty days after personal demand or notice, requiring such payment, shall have been made in each county through which such road shall be laid out, in which a newspaper shall be published: *Provided*, that subscriptions shall not be required to be paid except in equal instalments of not more than ten per cent. a month.

Sec. 9. The directors of such company shall have power to make by-laws for the management and disposition of stock, property and business affairs of such company, not inconsistent with the laws of this State, and prescribing the duties of officers, artificers, and servants, that may be employed, and for the appointment of all the officers for carrying on all the business within the object and purposes of such company.

Sec. 10. The stock of such company shall be deemed personal estate, and shall be transferable in the manner prescribed by the by-laws of the company; but no shares shall be transferable until all previous calls thereon shall have been fully paid in, or the shares shall have been forfeited for the non-payment of calls thereon.

Sec. 11. The president and a majority of the directors, within thirty days after the payment of the last instalment of the capital stock, so fixed and limited by the company, shall make a certificate stating the amount of capital stock so fixed and paid in, which certificate shall be signed by the president and a majority of the directors, and sworn to by the president and secretary; and they shall, within the said thirty days, file and record the same in the office of the Secretary of State.

Sec. 12. Every such company, before proceeding to construct a part of their road, into or through any county named in their articles of association, shall make a map and profile of the route intended to be adopted by such company; which shall be certified by a majority of the directors, and filed in the office of the clerk of such county, for the inspection and examination of all parties interested therein.

Sec. 13. Every such corporation shall possess the general powers, and be subject to the liabilities and restrictions expressed in the special powers following, that is to say:

First. To cause such examination and surveys for the proposed railroad to be made, as may be necessary to the selection of the most advantageous route for the railroad; and for such purposes, by their officers, agents, and servants, to enter upon the lands or waters of any person; but subject to responsibility for all damages which they shall do thereto.

Second. To receive, hold, and take, such voluntary grants and donations of real estate and other personal property as shall be made to it, to aid in the construction, maintenance, and accommodation of such railroad; but the real estate thus received by voluntary grants, shall be held and used for the purposes of such grants only.

Third. To purchase, and, by voluntary grants and donations, receive and take, and, by its officers, engineers, and surveyors, and agents, enter upon, and take possession of and hold, and use, all such

lands and real estate and other property, as may be necessary for the construction and maintenance of its railroad and stations, depots and other accommodations, necessary to accomplish the objects for which the corporation is created; but not until the compensation to be made therefor, as agreed upon by the parties or ascertained as hereinafter prescribed, shall have been paid to the owner or owners thereof, or deposited as hereinafter directed unless the consent of such owner be given to enter into possession.

Fourth. To lay out its road, not exceeding six rods wide, and to construct the same; and for the purposes of cuttings, embankments, and procuring stone and gravel, may take as much more land, within the limits of its charter, in the manner provided hereinafter, as may be necessary for the proper construction and security of the road.

Fifth. To construct their road upon or across any stream of water, water course, road, highway, railroad or canal, so as not to interfere with the free use of the same, which the route of its road shall intersect, in such manner as to afford security for life and property, but the corporation shall restore the stream or water course, road or highway, thus intersected, to its former state, or in a sufficient manner not to have unnecessarily impaired its usefulness or injured its franchises.

Sixth. To cross, intersect, join, and unite its railroad (with any other railroad) before constructed at any point on its route, and upon the grounds of such other railroad company, with the necessary turn-outs, (sidings and switches, and other conveniences,) in furtherance of the object of its connections; and every company whose rail road is or shall be hereafter intersected by any new railroad, shall unite with the owners of such new railroad in forming such intersections and connections, and grant the facilities aforesaid; and if the two corporations cannot agree upon the amount of compensation to be made therefor, or the points or manner of such crossings and connections, the same shall be ascertained and determined by commissioners, to be appointed as is provided hereinafter in respect to the taking of lands; but this section is not to affect the rights or franchises heretofore granted.

Seventh. To purchase lands or take them; may change the line of its road, whenever a majority of the directors shall so determine, as is provided hereinafter; but no such change shall vary the general route of such road.

Eighth. To take, transport, carry and convey persons and property on their railroad by the force and power of steam, of animals, or any mechanical power, or by any combination of them; and receive tolls or compensation therefor.

Ninth. To erect and maintain all necessary and convenient buildings, stations, depots, and fixtures, and machinery for the accommodation and use of their passengers, freight and business, and obtain and hold the lands necessary therefor.

Tenth. To regulate the time and manner in which passengers and property shall be transported, and the tolls and compensation to be paid therefor.

Sec. 14. In case any company formed under this act, is unable to agree for the purchase of any real estate, in any county, required for the construction of the track, turn-outs and water stations, it shall have the right to acquire the title to the same in the manner and by the special proceedings prescribed in this act.

Sec. 15. Such company is hereby authorized to enter upon any land for the purpose of examining and surveying its railroad line, and may appropriate so much thereof as may be deemed necessary for its railroad, including necessary side-tracks and water stations, materials for constructing, except timber, a right of way over adjacent lands, sufficient to enable such company to construct and repair its road, and a right to conduct water by aqueducts, and the right of making proper drains. The corporation shall forthwith deposit with the clerk of the circuit or other court of record of the county where the land lies, a description of the rights and interests intended to be appropriated, and such land, rights and interests shall belong to such company, to use for the purpose specified, by making or tendering payment as hereinafter provided. The corporation may, by its directors, purchase any such lands, materials, right of way, or interest of

the owner of such land; or, in case the same is owned by a person insane or an infant, at a price to be agreed upon by the regularly constituted guardian or parent of said insane person or infant, if the same shall be appraised by the court in which the description aforesaid shall be filed, and on such agreement and approval, the owner, guardian, or parent, as the case may be, shall convey the said premises, so purchased, in fee simple or otherwise, as the parties may agree, to such railroad company; and the deed, when made, shall be deemed valid in law. If the corporation shall not agree with the owner of the land, or with his guardian, if the owner is incapable of contracting touching the damages sustained by such appropriation, such corporation, shall deliver to such owner or guardian, if within the county, a copy of such instrument of appropriation. If the owner or his guardian in case such owner is incapable of contracting, be unknown or do not reside within the county, such corporation shall publish, in some newspaper of general circulation in the county, or the term of three weeks, an advertisement, reciting the substance of such instrument of appropriation. Upon fixing such act of appropriation and delivery of such copy, or making such publication, the circuit court or other court of record in the county where the land lies, or any judge thereof in vacation, upon the application of either party, shall appoint by warrant, three disinterested freeholders of such county to appraise the damages which the owner of the land may sustain by such appropriation; such appraisers shall be duly sworn; they shall consider the injury which such owner may sustain by reason of such railroad, and shall forthwith return their assessment of damages to the clerk of such court, setting forth the value of the property taken, or injury done to the property, which they assess to the owner, or owners, separately, to be by him filed and recorded; and thereupon, such corporation shall pay to said clerk the amount thus assessed, or tender the same to the party in whose favor the damages are awarded or assessed; and on making payment of tender thereof, in the manner herein required, it shall be lawful for such corporation to hold the interests in such lands or materials so appropriated, and the privilege of using any materials on said roadway within fifty feet on each side of the center of such roadway, for the uses aforesaid. The cost of such award shall be paid by such company; and on notice by any party interested and showing said proceedings, the court may order payment thereof, and enforce such payment by execution. The award of said arbitrators may be reviewed by the circuit court or other court in which such proceedings may be had, on written exceptions filed by either party in the clerk's office, within ten days after the filing of such award, and the court shall take such order therein as right and justice may require, by ordering a new appraisal, on good cause shown: *Provided*, That notwithstanding such appeal, such company may take possession of the property therein described, as aforesaid, and the subsequent proceedings on the appeal shall only affect the amount of compensation to be allowed; if prior to the assessment, the corporation shall tender to such owner or his guardian if he be unable to contract, an amount equal to the award afterwards made, exclusive of costs, the costs of arbitration shall be paid equally, by such company and such owner or guardian.

Sec. 16. If there are adverse or conflicting claimants to the money, or any part of it, to be paid as compensation for the real estate taken, the court may direct the money to be paid into the said court, by the company, or take security for the same until it can determine who is entitled to the same; and shall direct to whom the same shall be paid; and may, in its discretion, order a reference to ascertain the facts on which such determination and order are to be made.

Sec. 17. The court shall appoint some competent attorney to appear for and protect the rights of any party in interest who is unknown, or whose residence is unknown, and who has not appeared in the proceedings by an attorney or agent; the court shall also have power at any time to amend any defect or informality in any of the special proceedings authorized by this act, as may be necessary, or to cause new parties to be added, and to di-

rect such further notice to be given to any party in interest, as it deems proper, and also to appoint other commissioners in the place of any who shall die, or refuse or neglect, or are unable to serve, or who may leave or be absent from the State.

Sec. 18. At any time after an attempt to acquire title by appraisal of damages, or otherwise, if it shall be found that the title thereby attempted to be acquired is defective, the company may proceed anew to acquire or perfect the same in the same manner as if no appraisal had been made; and at any stage of such new proceedings, the court may authorize the corporation, if in possession, to continue in possession, and, if not in possession, to take possession of and use such real estate during the pendency and until the final conclusion of such new proceedings, and may stay all actions and proceedings against the company, or any officer, agent, or workman of such company, on account thereof, on such company paying into court a sufficient sum, as the court may direct, to pay the compensation therefor, when finally ascertained: and in every such case, the party interested in such real estate may conduct the proceedings to a conclusion, if the company delays or omits to prosecute the same.

Sec. 19. Such company may, from time to time, borrow such sums of money as they may deem necessary for completing or operating their railroad, and issue and dispose of their bonds for any amounts so borrowed, for such sums and at such rates of interest as is allowed by the laws of the state where such contract is made; and mortgage their corporate property and franchises to secure the payment of any debt contracted by such company; and the directors of the company may confer on any holder of any bond issued for money borrowed as aforesaid, the right to convert the principal due or owing thereon into stock of said company, at any time not exceeding fifteen years from the date of said bond, under such regulations as the company may adopt: and such company may sell their bonds either within or without this state, at such rates and prices as permitted by law, and such sales shall be as valid as if such bonds should be sold at par value.

Sec. 20. For the purpose of providing means for the payment of its debts, and for the construction of its road, materials or equipments, such company may issue a preferred stock to an amount not exceeding one-half of the amount of its capital with such priority over the remaining stock of such Co. in the payment of dividends, as the directors of such company may determine, and shall be approved by a majority of the stockholders.

Sec. 21. If at any time after the location of the track of such road, in whole or in part, and the filing of the map thereof, it shall appear to the directors of such company that the line thereof may be improved, such directors may, from time to time alter the line, and cause a new map to be filed in the office where the map showing the first location was filed, and may thereupon take possession of the lands embraced in such new location that may be required for the construction and maintenance of such road on such new line, either by agreement with the owner, or by such proceedings as are authorized under the preceding sections of this act, and use the same in place of the line for which the new is substituted. But nothing in this act shall be so construed as to confer upon any railroad Co., already incorporated, any powers to locate its road on any route which would not have been authorized by the charters previously granted; and nothing in this act contained shall authorize the said company to make a location of their track within any city without the consent of the common council of said city; nor shall the company have power so to change their road as to avoid any point named in their articles of association.

Sec. 22. Whenever the track of such railroad shall cross a road or highway, such road or highway may be carried under or over the track, as may be most expedient; and in cases where an embankment or cutting shall make a change in the line of such road or highway desirable, with a view to a more easy ascent or descent, the said company may take such additional lands for the construction of such road or highway, or such new line as may be deemed requisite by said directors. Unless the lands so taken shall be purchased or vo-

luntarily given for the purposes aforesaid, compensation therefor shall be ascertained in the manner in this act provided, as nearly as may be, and duly made by such corporation to the owners and persons interested in such lands; and the same, when so taken and compensation made, to become part of such intersecting road or highway, in such manner and by such terms as the adjacent parts of such highway may be held for highway purposes.

Sec. 23. If any corporation shall, for its purposes aforesaid, require any land belonging to the state, or to any county or town, the General Assembly, and the county and town officers respectively, having charge of such lands, may grant such lands to such corporation upon such terms as shall be agreed upon; and if they shall not so agree, the same may be taken by the corporation in the same manner as provided in other cases. No railroad shall be located upon or across the grounds of the state occupied by the institutions of the insane, blind, or deaf and dumb.

Sec. 24. Every conductor, baggage master, engineer, brakeman, or other servant of any such railroad corporation, employed in a passenger train or at stations for passengers, shall wear upon his hat or cap a badge which shall indicate his office, and the initial letters of the style of the corporation by which he is employed. No collector or conductor without such badge, shall demand or be entitled to receive from any passenger any fare, toll or ticket, or exercise any of the powers of his office; and no other of said officers or servants without such badge, shall have any authority to meddle or interfere with any passenger or property.

Sec. 25. Every such corporation shall make an annual report to the secretary of state, of the operations of the year ending on the first day of January: which report shall be verified by the oaths of the treasurer and acting superintendent of operations, and filed in his office by the 10th day of January, each year, and shall state:

First. The capital stock and the amount actually paid in.

Second. The amount expended for the purchase of lands for the construction of said road, for buildings, and for engines and cars respectively.

Third. The amount and nature of its indebtedness, and the amounts due the corporation.

Fourth. The amount received for the transportation of passengers, of property, of mails and from other sources.

Fifth. The amount of freight, specifying the quantity in tons, of the products of the forest, of animals, of vegetable food, other agricultural products, manufactures, merchandise, and other articles.

Sixth. The amount paid for repairs, engines, cars, buildings and salaries.

Seventh. The number and amount of dividends, and when paid.

Eighth. The number of engine houses, and shops of engines and cars, and their character.

Ninth. The number of miles run by passenger, freight, and other trains, respectively.

Sec. 26. The state shall have a lien upon all railroads of such corporations, and their appurtenances and stock therein, for all penalties, taxes, and dues, which may accrue to the state from such corporations, which lien of the state shall have precedence of all demands, judgements or decrees, against said corporations; and the citizens of this state shall have a lien upon all personal property of said corporations to the amount of one hundred dollars for all debts originally contracted within this state, which, after said lien of the state, shall take precedence of all other debts, demands, judgements or decrees, liens or mortgages against such corporations.

Sec. 27. Any such corporation shall, when applied to by the postmaster general, convey the mails of the United States on their road; and in case such corporation shall not agree to the rates of transportation thereof, and as to time, rate of speed, manner and condition of carrying the same, the Governor of this state may appoint three commissioners, who, or a majority of them, after fifteen days notice in writing, of the time and place of meeting, to the corporation, shall determine and fix the prices, times, and conditions aforesaid; but such prices shall not be less for conveying said mails in the regular passenger trains, than the am-

ount which said corporation would receive as freight on a like weight of merchandise transported in their merchandise trains, and a fair compensation for the post office car. And in case the postmaster general shall require the mail to be carried at other hours and at a higher speed than the passenger trains are run at, the corporation shall furnish an extra train for the mail, and be allowed an extra compensation therefor.

Sec. 28. If any passenger shall refuse to pay his fare or toll, the conductor of the train and the servants of the corporation may put him out of the cars at any usual stopping place.

Sec. 29. Every such corporation shall start and run their cars for the transportation of persons and property at regular times, to be fixed by public notice, and shall furnish sufficient accommodation for the transportation of all such passengers and property as shall, within a reasonable time previous thereto, offer or be offered, for transportation, at the place of starting, and the junctions of other railroads, and at siding and stopping places, established for receiving and discharging way passengers and freight, and shall take, transport and discharge such passengers and property at, from and to such places, on the due payment of tolls, freight or fare therefor.

Sec. 30. In case of the refusal, by such corporations or their agents, so to take and transport, any passenger or property, or to deliver the same at the regular appointed place, such corporation shall pay to the party aggrieved all damages which shall be sustained thereby, with costs of suit.

Sec. 31. In forming a passenger train, baggage or freight, or merchandise, or lumber cars shall not be placed in rear of passenger cars; and if they, or any of them shall be so placed, and any accident shall happen to life or limb, the officer or agent who so directed or knowingly suffered such arrangement and the conductor or engineer of the train, shall each and all be held guilty of intentionally causing the injury and be punished accordingly.

Sec. 32. In case any passenger on any railroad shall be injured on the platform of a car, or on any baggage, wood or freight car, in violation of the printed regulations of the company, posted up at the time in a conspicuous place inside of its passenger cars, then in the train, such company shall not be liable for the injury: Provided, said company at the time furnished room inside its passenger cars, sufficient for the proper accommodation of its passengers.

Sec. 33. Every corporation shall, within a reasonable time after their road shall be located, cause to be made:

First. A map and profile thereof, and of the land taken and obtained for the use thereof, and file the same in the office of the secretary of state, and also like maps of the parts thereof located in different counties, and file the same in the office of the clerk of the county in which said parts of said road may be, there to remain as of record forever.

Second. A certificate specifying the line upon which it is proposed to construct the railroad, and the grades and curves.

Sec. 34. If any such corporation shall not, within three years after its incorporation, begin the construction of its road, and expend thereon five per centum on the amount of its capital, and finish the road and put it in full operation in ten years thereafter, its act of incorporation shall become void.

Sec. 35. Railroad companies may increase the amount of their capital stock, by filing in the office of the Secretary of state, a certificate, stating the amount of such desired increase and the reasons or necessity for the same, signed by the president and a majority of the directors, and attested by the secretary and seal of such company.

Sec. 36. All existing railroad companies may acquire all of the powers or benefits conferred by this act, by filing an acceptance thereof in the office of the secretary of state, properly attested as the corporate act of such company, and the acceptance of any part of this act shall be deemed and taken to be an acceptance of the whole act, and a surrender of the act under which such company may be organized, thereupon such company shall possess such powers, so accepted, and be subject to the obligations and restrictions herein specified, as fully

as they would have had and been if organized under this act.

Sec. 37. This act may be amended or repealed at the discretion of the legislature.

Sec. 38. The stockholders shall be individually liable for all labor done in the construction of said road that shall remain unpaid after the assets of the corporation shall have been exhausted.

Ohio.

EXHIBIT OF THE OHIO AND INDIANA RAILROAD CO.

The eastern end of this road is at Crestline, in Ohio, the point on the Cleveland and Columbus road where the Ohio and Pennsylvania road terminates, and forms the direct extension of that road to Fort Wayne, in Indiana.

It is the third link in the chain of roads now building from Philadelphia, via Pittsburgh to Chicago, Rock Island and Galea. It also forms the second link in the line from Cleveland, via Crestline and Fort Wayne, to Lafayette, Peoria, and Burlington, Iowa.

The charter of this Company, under the concurrent legislation of the States of Ohio and Indiana is perpetual, liberal in its provisions, unrestricted in dividends, and free from vexatious or oppressive alterations.

The company has been duly organized, a liberal amount of stock procured along the line, location-completed, releases to the right of way and depot grounds in general procured, and the work of grading, delivery of cross-ties, and track laying, put under contract on the 28th of January last.

Since that time a large amount of work has been done on the road. The right of way has all been secured and paid for. The grubbing and clearing upon the whole line is now completed. About three quarters of the grading is already done, and only one-half of the bridging and culvert work remains to be done, the present winter. Contracts for all the sub-sills and cross-ties are now completed, and to be delivered between this and the first of May next. Our estimates, actually paid to the contractors since the 1st of May last, have averaged \$20,000 per month, and will undoubtedly be largely increased during the winter, upon timber contracts.

The work along the whole line is now progressing as rapidly as the supply of laborers will permit. It is confidently expected that the whole road-bed will be prepared ready for the rails next spring, as early as navigation will permit the delivery of iron, when, by laying track at four several points the road may be brought into profitable use in 18 months from the time of its first commencement.

The cheapness of construction warrants this expectation. The whole amount of excavation and embankment is 2,425,000 cubic yards: no expensive bridges are to be built, and good timber for cross-ties abounds along the whole road.

Character of Road.

The length is 131½ miles, of which 127½ miles is straight, and 3½ miles curved line. One straight line is 43 miles long; another over 30 miles; and the total amount of curvature is only 214 degrees, nearly all of which is caused at towns or stopping places.

In gradients, this line is equally remarkable, having no grade greater than 2½ feet per mile, and of the whole road, 63 miles are level. An average grade would be 9½ feet per mile.

It is intended to use the edge, or T rail, on a bed prepared with sub-sills and cross-ties, to secure the greatest possible amount of surface-bearing, and prevent, as much as possible, the settling at the joints.

The contracts and estimates include five miles of sidings and turn-outs, passenger, freight and water buildings sufficient only for the business at first coming upon the road; so, also, of engines and rolling stock.

Position as to other Roads.

1st. *Connection at the Eastern end.*—From Crestline to Cleve and, the Cleveland and Columbus road furnishes an outlet direct to New York, by Dunkirk or Buffalo, the whole of which is now brought into use. From Crestline to Pittsburgh, thence to Philadelphia, is in the charge of the Central Pa., and Ohio and Pa. railroad companies and will be entirely completed during the present winter. From the east end of the Ohio and Indiana Road, then, a direct route will be completed to New York, and another direct route to Philadelphia and Baltimore, before this road can be finished.

21. *Connections at the West end.*—From Fort Wayne to Chicago City the surveys are already in progress, by the construction of which, together with an extension from Warsaw to La Salle, will form a perfect and direct connection with all the roads constructed and constructing in Northern Indiana and Illinois.

The Fort Wayne and Lafayette road, in the rich valley of the Wabash, will furnish the most direct and desirable route from Peoria and Burlington to the eastern cities. The Ohio and Indiana road holds a commanding position as a main trunk line between these converging roads radiating from each of its ends. By stretching a thread from any point in Northern Indiana and Illinois, to any one of the eastern cities, the position this road holds will be apparent.

3d. *Lateral connections and local advantages.*—Besides the immense accumulation of traffic that will be ready at the termini, it has along its line a region of the highest fertility, made widely available by the north and south connections of railways, canals, and plank-roads, already constructed.

In 12 miles from the eastern end is Bucyrus, a county-seat; in 23 miles, Upper Sandusky, a county-seat, to which a plank-road from the north extends; in 40 miles, the Mad River and Lake Erie railroad from Cincinnati to Sandusky; in 72 miles, Lima, a county-seat, and connection of the proposed railroad from Troy on the south in 86 miles, the Miami Canal, at Delphos; in 99 miles, Van Wert, a county-seat; in 110 miles the State line; and in 131 miles, Fort Wayne, a county-seat, on the Wabash Canal, which now has near 200 miles of plank-roads leading into it from points north and south of it. This point alone exports and imports at an average, daily, during canal navigation 154 tons.

For local traffic, that can have no other outlet, the country along this line affords, in its present state of improvement, abundant assurance of a good remunerative business for a railroad, and compares favorably with the region traversed by the Southern and Central Michigan railroads, both in distance and character of country.

The well known profitability of Western roads now brought into use, may be accounted for by the small cost of construction, cheapness of fuel, and especially from the fact, that the whole face of the country, almost every acre, is highly adapted to agriculture, yielding a large amount of tonnage compared with the population; a soil, too, that prevents the construction of good carriage roads, and forces on to railroads the almost entire local traffic.

This portion of Ohio, already in condition to sustain a road, is increasing at the rate of 93 per cent. in ten years, while the population of the State increased but 32 per cent. In taxables, the proportionate increase is still greater; that of Allen county, Ia., being 52 per cent. in three years, and those counties in that State that will become directly tributary to the Ohio and Indiana road, upon the completion of the proposed lines, now contains 177,526 inhabitants, with \$34,000,000 taxables.

The completion of the road will add at least 50 per cent. to the value of taxable property, on and near its line, which has been the effect of the completion of railways throughout the western states.

The increase of the local business in so fertile a region is accurately registered on the Central Michigan road. Upon this subject, their report for the last year says:

"The local increase has been so large, that the gross local earnings of the road, for the last three years, amount on the average for each year within a fraction of the entire earnings of the previous year."

The gross receipts of that road, for the year ending 1st May, 1851, was \$947,347, of which \$656,831 was local earnings; and for the year ending May, 1852, it is estimated at \$1,000,000 gross earnings, with way receipts amounting to \$800,000.

Upon this data, the Ohio and Indiana road, upon its way business alone, would earn on its length, 131 miles, \$400,000. Deducting 40 per cent. for expenses of repairs, etc., leaves a net earning of 16 7-10 per cent. on the estimated cost of the road.

That this estimate is moderate, it needs only for

proof, a schedule of an assumed daily traffic, like the following:

100 passengers, each way, at \$3.....	\$600
30 tons through freight, each way, \$3 75....	600
40 " " " " half distance.....	187
Mail service and express goods.....	79

Makes \$460,000 per year as above.....\$1,466

Estimated Cost of Road.

MADE BY J. R. STRAUGHAN, CHIEF ENGINEER.

Road-bed, track-laying, chairs, spikes, and station buildings, per contract.....	\$740,000
12,000 tons rails, at present prices.....	800,000
Machinery for first year.....	210,000
Right of way, engineering and incidentals.....	90,000

Making an average of \$14,045 per mile.\$1,540,000

The above estimate, based upon contracts, is given with entire confidence, as abundant cash-means to complete and equip the road.

Releases for the right of way are in general secured by donations from the citizens along the line; large and valuable grounds at the termini, and the several points on the line secured, estimated in value at \$80,000.

Besides the donations, the citizens and counties along the line are, as yet, the only stockholders, thus attesting their confidence in the enterprise, and making it a domestic interest, and to be guarded as such.

The capital stock of the company, authorized by the law, is \$2,000,000, and may be increased when desired, but this will not be needed until a double track is required.

Ways and Means.

The following corporate subscriptions have been made to the capital stock of the company, viz:

Crawford county, Ohio.....	\$100,000
Wyandot " ".....	50,000
Allen " ".....	100,000
Van Wert " ".....	50,000
Allen " Indiana.....	100,000

Individual stock along the line.....\$4,000

Names of contractors—Samuel Hanna, P. Hoagland, William Mitchell—Stock taken by them and applicable on their contract.....150,000

Value of donations, depot grounds, etc...\$300,000

To be raised on loan, secured by mortgage on the road and franchise, for which \$1,000,000 bonds will be issued, to cover commissions and all other contingencies.....\$90,000

Total.....\$1,570,000

The company has agents employed in soliciting stock subscriptions along the line. It is expected that considerable additions thereto will be made by the 1st of June next. In addition to all this, the Pennsylvania Central railroad company has agreed to subscribe \$300,000 to the capital stock of our road, and the Ohio and Pennsylvania road will probably subscribe \$100,000.

The means of the company will stand thus:

County subscriptions along the line	\$400,000
Individual.....	350,000
Stock taken by contractors.....	150,000
" " by Pennsylvania Central road.....	300,000
Proceeds of \$1,000,000 bonds, less discount.....	900,000
	\$2,100,000

If the Ohio and Pennsylvania road makes the subscription, which there is every reason to believe will be done, this will add \$100,000 to the means of the company.

From the above must be deducted discount and commissions on the county bonds. The individual subscriptions are considered good; \$10,000 will cover all the loss thereon.

A large proportion of the stock is paid in, and the directors feel confident of realizing the remainder as rapidly as it can be required in the construc-

tion of the road. \$300,000 has already been expended on the line.

For the purchase of rails and machinery to stock the road, the directors have ordered the sale of the bonds of the company, to the amount of one million of dollars, bearing 7 per cent. interest, payable semi-annually in the city of New York. The punctual payment of both principal and interest is secured by a deed of trust to Mr. John Ferguson, of the city of New York, of the road, depot grounds, franchises, and the personal property of the company.

These bonds are convertible into the stock of the company at par, at the pleasure of the holder, and at any time before the principal shall fall due—fifteen years. In case of failure in the payment of either interest or principal, the Trustee is authorized to take possession of the road, grounds, equipments, etc., or any part thereof, and to use, occupy, or sell the same, without legal process or delay, and apply the proceeds to the payment of such interest or principal.

A copy of the laws authorizing the issue and sale of these bonds, is herewith annexed.

In this statement we have desired to keep within bounds as to the favorable character of the ground for the cheap construction of a first class railway; as to the complete aggregate cost of such a road ready for use, and as to its local and relative position for business. It is the road, completed and equipped, which we now offer for the security of these first and only mortgage bonds of the company.

The means of the road are set down as larger than the estimated cost of it. Should it so prove in the end, it will be all the better for the creditors of the road. The officers of the company have used great efforts to provide largely by stock subscriptions on the basis of their operations, they giving the fullest assurance of payment to the purchasers of the company's bonds. Should there be an excess of means, it will be used in adding to the capacity of the company to do the very large business expected to be thrown upon it after completion.

Messrs. Winslow, Lanier & Co., No. 53 Wall-street, New York, are the authorized agents for the sale of the bonds, who are prepared to furnish any additional information, maps of the line, etc.

WILLIS MERIMAN,

President Ohio and Indiana R. R. Co.

Journal of Railroad Law.

CONSTRUCTING RAILWAYS UPON HIGHWAYS.

What degree of care does the law require of companies constructing railways on public streets and roads?

This is a question which does not admit of a very precise answer; yet the decisions of our courts upon this head, have shed sufficient light upon the subject, for the occasions which will most frequently occur.

"The degree of care and foresight which it is necessary to use in cases of this description," said Chancellor Walworth in 2 Denio 433, "must always be in proportion to the nature and magnitude of the injury that will be likely to result from the occurrence which is to be anticipated and guarded against. And it should be that care and prudence which a discreet and cautious individual would or ought to use if the whole risk or loss were to be his own exclusively."

It was in conformity with these principles that the Supreme Court decided the case of Mosher vs the Utica and Schenectady railroad company & Barbour 430.

The charter of this company required them to purchase a turnpike road running parallel to the proposed roadway, and to assume the liabilities of the turnpike corporation before they should be permitted to run cars upon their own road; and gave them the right to lay their railroad track along and across the bed of the turnpike, but required them to restore the road to its former state, in such a manner as not to impair its usefulness; and it was held

that if the turnpike road was, by means of the railroad, rendered dangerous to horses, the company were bound to remove their own track farther from it, or in some other suitable way to remedy the evil.

If in consequence of the noise of the locomotive, travelling upon the turnpike with horses should be rendered unsafe, the railway would be adjudged to be a public nuisance; and it would become liable for damages to any one who should sustain injury therefrom.

Whether or not a company under such circumstances, had failed to use due diligence, would be a question for a jury.

In connection with this subject, it may be well to cite from the general railroad act of the State of New York, the following passage; declaring that railway companies are authorized—

"To construct their road across, along or upon any stream of water, water-course, street, highway, plank-road, turnpike or canal which the route of its road shall intersect or touch; but the company shall restore the stream or water-course, street, highway, plank-road and turnpike, thus intersected or touched, to its former state, or to such state as not to have impaired its usefulness. * *

"Nothing in this act contained shall be construed to authorize the erection of any bridge, or any other obstructions across, in, or over any stream or lake navigated by steam or sail boats at the place where any bridge or other obstructions may be proposed to be placed; nor to authorize the construction of any railroad not already located in or upon or across any streets in any city, without the assent of the corporation of such city."—Laws of New York of 1850.

Railroads of Canada.

We copy the following account of the railroads of Canada from the *Canadian Journal*, an excellent monthly periodical recently established in the city of Toronto.

The Legislation of the recent Session of the Provincial Parliament has been remarkable for the number of Charters granted to Railway Incorporations, and for the amendments granted to existing companies.

The Atlantic and St. Lawrence Railway Act has been amended. This road is now under construction to the Province line, and will there connect with the Railroad to Portland, in Maine, thus connecting the City of Montreal with the Atlantic seaboard by the nearest possible route, and at the same time affording by existing Railroads, or in progress, access to the New England States, and to the sister Provinces. The length of the St. Lawrence and Atlantic road, from Montreal to the Province line, will be about 126 miles, of which 95 miles, to Sherbrooke, are constructed and in working order, the remaining portion is being pushed forward vigorously, and it is expected it will be completed during the ensuing summer, as well as that part of the line which lies in the State of Maine.

Another Act authorises the Montreal and New York Railroad Company to extend their road, and to acquire the necessary land for such extension. This road connects Montreal (via the Lachine Railroad and Ferry, to Caughnawaga,) with the Ogdensburgh road of New York, and extends southward to Plattsburgh, by it the time of travel between Montreal and the western part of the Province is materially reduced and another channel opened to the business of New York. It has already been opened for travel in connexion with the Ogdensburgh road, but we have no information as to the direction which its extension is to take.

The next, though not precisely a Railway Act, is passed "in order to enable the Town of Dundas to grant its security to the Great Western Railroad on behalf of the Desjardins Canal Company, for certain improvements in said Canal." Such "improvements" were rendered necessary, in fact unavoidable, by the unsuccessful attempts of the Great Western Company to construct a bridge across the present Canal, at the Burlington Heights, where, after expending a large amount of money,

it was found advisable to abandon the works and change the course of the Canal—this change is considered, to a certain extent, an improvement of that navigation.

"An Act to incorporate the Main Trunk Railway of Canada," is the most important Railway Act of the session, and demands more extended notice than we are now prepared to give it. The Company will be entitled to the Government guarantee of £3,000 sterling per mile. With the political movements which accompanied its passage through the Legislature, we have nothing to do—but we may be permitted to express our satisfaction at the fair prospects opened by it for the early construction of a main line of communication through the whole length of Canada, and our hope that its final location will be determined, as well with a view to the economical construction and subsequent working of the road, as to conserve the broadest interests of the whole Province. At present, we believe, no more is known in reference to its route than that it is intended to extend from Montreal to Kingston, and thence to Toronto—below Montreal the Atlantic and St. Lawrence road, as far as Richmond, already in operation, and the Richmond and Quebec road, now under construction, will connect the Main Trunk with Quebec—below Quebec the Trois Pistoles road will carry it on to that point, and thence it is expected a road will be constructed to Miramichi, thus uniting with the roads projected and in progress in Nova Scotia and New Brunswick.

Westward of Toronto, the Toronto and Guelph road, now under contract as far as Guelph, and its recently chartered extension to Port Sarnia, will connect the Main Trunk with the waters of Lake Huron, at the head of the river St. Clair, and with the most fertile region of the Canadian Peninsula; beyond that point a short road in Michigan, (we believe now under construction to Port Huron, immediately opposite and within one-fourth of a mile of Port Sarnia,) will connect through Detroit, and by the Michigan Central Railroad, with Chicago and all the roads west and south-west of that point. From Port Huron, another road, partly constructed extends through the heart of Michigan to Grand Haven, opposite Milwaukee, while Port Sarnia being at the foot of Lake Huron, will command a large portion of the north-western trade, borne over Lakes Michigan and Huron. The importance of such a chain of communication through the Provinces and extending into the adjoining Republic can hardly be over-rated, and the connexion which the Main Trunk has with the lines we have named, can not fail to make it a profitable speculation. These are not, however, all the sources from which it will derive support. It will be connected by a line from Toronto to Hamilton, with the Great Western road, which also connects via Detroit with most of the lines above named westward of that point, and though the larger portion of the Great Western's trade may reasonably be expected to pass over its extension to the Niagara Frontier into the adjoining State—still it must, to a certain extent, be a feeder to the Grand Trunk. Many branch roads will doubtless be constructed, stretching into the interior of the country, of which some are already projected, and will become valuable contributors to the trade of the Main Line.

The distances from Trois Pistoles to Detroit, by this system of roads, will be nearly as follow:—

Trois Pistoles to Quebec, say.....	145 miles.
Quebec to Richmond.....	90
Richmond to Montreal.....	70
Montreal to Kingston.....	170
Kingston to Toronto.....	165

Via Port Sarnia:—	640
From Toronto to Guelph.....	47 miles.
Guelph to Sarnia.....	115
Sarnia to Detroit, (in Michigan).....	52

Via Hamilton:—	214
From Toronto to Hamilton.....	40 miles.
" Hamilton to Detroit.....	180

220 miles.
The Main Trunk, therefore, with its extensions, will consist of 1074 miles in Canada, of which 387 miles are under contract and in a forward state, and about 90 miles in operation.

"An Act to amend the Erie and Ontario Railroad Company," relates to a Company chartered in 1835, for the construction of a railroad between the mouth of the Niagara River and Chippawa, thus connecting the navigation of Lakes Erie and Ontario by railroad on the Canada side. This road will of course be in direct competition with the one already commenced on the opposite side of the river to extend from Buffalo to Youngstown.

Two Acts were passed in relation to the Bytown and Prescott railroad, one granting certain lands in Bytown, the other amending a former charter. The Bytown and Prescott road connects the heart of the Ottawa country at Bytown, with the St. Lawrence at Prescott, immediately opposite the terminus of the Ogdensburgh road—a distance of about 51 miles. The grading of this road is in a forward state, and it is confidently asserted that it will be open for business next season.

"An Act to incorporate the Toronto and Guelph Railway Company." This title hardly expresses the object of the Act, which empowers the Company previously chartered to extend their line to the waters of Lake Huron at Sarnia. We have already alluded to this in connexion with the Grand Trunk line; it will compete with the Great Western for the trade of the far west, and will undoubtedly obtain that portion of it which is destined to pass through Canada, on the other hand, the Great Western must always command such of the western business as will find a more profitable channel to market over the roads of New York.

The "Toronto and Sarnia" road, as it may more correctly be named, passes through the best agricultural districts in Upper Canada, and will command a profitable local business.

The next Act relates to the Peterborough and Port Hope railroad, a charter for which was granted in 1846. It is an important branch road, and when constructed, will bring a rich section of Canada into communication with the navigation of Lake Ontario and with the "Main Trunk." Another act, charters, or rather renews a charter, granted in 1831, for the construction of a railroad from Cobourg (only seven miles from Port Hope) to Peterborough. It is not, we presume, seriously intended to construct both lines, as in that event neither could be made profitable, and either would answer every purpose in opening the interior of the country. The rivalry is confined to the towns of Cobourg and Port Hope, which are bidding for the business of Peterborough. Neither of the lines, we believe, offer any serious engineering difficulty to their construction; and the only obstruction will be of a financial character; the first to overcome that will be the successful competitor. The engineer of the Port Hope line has made his report of a preliminary survey—we are not aware that anything has been done on the other route.

"An Act authorising the construction of a railway from Galt to Guelph." This line will be an extension of the branch from the Great Western to Galt, already under construction. It is an effort to obtain for the Great Western road and the city of Hamilton, a share of the business of Guelph and its vicinity, which will otherwise be drawn off by the Toronto and Guelph line. It may therefore be considered as an extension of the charter of the Great Western company.

The Hamilton and Toronto railway company has obtained a charter for constructing a railroad between those cities. It will be an important road, as connecting the two principal cities of Canada West, and as a link connecting the Great Western with the Main Trunk at Toronto. There are no engineering difficulties likely to make this an expensive road, and it will undoubtedly afford ample remuneration for capital invested in it. A preliminary survey has been made under the direction of Mr. Benedict—late Chief Engineer to the Great Western company. We think Toronto would have consulted her own interests had she taken a more active part in the successful prosecution of this enterprise—it will form the connecting link between this city and the roads of the State of New York, and the interests of her business in that direction, as well as westward of Hamilton, make a fair representation in its management of great importance.

"An Act to empower any railway company, whose railway forms part of the Main Trunk line

of railway throughout this Province, to unite with any other such company, or to purchase the property and rights of any such company; and to repeal certain acts therein mentioned, incorporating railway companies."

This act requires no comment—it is intended to facilitate the future working of the main line through the Province, under one management.

"An Act to provide for the incorporation of a company, to construct a railway from opposite Quebec to Trois Pistoles, and for the extension of such railway to the eastern frontier of this Province."

This has already been noticed in connection with the main trunk, of which it will eventually form the eastern extension towards Halifax. We understand that the necessary capital has been subscribed towards this line, and that there is a fair prospect of its early construction. It will be entitled to the Government guarantee of \$3,000 sterling per mile. From Trois Pistoles a road to Miramichi will meet the roads of Nova Scotia and New Brunswick.

"An Act to amend and extend the act incorporating a company for making a railroad from the village of Industry to the township of Rawdon in Lower Canada." This road is nearly completed—it has only a local importance.

"An Act to amend the act incorporating the Ontario, Simcoe and Huron Railroad Union Company." The amendment relates to the election of directors, and repeals that part of the original charter which empowered the company to raise money by lottery. This road is in a very forward state, and will doubtless be the first completed road in Upper Canada. There are already 27 miles of iron laid, and it is in contemplation to open the completed portion of it immediately, beyond this 27 miles, the grading is very nearly completed as far as Barrie (63 miles from Toronto), thence to the waters of Lake Huron, about 30 miles, the surveys are already made, and the road will be constructed before the fall of 1853. This road will receive the government guarantee for one half the cost of its construction. It is a road of great importance, as being the nearest connecting link between the navigation of lakes Huron and Michigan, and Ontario, and will without doubt command a large share of the business of the northwest, and all the business of the vast mineral regions of Lake Superior, since the distance by this route to the projected canal at Sault Ste. Mary, and to the Straits of Mackinaw, from New York and Boston, will be less by some 250 miles than any other route. Independently of this, however, 65 miles of the road pass through a very rich and thickly settled country, the business of which has hitherto found its way to Toronto, over the "Yonge Street Macadamised roads."

"An Act to authorise the Brantford and Buffalo Joint Stock railroad company, to construct a railway from Fort Erie to Goderich." This road had been commenced from Fort Erie to Brantford, and partly graded under the general road act, since repealed. The present act empowers the company to extend their line to Goderich—it will therefore cross both the "Great Western" and the "Toronto and Sarnia" roads at nearly right angles.

"An Act to incorporate the Grand Junction railroad company." The Grand Junction railway, we believe, is intended to connect Peterborough with the waters of Lake Huron at Gloucester bay, with Toronto, and with the main trunk at or near Belleville. It would undoubtedly open a vast and valuable tract of country, but we are of opinion that part of the project at least is premature.

We have now, we believe, noticed all the acts relating to railways, passed during the recent session. They embrace an amount of railway legislation certainly unprecedented in a Canadian parliament, and if all the roads projected are built, Canada will in no way be behind her neighbors in railroad communication. It is true that some of the projects are of doubtful value, or at least premature; but none of them are likely to be proceeded with, except such as are well calculated to make a fair return for the capital invested. We give below a synopsis of the railroads chartered and in progress in Canada, by which it will be seen that we now have 205 miles in operation; 618 miles under construction; and 1056 miles chartered,

	Miles completed.	Miles under construction.	Miles chartered.	Total.
Montreal and Lachine.....	—	—	—	—
Champlain and St. Lawrence, to Rouse's Point.....	43	—	—	43
Rawdon and Industry.....	—	20	—	20
St. Lawrence and Atlantic.....	95	31	—	126
Montréal and New York, to Moer's Corners.....	32	—	—	32
Quebec and Richmond.....	—	90	—	90
Quebec and Trois Pistoles.....	—	—	145	145
Montreal to Kingston, } Main	—	—	170	170
Kingston to Toronto, } Trunk	—	—	165	165
Prescott and Bytown.....	—	54	—	54
Peterborough and Port Hope.....	—	—	27	27
Peterborough and Cobourg.....	—	—	30	30
Grand Junction—				
Peterboro' to Belleville.....	—	—	50	50
" Gloucester Bay.....	—	—	60	60
" Toronto.....	—	—	75	75
Ontario, Simcoe and Huron—				
Toronto to Lake Huron.....	27	66	—	96
Toronto and Sarnia—				
Toronto to Guelph.....	—	47	—	47
Guelph to Stratford.....	—	—	40	40
Stratford to Sarnia.....	—	—	75	75
Toronto and Hamilton.....	—	—	40	40
Great Western—				
Hamilton to London.....	—	76	—	76
London to Detroit.....	—	104	—	104
Hamilton to Niagara river.....	—	42	—	42
London to Sarnia.....	—	—	60	60
Junction to Galt.....	—	13	—	13
Galt to Guelph.....	—	—	16	16
Buffalo and Goderich—				
Buffalo to Brantford.....	—	75	—	75
Brantford to Stratford.....	—	—	40	40
Stratford to Goderich.....	—	—	43	43
Erie and Ontario—				
Niagara to Chippawa.....	—	—	20	20
Total.....	205	618	1056	1881

Ohio Railroad Bonds.

The present legislature of Ohio has just passed the following act in reference to the sales of railroad bonds:

An Act Relating to the sale of bonds of railroad companies, and to increase the number of directors.

SECTION 1. *Be it enacted by the General Assembly of the State of Ohio,* That the directors of any railroad company authorized to borrow money and to execute bonds or promissory notes therefor, shall be, and they are hereby authorized to sell, negotiate, mortgage or pledge such bonds or notes, as well as any notes, bonds, scrip or certificates for the payment of money or property which such company may have heretofore received or shall hereafter receive as donations or in payment of subscriptions to the capital stock or for other dues of such company, at such times and in such places either within or without the State, and at such rates and for such prices as in the opinion of said directors will best advance the interests of such company; and if such notes or bonds are thus sold at a discount, such sale shall be as valid in every respect, and such securities as binding for the respective amounts thereof, as if they were sold at their par value.

SEC. 2. No director of any railroad company shall either directly or indirectly purchase any share of the capital stock or any of the bonds, notes or other securities of any railroad company of which he may be a director, for less than the par value thereof, and all such stocks, bonds, notes or other securities that may be purchased by any such director for less than the par value shall be null and void.

SEC. 3. That any railroad company heretofore incorporated, or which may be hereafter incorporated in this State, shall be and is hereby authorized by a vote of a majority of the stock of such company, to increase the number of directors provided for in the charter of such company to any number not greater than thirteen; and the increased number of directors thus created shall have the same

powers and perform the same duties as may be provided for in the charter of such company.

American Railroad Journal.

Saturday, January 8, 1853.

Lake Ontario and New York City Railroad.

The lines of railroad, now in progress of construction between Oswego and Elizabethtown, New Jersey, will soon be called "the Lake Ontario and New York City Railroad." We understand that a measure is on foot, and certain to be concluded, to make the Oswego and Syracuse—the Syracuse and Binghamton—the Cobb's Gap and the New Jersey Central road all six feet wide. The gauges of the Lackawanna and Western, and about 15 miles of the Erie, which form links in the chain, are already six feet wide. This will be one of the most important and productive lines of railroad in the country. The exports of Oswego are immense, the demand for the Scranton coal at Syracuse, for her vast salt works, and at Oswego for Canada, and for ballast for the upper Lake vessels, will be almost enough to give employment and secure liberal dividends to the upper line of this chain. But the distance from Lake Ontario to New York by this route, being shortened about 30 miles, and to Philadelphia nearly a hundred, the road cannot fail to come in for a very liberal share of the passenger business. Over that portion from Scranton to Elizabethtown, a great proportion of our supply of coal must necessarily come, as the mines are only 130 miles from our city. It is destined, truly, to be a great railroad line, as important to the public as it will be productive to its stockholders.

Panama Railroad.

"The Panama railroad company has made a dividend of ten per cent., payable in stock. The road has been in operation, we think, about six months. This, for an unfinished work, is certainly high'y encouraging."

The above, which is going the rounds of the papers, is certainly one of the most extraordinary specimens of humbugging that we ever heard of. It may be proper for this company to pay dividends upon its stock, before the opening of the road, but to do so upon the pretence that one has been actually earned, and that too equal to 10 per cent. for the first six months' operation of an unfinished road is, we think, a most bare-faced act of deception.—The road has done well if it has paid running expenses. We believe, from the best information we can obtain, it has not done this. We are not furnished with any financial statement of the affairs of the company, and presume none has been published. Such an exhibition would probably defeat the object of the dividend.

Ohio and Indiana Railroad.

We give this week the exhibit of the Ohio and Indiana railroad company, which shows its affairs in a favorable light. This road will form a portion of the great avenue between Central Ohio and Chicago, and is regarded as the legitimate extension, to the last named city, of the Baltimore and Philadelphia lines, which meet in central Ohio. The road is one of remarkably easy construction, and has been carried forward with commendable energy. The company has secured a sufficient basis in stock subscriptions, to render the proposed loan not only perfectly safe, but one of the most inviting in the market. The contractors of the road are well and favorably known in this community, as gentlemen of extensive means and high character,

and who can easily make good their subscriptions of stock. The affairs of the company are in the hands of practical men, who, having sufficient means at command, mean that the apparent and real cost of the road shall be expressed by the same figures.

Railroad Conductors between Albany and Buffalo.

The Albany Journal gives the following list of railroad Conductors between New York and Buffalo.

Hudson River Railroad.—John D. Elliott, Louis F. Minard, John D. Vermuele, Wm. B. Shaw, George Simpson, Wm. H. Smith, Moses J. Ferry, Daniel Young, Barney DeKlyn, Wm. H. Ingell, Allen Conrey, P. J. Parrison, John R. Bostwick, Joseph Bourson, E. S. Cadwell, Waldo A. Fisher, Joseph Gardner, L. H. Clements, John B. Gillett, A. D. Cole, Dewitt C. Sheldon, Wm. H. Hudson, Philip Coons, Peter S. Yentry, Wm. Welius.

Albany and Schenectady Railroad.—Case Thompson, P. R. Livingston.

Schenectady and Utica Railroad.—D. L. Fremyer, J. H. Ward, V. Meeker, A. D. Smith, G. H. Clark, N. G. Williams, M. Gardner.

Utica and Syracuse Railroad.—H. T. Fellows, — Cottle, — Church, — Wheeler, — Eckert, — Campbell, E. D. Fellows.

Syracuse and Rochester Railroad.—W. R. Gifford, W. F. Hurd, A. Bankson, James Gifford, S. M. Strong, Robert Walker, H. M. Frink, J. M. Fargo, T. Gifford, Wm. Gifford, H. B. Dutton, S. Donnelly.

Rochester and Buffalo Railroad.—Geo. W. Tate, G. Smith Jr., H. G. Billings, F. Smith, J. Houghtaling, William White, Wm. Butman, L. M. Billings, J. W. Houghtaling.

General Railroad Law of Indiana.

We give this week a copy of the General Railroad Law of Indiana. There are four States which have adopted what may be termed *general railroad laws*; New York, Ohio, Illinois and Indiana. Their object is to make the construction of roads the common right of all. We hope the example of the above, will soon be followed by all the other States.

Railroads in Beaver County.

A meeting was lately held in Bridgewater, Beaver county, at which resolutions were passed that if said road intersects the Wellsville and Pittsburgh road at the mouth of the Beaver river, they would use all the means in their power to procure the right of way, and that the Commissioners of Beaver county be requested to take such measures for the subscription of stock to said road, as may be in their power. They also resolved to subscribe to the stock to the extent of their means, and use their best endeavors to procure the largest possible amount of stock to said contemplated road.

Ohio and Mississippi Railroad.

This important road is going ahead, and the company let the grading, masonry and bridging of 115 miles, from the intersection of the Jeffersonville and Columbus railroad, in Jackson county, to Vincennes on the 6th of January, at Cincinnati. It is a heavy part of the road, including two tunnels, and five large bridges, and comprises all the work on the road from Cincinnati to St. Louis, not previously under contract. Contractors will be required to commence work immediately.

Mobile and Ohio Railroad.

The West Tennessee Whig of the 9th ult., says: The agent of the railroad reports his progress in securing stock, and letting out contracts as very encouraging. The whole amount necessary to prepare the road bed in Tennessee for the laying down

of the iron is \$900,000, of which amount there has been raised a bona fide subscription of \$840,000 leaving only the small sum of \$60,000 to be raised to complete the entire subscription.

The whole distance which the road traverses the State is 119 miles, leaving 52 miles to be let out, which will be mostly accomplished within the present month.

Stock and Money Market.

The money continues in the same condition noted for some weeks past. The demand is active, while the supply is good. The rates paid in the street, however, are somewhat greater than the average for some weeks past.

There continues to be an active demand for first class securities of new works, with but a limited supply upon the market.

We annex the annual statement of the Mint at Philadelphia for the year 1852:

TOTAL COINAGE FOR 1852.

GOLD.		
	Pieces.	Value.
Double Eagles.....	2,053 026	\$41,060,520
Eagles.....	263 106	2 631 060
Half Eagles.....	573 901	2 869 505
Quarter Eagles.....	1,158 381	2 899,202
Gold Dollars.....	2,045 351	2,045 351
	6,094,765	\$51,505,638
Silver.....	27,549 555	52,352,949
Copper.....	5,162 094	51,620
	32,711 649	\$52,404,569

COINAGE FOR DECEMBER, 1852.

GOLD.		
	Pieces.	Value.
Double Eagles.....	265 816	\$5,316,320
Eagles.....	11 215	112 550
Half Eagles.....	22 287	111 435
Quarter Eagles.....	38 660	96 650
Gold Dollars.....	133 850	133,850
	471,858	\$5,770,705
Silver.....	4,575 008	5,924 507
Copper.....	886 341	8 863
	5,461,349	\$5,933,370

Gold bullion deposited—	
From California.....	\$3,265,000
From other sources.....	66,000
	\$3,330,000
Silver bullion deposited.....	19,500

GOLD BULLION DEPOSITED.

	1851.	1852.
January.....	\$5 071,669	\$4,161,688
February.....	3 004,970	3,010 222
March.....	2 880 271	3 892 156
April.....	2 878,353	3,091,037
May.....	3 249,491	4 335,578
June.....	3,637 560	6 689,474
July.....	3,127 517	4 193,880
August.....	4,135 312	2 671 563
September.....	4,046 799	4,253,687
October.....	4,743 584	4,140 069
November.....	5,492 454	7,279 941
December.....	5,561,425	3,330,000
	\$47,929,405	\$51,049,295

The business of the Cleveland, Columbus and Cincinnati railroad for the past season has been remarkably great.

The receipts of the six months ending Nov. 30, 1852 were.....\$512,022 44
For the same period in 1851..... 341,680 96

Increase for 1852, 50 per cent.....\$170,341 48

The business for December has not yet been made up, but it is equally great, and largely in excess of the estimates.

The receipts of the Erie railroad for December are in advance of the estimates, \$350,000 made at the time of declaring the dividend. The figures are:

Dec., 1852.....	\$352,138 33
Dec., 1851.....	296,280 00

Increase..... \$55,858 33

The aggregate receipts for the twelve months ending 31st Dec, 1852,

Are.....	\$3,694 207
Same time, 1851.....	2,773,137

Increase, about 33 per cent..... \$921,070

Finances of Tennessee.—The annexed statement exhibits the public indebtedness of the state of Tennessee on the 1st Oct. 1852:

Total indebtedness of the state, October 1, 1851.....	\$3,651,856 66
Capital bonds authorized to be issued under the act of the late General Assembly.....	250,000 00

Indebtedness of the State.....\$3,901,856 66

CONTINGENT FUND.

Bonds issued as a loan to the East Tennessee and Georgia railroad.....	\$350,000 00
Do. East Tennessee and Virginia railroad.....	300,000 00
Do. Gibson and Dyer Plankroad.....	25,000 00
Do. Memphis and Charleston railroad.....	240,000 00

Amount loaned the Int. Imp. Co's.....\$915,000 00
Amount endorsed for Nashville and Chattanooga road as can be ascertained from the secretary of state is.....\$675,000 00

RECAPITULATION.

Actual Debt.....	\$3,901,856 66
Loan debt.....	915,000 00
Endorsed debt.....	675,000 00

Total.....\$5,491,856 66

Debt of the United States.—The following is a statement of public debt, on the 1st. of January 1851 and 1852:

STATEMENT of the public debt on the 1st of January 1851, and 1st Jan. 1852.

Denomination of Stock.	1851.	1852.
Old funded and unfunded debt, old Treasury notes and Mississippi certificates, and unclaimed dividends.....	\$119,585 98	\$116,716 99
Debt of corporate cities of the District of Columbia assumed by Congress.....	810,000 00	780,000 00
Treasury notes.....	192,561 64	161,951 64
Loan of 1842, redeemable June 1, 1863.....	8,198,686 03	8,198,686 03
Loan of 1843, redeemable July 1, 1853.....	6,463,231 35	6,222,931 35
Loan of 1846, redeemable Nov. 12, 1856.....	4,999,149 45	4,999,149 45
Loan of 1847, redeemable Jan. 1, 1868.....	27,299,650 00	25,265,300 00
Loan of 1848, redeemable July 1, 1868.....	15,740,000 00	15,740,000 00
Texas indemnity Five per cent stock.....	5,000,000 00	5,000,000 00
Mexican indemnity stock.....	303,573 92	

\$59,161,438 37 \$67,484,745 26

This does not include a debt we owe the Smithsonian Institute for Arkansas bonds, (about \$500,-

000) which are good for nothing; nor the additional five millions unissued stock we yet owe for the Texas debt; nor the trust funds we owe the Indians under various Indian Treaties, which are over \$6,000,000. The president in his last annual message, says of this debt, there had been discharged the fiscal year ending June 30, principal and interest.....\$9,455 815
Since that time principal purchased.....2,456,517

Total.....\$11,912,362

Finances of Kentucky.—The Treasurer of Kentucky gives the statement of the finances and public debt of that state:

Total public debt, Dec. 31st, 1850.....	\$4,497 637
Of which was paid in the year 1861.....	250,000

\$4,247,637

And the new liabilities since created—	
bonds issued to the Southern bank of Kentucky.....	150,000
Bonds held by the board of education.....	1,326,770
Liability on the Craddock fund.....	2,000

Total, Dec. 31st, 1851.....\$5,736,307

This debt consists of

Thirty year bonds, at five per cent. interest.....	586,000
Thirty year bonds at 6 per ct. interest.....	3,654,500
Southern bank bonds (interest paid by the bank.....	150,000
Bonds held by board of education.....	1,326 770
Miscellaneous bonds.....	9 037

Total.....\$5,726,307

It appears by this that the public debt has been increased \$1 478,779 since December 1850, caused principally by an issue of bonds to the Board of Education.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, JANUARY 8, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853.....	100
U. S. 6's, 1856.....	108
U. S. 6's, 1862.....	114
U. S. 6's, 1862—coupon.....	120
U. S. 6's, 1867.....	114
U. S. 6's, 1868.....	120
U. S. 6's, 1868—coupon.....	120
Indiana 5's.....	102
Indiana 2 1/2.....	59
" Canal loan 6's.....	97
" Canal preferred 5's.....	47
Alabama 5's.....	98
Illinois 6's, 1847.....	86
Illinois 6's—interest.....	59
Kentucky 6's, 1871.....	112
Maryland 6's.....	109
New York 6's, 1854-5.....	108
New York 6's, 18-0-61-62.....	115
New York 6's, 1864-65.....	118
New York 6's, 1/2 y., 1866.....	119
New York 5 1/2's, 1860-61.....	112
New York 5 1/2's, 1865.....	113
New York 5's, 1854-55.....	108
New York 5's, 1858-60-62.....	109
New York 5's, 1866.....	114
New York 4 1/2's, 1858-59-61.....	101
Canal certificates, 6's, 1861.....	—
Ohio 6's, 1856.....	104
Ohio 6's, 1860.....	109
Ohio 6's, 1870.....	114
Ohio 6's, 1875.....	114
Ohio 5's, 1865.....	106
Ohio 7's, 1851.....	105
Pennsylvania 5's.....	96
Pennsylvania 6's, 1847-53.....	101
Pennsylvania 6's, 1879.....	99
Tennessee 5's.....	93
Tennessee 6's, 1880.....	103
Virginia 6's, 1886.....	110

CITY SECURITIES—BONDS.

Brooklyn 6's.....	105
Albany 6's, 1871-1881.....	107
Cincinnati 6's.....	102
St. Louis.....	97
Louisville 6's 1880.....	97
Pittsburg 6's, 1869-1871.....	103
New York 7's, 1857.....	108
New York 5's, 1858-60.....	103
New York 5's, 1870-75.....	104
New York 5's, 1890.....	105
Fire loan 5's, 1886.....	—
Philadelphia 6's, 1876-90.....	106
Baltimore 1870-90.....	107
Boston 5's.....	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867.....	115
Erie 2d mortgage, 7's, 1859.....	107
Erie income 7's, 1855.....	102
Erie convertible bonds, 7's, 1871.....	102
Hudson River 1st mort., 7's, 1869.....	109
Hudson River 2d mort., 7's, 1860.....	100
New York and New Haven 7's, 1861.....	105
Reading 6's, 1870.....	93
Reading mortgage, 6's, 1860.....	99
Michigan Central, convertible, 8's, 1860.....	110
Michigan Southern, 7's, 1860.....	101
Cleveland, Col. and Cin. 7's, 1859.....	123
Cleveland and Pittsburg 7's, 1860.....	102
Ohio and Pennsylvania 7's, 1865.....	108
Ohio Central 7's, 1861.....	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Jan. 6.	Dec. 30.
Albany and Schenectady.....	113	113
Boston and Maine.....	106	106
Boston and Lowell.....	107	109
Boston and Worcester.....	105	106
Boston and Providence.....	91	92
Baltimore and Ohio.....	95	98
Baltimore and Susquehanna.....	34	34
Cleveland and Columbus.....	120	130
Columbus and Xenia.....	—	—
Camden and Amboy.....	150	—
Delaware and Hudson (canal).....	130	130
Eastern.....	100	96
Erie.....	93	97
Fall River.....	—	—
Fitchburgh.....	103	106
Georgia.....	—	—
Georgia Central.....	—	—
Harlem.....	72	73
" preferred.....	115	111
Hartford and New Haven.....	129	129
Housatonic (preferred).....	35	35
Hudson River.....	75	75
Little Miami.....	120	120
Long Island.....	31	32
Mad River.....	99	99
Madison and Indianapolis.....	111	111
Michigan Central.....	103	103
Michigan Southern.....	25	127
New York and New Haven.....	17	115
New Jersey.....	32	132
Nashua and Lowell.....	—	—
New Bedford and Taunton.....	117	117
Norwich and Worcester.....	53	53
Ogdensburg.....	63	30
Pennsylvania.....	49	49
Philadelphia, Wilmington & Balt.....	37	38
Petersburg.....	—	—
Richmond and Fredericksburg.....	05	105
Richmond and Petersburg.....	35	35
Reading.....	88	98
Rochester and Syracuse.....	25	124
Stonington.....	57	57
South Carolina.....	122	122
Syracuse and Utica.....	33	12
Taunton Branch.....	15	115
Utica and Schenectady.....	145	143
Vermont Central.....	18	17
Vermont and Massachusetts.....	20	22
Virginia Central.....	40	40
Western.....	102	106
Wilmington and Raleigh.....	67	57

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Railroads in the United States in 1853.

We re-publish this week our annual review of the "Railroads of the United States," partly for the purpose of making some slight corrections, and partly for the convenience of subscribers, in furnishing them with duplicate copies of our valuable tables.

The past season has been one of extraordinary prosperity both with our works in operation and in progress. The increased earnings of our roads over the past year will average at least 15 per cent upon their mileage, and 10 per cent upon their cost. This increase is due partly to the abundant crops which have prevailed throughout the country, to the great activity which has prevailed in every department of industry, and to the rapid extension of our railroad system. Every additional mile opened, adds directly to the traffic of those already completed.

The result of the past year has exerted a most favorable influence upon this kind of property. The market value of which has steadily appreciated. It has also tended to secure an increased degree of confidence in the security of works in progress; which has enabled them to negotiate their loans with greater ease and upon better terms, than at any former period.

Our new works have been prosecuted with extraordinary activity and success. The uniform abundance of money which has prevailed throughout the year has supplied to them the means of construction as fast as wanted. We believe that there is no one of any importance that has been obliged to suspend or even to curtail its operations to any considerable extent from want of funds. Those interested in the several projects have contributed liberally, and have generally found no difficulty in providing a sufficient sum to form as the basis of a loan necessary to complete their respective works.

By the tabular statement annexed, it will be seen that there are 13,315 miles of railroad in operation in the United States, and 12,029 in progress against 21,693 in operation and in progress in 1852, showing an increase of the former of 2500 miles, and the latter of 1150 miles, viz:

STATES.	No. of miles in operation.	No. of miles in progress.	Total.
Maine.....	394	111	505
New Hampshire.....	500	42	542
Vermont.....	427	..	427
Massachusetts.....	1140	66	1206
Rhode Island.....	50	32	82
Connecticut.....	627	198	825
New York.....	2123	924	3047
New Jersey.....	254	85	339
Pennsylvania.....	1244	903	2147
Delaware.....	16	11	27
Maryland.....	521	..	521
Virginia.....	624	610	1234
N. Carolina.....	249	248	497
S. Carolina.....	599	296	895
Georgia.....	857	691	1548
Florida.....	23	..	23
Alabama.....	236	728	1023
Mississippi.....	95	875	970
Louisiana.....	63	200	263
Texas.....	32	..	32
Tennessee.....	185	509	694
Kentucky.....	94	661	755
Ohio.....	1385	1755	3140
Indiana.....	755	979	1734
Michigan.....	427	..	427
Illinois.....	296	1772	2068
Missouri.....	..	515	515
Wisconsin.....	50	470	520
Total.....	13,315	12,029	25,343

Tabular statement, showing the number of miles of railroad in operation and progress, January 1, 1852.

	Miles in operation.	Miles in progress.	Total.
Maine.....	315	127	442
New Hampshire.....	489	47	536
Vermont.....	380	59	439
Mass.....	1089	67	1156
Rhode Island.....	50	32	82
Connecticut.....	547	261	808
New York.....	1826	745	2571
New Jersey.....	226	111	337
Penn.....	1146	774	1920
Delaware.....	16	11	27
Maryland.....	376	125	501
Virginia.....	478	818	1296
N. Carolina.....	249	385	634
S. Carolina.....	340	298	638
Georgia.....	754	229	983
Alabama.....	121	189	310
Miss.....	93	273	366
Louisiana.....	63	..	63
Texas.....	..	32	32
Tennessee.....	112	748	860
Kentucky.....	93	404	497
Ohio.....	828	1892	2720
Michigan.....	427	..	427
Indiana.....	600	905	1505
Illinois.....	176	1409	1585
Missouri.....	..	515	515
Wisconsin.....	20	421	441
Total.....	10,814	10,874	21,693

The following tabular statement will show the increase of mileage of railroads from January 1, 1848, to January 1, 1851, (with the exception of 1850) viz:

	Miles in operation Jan. 1, 1848.	Miles in operation Jan. 1, '49.	Total 1851.
Maine.....	76	111	257
New Hampshire.....	167	263	471
Vermont.....	..	91	366
Massachusetts.....	704	876	1042
Rhode Island.....	64	64	61
Connecticut.....	193	270	450
In New England.....	1207	1678	2647
New York.....	744	1019	1409
New Jersey.....	202	239	232
Pennsylvania.....	720	720	913
Delaware.....	16	16	16
Maryland.....	253	252	315
Virginia.....	406	406	306
N. Carolina.....	255	255	249
S. Carolina.....	204	204	270
Georgia.....	602	602	664
Florida.....	26	26	23
Alabama.....	92	111	112
Mississippi.....	95	95	95
Louisiana.....	50	50	89
Kentucky.....	28	28	77
Tennessee.....	..	..	..
Illinois.....	53	53	118
Indiana.....	86	86	226
Ohio.....	262	294	596
Michigan.....	264	264	357
Total.....	5565	8856	6397

It will be seen that the increased mileage of lines in operation and progress during the past year is equal to 3668 miles.

In the above table, only such lines as are either in operation, or in actual progress, are intended to be embraced. There is in addition a large extent of line which will soon be prepared for contract. The increase for the present year will probably be equal to that of the past, while a greater extent will probably be completed.

Tabular statement showing the area, and the number of square miles to each mile of railroad in the several States:

	Areas.	Miles of railroad.	Square miles to each mile of R. R.
Maine.....	30,280	505	59.9
N. Hampshire.....	9,000	542	16.6
Vermont.....	10,212	427	23.9
Massachusetts.....	7,800	1206	6.4
Rhode Island.....	1,306	82	16
Connecticut.....	4,674	825	5.6
New York.....	46,000	3047	15.
New Jersey.....	8,320	379	24.5
Pennsylvania.....	46,000	2147	21.6
Delaware.....	2,120	27	78.5
Maryland.....	9,356	521	18.4
Virginia.....	61,352	1234	49.6
North Carolina.....	45,000	497	90.5
South Carolina.....	21,500	895	27.4
Georgia.....	58,400	1548	37.5
Florida.....	59,268	23	2576
Alabama.....	50,722	964	53.6
Mississippi.....	47,156	1023	46.
Louisiana.....	46,431	263	174.4
Texas.....	237,321	32	7416.
Tennessee.....	45,608	694	65.6
Kentucky.....	37,680	723	50
Ohio.....	39,964	755	12.7
Michigan.....	56,243	427	131.7
Indiana.....	33,809	1734	19.5
Illinois.....	55,405	2068	26.0
Missouri.....	67,380	515	138.
Wisconsin.....	53,924	520	10.4
Total.....	25,343		

Table showing the population of the several States, and the number of inhabitants in each to one mile of railroad.

STATES.	Miles of Population.	Inhabitants to one mile of railroad.
Maine.....	505	583,188
New Hampshire.....	542	317,964
Vermont.....	427	314,120
Massachusetts.....	1206	991,499
Rhode Island.....	82	147,544
Connecticut.....	825	370,791
New York.....	3,047	3,097,349
New Jersey.....	339	480,553
Pennsylvania.....	2147	2,311,786
Delaware.....	27	91,535
Maryland.....	521	583,035
Virginia.....	1234	1,421,661
North Carolina.....	497	868,903
South Carolina.....	895	668,507
Georgia.....	1548	905,999
Florida.....	23	27,401
Alabama.....	964	771,671
Mississippi.....	1023	600,555
Louisiana.....	263	517,739
Texas.....	32	212,592
Tennessee.....	694	1,002,625
Kentucky.....	723	982,405
Ohio.....	755	1,980,408
Michigan.....	427	397,654
Indiana.....	1734	988,415
Illinois.....	2068	851,470
Missouri.....	515	682,033
Wisconsin.....	520	395,091

The two statements immediately preceding will convey a pretty accurate idea of the probable extent to which the construction of railroads will be eventually carried in the United States. The state having the greatest number of miles in proportion to its area and population is Connecticut. This state has no large cities, and its people are either engaged in manufacturing or agriculture. There can be no reason why all portions of the eastern states, possessing an equally dense population, should not eventually have an equal number of miles of railroad in proportion.

Among the western states Ohio stands pre-eminent, having one mile of railroad to a little more than twelve square miles of territory, and to 638 inhabitants. This state will probably soon lead all others in the extent of its railroads, if not in the ratio they will sustain to area and population.

There can be no doubt that the construction of railroads in the South and West will continue, till all the States within those great divisions of the country are as well supplied as Ohio. This would require the construction of over 80,000 miles estimating the occupied area of the country to be 1,000,000. But in Ohio railroads have been in progress only a few years, and the present one will add many hundred miles probably to its present aggregate. There can be no doubt that for many years to come, railroads will continue to be constructed in an equally rapid ratio to that they have for a few years past. Nearly every part of the U. States is well adapted to their cheap and expeditious construction, and in a country like our own, they replace their cost in a very few years, in the saving effected in the cost of transportation.

We have in preparation, a statement, showing the cost of the several routes, and the aggregate cost in the aggregate; but we prefer to delay its publication until we receive copies of the returns that many of our companies make to their respective legislatures, at the commencement of the year. Estimating the cost of our roads in operation at \$30,000 per mile, which probably slightly exceeds the fact, the total amount expended upon such, would be about \$400,000,000; at the same average the roads in progress will cost \$361,000,000; the whole \$761,000,000. It is probable that the amount expended in railroads in this country within three years from this time, will exceed this sum.

Should our future operations be conducted by the same prudence, and good sense that have characterized the past, we have little reason to fear any injurious consequences from the investment of so vast an amount of our available capital. So long as our projects are constructed only in anticipation of the wants of our existing business, and are made to follow the natural channels and directions of commerce, instead of being made instruments of selfish, or unscrupulous managers, they will prove an inestimable boon to the community, as well as yield a lucrative return to their stockholders.

The large incomes of our roads, and their successful management, the fact that their franchises are universally exempt from taxation, as are the shares and loans, are attracting a large amount of money from the capitalists of Europe. The amount of call for our securities from this quarter is fully equal to the supply of such as are adapted to the foreign market. There can be no doubt that foreign orders will increase, rather than diminish.

The past year has been signalized by a number of important events in the history of roads; among which have been the completion of the Baltimore and Ohio, the opening of a through line through Pennsylvania, and the union of the roads of the two great divisions of the country by the completion of the Lake Shore roads. All the most important western cities have now railroad connections with the East. Our lines of road have been pushed more than 1000 miles directly into the interior, and the Mississippi river is nearly reached at two points.

On the whole we have good reason to congratulate ourselves for the extraordinary prosperity of this great interest, which is now becoming the paramount one in the country. A little self complacency will be pardoned, when it is seen that a nation of only 25,000,000 of people, are building more miles of railroad and will soon have a greater extent of line than all the world besides, and that we have done what no other nation has, made them profitable investments by good management,

and instrumental in bettering the condition of every person in the community.

Tabular statement showing the number of miles of railroad in progress and in operation in the United States, January, 1853.

MAINE.

ROADS.

	Miles in operation.	Miles in progress.
Androscoggin and Kennebec.....	55	..
Atlantic and St. Lawrence.....	150	..
Buckfield branch.....	13	..
Bangor and Piscataquis.....	12	..
Kennebec and Portland.....	60	..
Bath branch.....	9	..
Portland, Saco and Portsmouth.....	51	..
Calais and Baring.....	6	..
Machias port.....	8	..
York and Cumberland.....	10	43
Androscoggin.....	20	..
Penobscot and Kennebec.....	..	55
Bangor and Milford.....	..	13
Total.....	395	111

NEW HAMPSHIRE.

Boston, Concord and Montreal.....	71	22
Cochecho.....	28	..
Concord.....	35	..
Concord and Claremont.....	25	..
Contoocook Valley.....	14	..
Great Falls and Conway.....	13	..
Manchester and Lawrence.....	26	..
New Hampshire Central.....	26	..
Northern.....	82	..
Portsmouth and Concord.....	47	..
Sullivan.....	25	..
Wilton.....	15	..
Cheshire.....	54	..
Ashuelot.....	23	..
Eastern.....	16	..
White Mountain.....	..	20
Total.....	500	42

VERMONT.

Connecticut and Passumpsic River.....	61	..
Rutland and Burlington.....	119	..
Vermont Central.....	164	..
Rutland and Washington.....	12	..
Vermont Valley.....	24	..
Bennington branch.....	6	..
Western Vermont.....	53	..
Total.....	439	..

MASSACHUSETTS.

Berkshire.....	21	..
Boston and Lowell.....	28	..
Boston and Maine.....	83	..
Boston and Providence.....	53	..
Stoughton branch.....	4	..
Boston and Worcester.....	69	..
Cape Cod branch.....	28	..
Dorchester and Milton.....	3	..
Eastern.....	58	..
Essex (Salem to Lawrence).....	21	..
Fall River.....	42	..
Fitchburg.....	67	..
Fitchburg and Worcester.....	18	..
Lowell and Lawrence.....	13	..
Nashua and Lowell.....	15	..
New Bedford and Taunton.....	33	..
Newburyport.....	15	..
Norfolk County.....	26	..
Old Colony (Boston to Plymouth).....	45	..
Petersboro' and Shirley.....	23	..
Pittsfield and N. Adams.....	20	..
Providence and Worcester.....	44	..
South Shore.....	11	..
Stony Brook.....	13	..
Western (Boston to Albany).....	117	..
Worcester and Nashua.....	46	..
Vermont and Massachusetts.....	77	..
Housatonic branch.....	11	..
South Reading branch.....	9	..
Salem and Lowell.....	17	..
Grand Junction.....	7	..
Harvard branch.....	1	..
Lexington and West Cambridge.....	7	..

Connecticut River.....	52	..
Troy and Greenfield.....	..	42
South Reading branch.....	9	..
Charles River branch.....	..	12
Stockbridge and Pittsfield.....	22	..
Palmer and Amherst.....	12	12

Total.....

1140

66

RHODE ISLAND.

Stonington.....	50	..
Providence, Hartford and Fishkill.....	..	32

Total.....

50

32

CONNECTICUT.

Hartford and New Haven.....	62	..
Hartford, Providence and Fishkill.....	50	96
Housatonic.....	98	..
Middletown branch.....	10	..
Naugatuck.....	62	..
New Haven Canal.....	45	..
New London, Willimantic and Palmer.....	66	..
New London and New Haven.....	50	..
New York and New Haven.....	73	..
Norwich and Worcester.....	66	..
Collinsville branch.....	11	..
Air-line.....	..	102
Danbury and Norwalk.....	24	..
Middleton branch.....	10	..

Total.....

627

198

NEW YORK.

Albany and Schenectady.....	17	..
Albany and West Stockbridge.....	38	..
Buffalo and Niagara Falls.....	22	..
Cayuga and Susquehanna.....	31	..
Hudson and Berkshire.....	31	..
Hudson River.....	144	..
Lewiston.....	3	..
Long Island.....	98	..
New York and Erie.....	464	..
New York and Harlem.....	130	..
Northern.....	118	..
Oswego and Syracuse.....	35	..
Rensselaer and Saratoga.....	32	..
Rochester and Syracuse.....	104	..
Straight line between Rochester and Syracuse.....	..	80
Little Valley and Erie.....	..	10
Saratoga and Washington.....	63	..
Saratoga and Schenectady.....	22	..
Schenectady and Troy.....	20	..
Skaneateles and Jordan.....	5	..
Syracuse and Utica.....	53	..
Corning and Blossburg.....	14	..
Buffalo and Rochester.....	76	..
Troy and Greenbush.....	6	..
Utica and Schenectady.....	78	..
Watertown and Rome.....	97	..
Albany and Northern.....	..	33
Albany and Susquehanna.....	..	143
Buffalo and State line.....	69	..
Buffalo and New York city.....	92	..
Buffalo, Corning and New York.....	45	87
Canandaigua and Elmira.....	67	..
Plattsburg and Montreal.....	25	..
Rochester and Niagara Falls.....	76	..
Rutland and Washington.....	62	..
Sackett's Harbor and Ellisburg.....	..	17
Troy and Boston.....	32	8
Canandaigua and Niagara Falls.....	50	44
Syracuse and Binghamton.....	..	76
Sodus Bay and Southern.....	..	35
Potsdam, Watertown and Sackett's Har.....	..	75
Lake Ontario and Auburn.....	..	73
Genesee Valley.....	..	85
Buffalo and Olean.....	..	75
Lebanon Springs.....	..	53

Total.....

2,023

904

NEW JERSEY.

Belvidere and Delaware.....	15	40
Burlington and Mount Holly.....	6	..
Camden and Amboy.....	64	..
Morris and Essex.....	35	45
New Jersey.....	31	..
New Jersey Central.....	64	..
Trenton branch.....	6	..
Union.....	33	..

Total.....

254

65

PENNSYLVANIA.		SOUTH CAROLINA.		OHIO.	
Alleghany Portage.....	36	South Carolina.....	241	Cleveland and Columbus.....	135
Beaver Meadow.....	36	Greenville and Columbia.....	163	Columbus and Lake Erie.....	60
Carbondale and Honesdale.....	21	Charlotte and South Carolina.....	110	Dayton and Springfield branch.....	24
Columbia and Philadelphia.....	82	King's Mountain.....	25	Findlay branch.....	16
Westchester branch.....	9	Laurens.....	15	Little Miami.....	84
Corning and Blossburg.....	25	Spartanburg and Union.....	60	Mad River.....	134
Cumberland Valley.....	52	Wilmington and Manchester.....	45	Sandusky and Mansfield.....	56
Eazleton and Lehigh.....	10	Charleston and North Eastern.....	103	Xenia and Columbus.....	54
Little Schuylkill.....	20			Bellefontaine and Indiana.....	50
Extension to Tamenend.....	6	Total.....	599	Cincinnati and Marietta.....	265
Mine Hill.....	30			Springfield and London.....	19
Mount Carbon.....	7	GEORGIA.		Cleveland and Pittsburg.....	100
Pennsylvania.....	221	Central.....	191	Cleveland N. and Toledo.....	87
Philadelphia, Reading and Pottsville.....	92	Georgia.....	175	Cleveland P. and Ashtabula.....	72
Philadelphia and Norristown.....	17	Macon and Western.....	101	Columbus U. and Piqua.....	102
German town branch.....	6	Western and Atlantic.....	140	Cincinnati W. and Zanesville.....	160
Philadelphia and Trenton.....	30	Southwestern.....	50	Cincinnati H. and Dayton.....	60
Philadelphia, Wilmington and Balt.....	98	Rome branch.....	20	Dayton and Western.....	42
Schuylkill Valley.....	25	Muscookee.....	51	Greenville and Miami.....	33
Summit Hill and Mauch Chunk.....	25	Atlanta and West Point.....	52	Hamilton and Eaton.....	42
Whitehaven and Wilkesbarre.....	20	Milledgeville.....	17	Hillsboro' and Cincinnati.....	37
Williamsport and Elmira.....	21	Eaton and Milledgeville.....	20	Iron.....	12
Franklin.....	22	Wilkes county.....	55	Junction.....	110
Dauphin and Susquehanna.....	16	Athens branch.....	39	Ohio and Indiana.....	131
Strasburg.....	7	Waynesboro'.....	21	Ohio and Mississippi.....	20
Lykens Valley.....	16	Brunswick and Florida.....	188	Ohio and Pennsylvania.....	185
Nesquehoning.....	5	Savannah and Pensacola.....	300	Ohio Central.....	59
Room Run.....	5	Total.....	857	Scioto and Hocking Valley.....	30
Chester Valley.....	22	FLORIDA.		Steubenville and Indiana.....	150
Lehigh, Delaware, Schuylkill and Susq.....	40	St. Marks and Tallahassee.....	23	Springfield, Mt. Vernon and Pittsburg.....	110
Pine Grove.....	5	ALABAMA.		Dayton and Michigan.....	140
Beaver Meadow.....	12	Montgomery and West Point.....	88	Hudson and Akron branch.....	13
York and Cumberland.....	25	Mobile and Ohio.....	30	Cincinnati and Dayton.....	52
Sunbury and Erie.....	240	Alabama and Tennessee.....	40	Carrollton branch.....	20
Lackawanna and Western.....	50	Alabama Central.....	112	Tuscarawas branch.....	20
Catawissa.....	90	Memphis and Charleston.....	75	Wheeling and Wellsville.....	38
Delaware and Susquehanna.....	53	Girard.....	220		
Philadelphia and Westchester.....	25	Total.....	236	MICHIGAN.	
Pennsylvania Coal company.....	47			Central.....	228
Hempfield.....	78	MISSISSIPPI.		Southern.....	133
Alleghany Valley.....	180	Raymond.....	7	Pontiac.....	25
Columbia branch.....	18	St. Francis and Woodville.....	28	Tecumseh branch.....	8
Hanover branch.....	13	Vicksburg and Brandon.....	60	Erie and Kalamazoo.....	33
York and Wrightsville.....	13	Mobile and Ohio.....	273		
Lancaster and Harrisburg.....	37	Mississippi Central.....	180	Total.....	427
Susquehanna.....	58	Canton and Jackson.....	75	INDIANA.	
Pittsburg and Steubenville.....	42	New Orleans, Jackson and Northern.....	400	N. Albany and Salem with branch round	
Franklin Canal.....	26	Total.....	95	L. Michigan.....	140
Northeast.....	19	LOUISIANA.		Jeffersonville.....	66
Total.....	1,244	Carrollton.....	6	Madison and Indianapolis.....	86
DELAWARE.		Clinton and Port Hudson.....	24	Shelbyville branch.....	16
New Castle and Frenchtown.....	16	Lake Pontchartrain.....	6	Rushville branch.....	20
Wilmington branch.....	11	Mexican Gulf.....	27	Knightstown branch.....	27
MARYLAND.		*New Orleans, Jackson and Northern.....	200	Lawrenceburg and Indianapolis.....	90
Annapolis and Elkridge.....	21	New Orleans and Opelousas.....	200	Indiana Central.....	72
Baltimore and Ohio.....	379	Total.....	63	Newcastle and Richmond.....	108
Washington branch.....	38	TEXAS.		Indianapolis and Bellefontaine.....	83
Frederick branch.....	3	Buffalo Bay, Brazos and Colorado.....	32	Peru and Indianapolis.....	50
Baltimore and Susquehanna.....	57	TENNESSEE.		Terre Haute and Indianapolis.....	72
Westminster branch.....	9	Nashville and Chattanooga.....	110	Evansville and Illinois.....	26
Hanover.....	13	East Tennessee and Georgia.....	80	Indiana Northern.....	135
Total.....	521	East Tennessee and Virginia.....	130	Ohio and Mississippi.....	170
VIRGINIA.		Winchester and Huntsville.....	46	Lafayette and Indianapolis.....	62
Richmond and Danville.....	65	Mobile and Ohio.....	119	Wabash Valley.....	200
Richmond and Petersburg.....	22	Nashville and Southern.....	100		
Clover Hill.....	15	McMinnville branch.....	30	Total.....	755
South Side.....	50	Total.....	190	ILLINOIS.	
Manassas Gap.....	75	KENTUCKY.		Illinois Central.....	699
Petersburg and Roanoke.....	60	Frankfort and Lexington.....	29	Galena and Chicago.....	93
Seaboard and Roanoke.....	80	Louisville and Frankfort.....	65	Rock Island and Chicago.....	50
Appomattox.....	9	Maysville and Lexington.....	67	Central Military Tract.....	125
Winchester and Potomac.....	32	Covington and Lexington.....	96	Peoria and Oquawka.....	85
Virginia Central, including Blue Ridge.....	104	Lexington and Danville.....	36	Ohio and Mississippi.....	145
Virginia and Tennessee.....	50	Louisville and Covington.....	180	Northern Cross.....	54
Orange and Alexandria.....	40	Mobile and Ohio.....	39	Sangamon and Morgan.....	54
Richmond, Fredericksburg and Potomac.....	76	Louisville and Nashville.....	95	Chicago and Mississippi.....	72
Greenville and Roanoke.....	21	Shelbyville branch.....	18	Aurora branch.....	13
Northwestern.....	120	Henderson and Nashville.....	130	St. Charles branch.....	7
Total.....	624	Total.....	94	O'Fallon's Coal-road.....	8
NORTH CAROLINA.		MISSOURI.		Belleville and St. Louis.....	20
Gaston and Raleigh.....	87	Pacific.....	315	Terre Haute and Alton.....	171
Wilmington and Weldon.....	162	Hannibal and St. Joseph.....	200	Mississippi and Atlantic.....	145
North Carolina Central.....	223	Total.....	515	St. Louis and Chicago.....	85
Weldon and Cleveland.....	25			Alton and Mount Carmel.....	17
Total.....	249			Total.....	296
	248				1772

WISCONSIN.

Milwaukee and Mississippi.....	50	140
Fond du Lac and Rock River Valley....	240	
Chicago and Milwaukee.....	90	
Total.....	50	470

Railroad Iron at Cleveland.

Seeing a notice in several of our city papers of the huge piles of railroad iron now waiting transshipment on the flats, we had the curiosity to visit the yards of Mr. A. N. Gray, the principal receiver and shipper at this port, and found that, progressive as we claim to be, we were far behind the railroad enterprise of the West. We learned from Mr. G. that the business of receiving, cutting, and shipping the iron concentrating here had so rapidly increased as to require it to be attended to as a professional business, and that extensive docks had to be built expressly to accommodate it. We found Mr. G.'s facilities extensive and complete, and from his books we gather the following interesting statistics of the business done by him since 1849. It appears that he has been employed by nineteen different railroad companies, has handled eighty-seven thousand nine hundred tons of iron, and the rails for about nine hundred miles of road, more probably than handled by any other man in the United States. This has all been done by contract with the several companies. Here are his figures:

Statement of receipts of railroad iron at Cleveland, by A. N. Gray, since July 31, 1849.

1849.	Cargoes.	Rails.	Tons.
Received for C. C. & R. R.....	19	18,541	3,090
" for Col. and Xenia....	3	1,621	303
	22	20,365	3,393
1850.			
Received for C. C. & R. R....	53	45,737	7,622
" for Central & L. E.,			
alias N & Mansfield..	12	17,142	2,857
" for Pitts. & C. R. R....	24	20,009	3,334
	89	82,888	13,813
1851.			
Rec'd for C. C. & R. R.....	9	6,604	1,100
" for C. P. & Ashtabula....	37	27,539	4,589
" for Central Ohio R. R....	43	21,670	3,611
" for Southern Mich. R. R....	99	103,371	17,226
" for Madison & Ind. R. R....	3	2,208	368
" for Akron branch.....	8	3,862	643
" for Delaware Curve R. R....	4	4,842	805
	203	170,086	28,352
1852.			
Rec'd for C. P. & A. R. R.....	41	29,443	5,700
" Akron branch.....	8	2,348	457
" Central Ohio.....	23	15,276	2,737
" Bellefontaine & Ind.....	27	20,486	3,974
" S. Mich. & N. Indiana....	26	32,864	5,554
" Erie & Kalamazoo.....	22	22,961	3,892
" Cin., Belpré & Marietta..	12	4,396	911
" Toledo, No. & Cleve.....	54	50,885	9,256
" Col., Piqua & Indiana....	19	22,123	3,682
" Junction.....	22	19,589	3,909
" Lawrenceburg & U. M....	11	10,234	2,030
" Steubenville & Indiana....	3	948	190
	269	231,463	42,352

ABSTRACT.

Amo't of iron received for 1849.	22	20,365	3,393
" " " 1850.	89	82,888	13,813
" " " 1851.	203	170,086	28,352
" " " 1852.	269	231,463	42,352
	583	504,802	87,900

The above report exhibits a rapid increase of rail roading in the west, and demonstrates too the superiority of Cleveland as a general receiving port. Not only the main trunks in Ohio, Indiana, and Michigan, but their numerous feeders are supplied from here, and no more available port can be found for the great Pacific road, provided its rails should be imported. In addition to the receiving, cutting, and re shipping of the iron, there is an-

other duty of quite equal importance, that of assorting. Different patterns often compose the same cargo, varying often not the sixteenth of an inch, and not observed by shippers, engineers, or even track-layers. They make however, the roughest of roads when laid down miscellaneously. The Michigan Southern Road had to take up five miles of its track to rectify the assorting. Mr. G.'s experience is such that he and his hands recognize the different patterns at sight, and save all mistakes on this score.

It is an interesting fact in this connection, that all but about 1,000 tons of this iron came from England, and was purchased before the late rise. We understand its average cost was £5 10s per ton. Ocean freight to New York 12s to 15s. To Quebec 10s to 12s. It is subject to a duty of 30 per cent. ad valorem. In July last the puddlers in England struck for higher wages. It happened at a time when the contracts for America had to be filled or forfeited, and the proprietors yielded to the advance. Just at this time, orders came from Russia for 150,000 tons, and from South America for 75,000 tons, with the prospect of an increased trade with both countries. These things combined put up iron to its present figure. It will not likely be much cheaper, so long as the present demand continues, unless the business is gone into by our American manufacturers. Several Pennsylvania foundries have commenced making, and it is said by those who ought to know, that when the Sault canal is completed, and the Lake Superior iron is introduced to our Ohio coal, there will be an end to all farther importations of this great staple.—*Plain Dealer.*

Coal Statistics.—The trade in coal has risen to an importance in Cleveland scarcely dreamed of by many. The increase in quantity has been caused by the constantly increasing advantages of transportation, combined with the cheap rates at which it is furnished, and the general preference which the community has evinced for this kind of fuel. The following interesting table exhibits the constant increase for the past twelve years, and the enormous increase in the present year:

Coal arrived from 1840 to 1852 inclusive.

	bushels.
1840.....	167,045
1841.....	479,441
1842.....	466,844
1843.....	387,844
1844.....	560,812
1845.....	889,880
1846.....	893,806
1847.....	1,238,622
1848.....	1,925,451
1849.....	1,910,474
1850.....	2,347,844
1851.....	2,992,343
1852.....	3,940,749

To this may be added the amount which has arrived in the time intervening between November 14, and December 14, viz: 357,114 bushels.—*Ibid*

Williamsport and Elmira Railroad.

The rich and enterprising firm of contractors Messrs. King, Stancliffe and Co., have taken the contract to build the Williamsport and Elmira road, which they are bound to complete by the 1st January, 1854. The iron, 7,000 tons, has already been purchased of Montour company.

Cocheco Railroad.

The stockholders of this corporation had a meeting at Dover, on Wednesday last, and voted to aid in the immediate construction of the road to Portsmouth, and also took measures to liquidate the floating debt of the company, by the issue of bonds which are to remain open to stockholders alone until January 15, the whole of which is expected to be taken by them, and \$30,000 were subscribed on the spot. It is stated that for the six months preceding the first day of December, the Cocheco railroad company has laid up, over and above all expenses, a net income of three per cent per annum, on a capital of over \$700,000.

New York.

Syracuse and Binghamton Railroad.—We learn that the work of grading on this road has progressed very satisfactorily since the first of September last. The contractors are bound by their contracts to have the road bed and masonry finished by the 1st of Sept. in the present year and from the forward condition of the work, they are now in a situation to fulfil their engagements with ease within the stipulated time. The ties and fencing of the road are also contracted for,—the ties to be delivered along the line of the road, and the fencing completed at the same time fixed for the completion of the road bed. The company will be enabled to commence laying down their rails during the month of August next. The iron can be delivered at three points on the line of the road, Syracuse, Chenango Forks, and Binghamton, by canal boats. This will put it within the power of the company to work three parties and ensure the putting of the road in running order before the setting in of frost next winter. We understand that an arrangement has been recently consummated by which a railroad connection with an uniform width of gauge is secured from the southern terminus of the road over Lygett's Gap, Cobb's Gap, and the New Jersey central roads to New York. This is of equal importance to the interests of all the roads forming this through connection between New York and the central portion of the state and the lakes. For though a railroad connection to New York via the Erie railroad existed, the other avenue will tend materially to increase the traffic of the road by opening new business relations between the country traversed and Syracuse, Oswego and the Canadas. It besides pushes forward a line in the direction of Philadelphia, which city will be placed on the construction of the Easton and Water Gap railroad in direct railroad communication with the same extensive region.

Kentucky.

Louisville and Covington Railroad.—Mr. Eastman, one of the leading contractors of the United States, has recently made a careful survey and examination of the country between Louisville and Covington, and asserts that there are no difficulties in the way of having the cars running between the two cities, except a want of harmony among the people in relation to the route. Mr. Eastman says that he can guarantee the building of the road by eastern capitalists, who are anxious to invest their money in that way, if the people will agree to abide by the decision of a competent and disinterested engineer, who shall say which is the most practicable and the most direct route.—*Cincinnati Enquirer.*

Ohio.

Cleveland, Norwalk and Toledo Railroad.—The cars departed for the third time on this road this morning. The travel is enough to satisfy the expectations of the most sanguine. Two hundred passengers left yesterday and to-day, most of whom arrived the evening previous by the Southern road. The business of the road, as a passenger thoroughfare will be immense—unexampled probably in the history of the western roads. The way travel thus far promises to be very large. The road passes through the best settled and richest portion of north western Ohio. There were about two hundred arrived by the eastern train last night, who left in the western train this morning, and vice versa. The business of the road must of necessity experience a steady increase day by day—and when it is finished, and the necessity for going round by Shelby obviated, of course business will be correspondingly increased. We doubt if any stock in the country will pay a better per centage than that of the Toledo, Norwalk and Cleveland railroad.—*Toledo Blade.*

Little Miami Railroad.

From the annual report of the President of the Little Miami railroad company, we learn that within the past year that road has carried 212,687 passengers, being an average of 560 per day.

This road has been in operation about ten years. The following is the number of passengers transported each year.

Years.	Passengers.	Years.	Passengers.
1843.....	6,400	1848.....	87,555
1844.....	21,286	1849.....	100,970
1845.....	44,760	1850.....	144,486
1846.....	54,265	1851.....	174,049
1847.....	78,342	1852.....	212,687

Within the last ten years, but two accidents have occurred, causing loss of life, on this road—these were by the gross carelessness of the persons killed. Within that period not a life has been lost by the carelessness of conductors or other employees of the company.

The completion of the Lake Shore lines of railway, giving a direct communication with New York, has had the effect of diverting from the New Orleans route an immense amount of transportation in such articles as tobacco, flour, etc.

About 3,000 head of cattle and horses, on their way to New York, have been carried over this line within the past three months, instead of being driven over the mountains as hitherto.

These facts, with many others that might be named, afford indications of a change about to be introduced by railroads, by means of which large masses of the products of the west and even the southwest, which heretofore found a market by way of the Ohio and Mississippi rivers, will now reach the consumer by a more direct route through the Atlantic cities.

The gross receipts of this road for the year ending Nov. 30, 1852, were.....\$526,746 35

Total expenses for that period, including repairs, interest on debt, and all other items chargeable to expense account..... 212,076 11

Net earnings for past year.....\$314,670 24

The comparative gross receipts for the past six years have been as follows.

1847....	\$231,139 52	1850....	\$405,697 24
1848....	280,085 78	1851....	487,815 89
1849....	321,398 92	1852....	526,746 35

Out of the net receipts for the past year two dividends of 5 per cent each have been declared, payable in cash to the shareholders, on the 1st of June and 1st of December last.

In addition to these, a dividend of 5 per cent was made on the 1st of June last, payable in the stock of the company, out of the surplus fund, leaving the aggregate of the present surplus fund about \$134,000.

The efforts of the board have been steadily directed to the improvement of the road, the increase of the machinery and other facilities, and the enlarging of the capacity of the tracks and depots. The greater part of the road has been fenced in, and the whole track will soon be protected from the intrusion of cattle. A double track has been commenced, and will be extended from year to year, as rapidly as the business of the road shall require, with an especial view to the accommodation of the additional trains and business from other roads.

New Hampshire.**Great Falls and South Berwick Branch Railroad.**

—This contemplated branch extends from the P. S. & P. railroad, at a point about eight miles from Portsmouth, on the border of South Berwick, and runs northwest in a direct line to Great Falls, little less than six miles. At that place it will intersect with the York and Cumberland railroad, which is rapidly advancing.—The Great Falls and Conway railroad is also fast progressing. It is open now to Milton, and 200 men are employed on the section between that place and Wakefield. It is designed, after the road reaches Conway, to extend it to the line of the St. Lawrence and Atlantic railroad. The Conway road at Rochester approaches within a few rods of the Cocheco road, leading to Alton and the lake; thus opening a vast extent of country north of us to the waters of the Piscataqua, and the

trade of Portsmouth as the most contiguous seaport.—*Portsmouth Jour.*

Useful Apparatus for Railroads.

Mr. Geo. Jacobs, of Charlestown, Mass., says the Bunker Hill Courier, letter cutter and die sinker, has just completed a very useful miniature printing apparatus for the use of railroad companies, by means of which each station may furnish its tickets for every day in the year—thus enabling the company not only to have a complete check upon its own officers, but a safeguard against any form of counterfeiting. The apparatus consists of the words, letters, and figures, cut in steel, necessary for the purposes of each station, the names of the months, and dates in each. These are to be affixed into handles, and stamped with ink upon each ticket used. Ink and ink blocks are provided for immediate use and the whole is compactly arranged in a neat tin box. Mr. Jacobs, we understand, has furnished the stations on the Providence railroad, with these portable printing offices, where they are found to be economical, labor-saving, and a perfect security against imposition; and he is now ready to receive further orders from such railroads as desire to have them.

Superintendents of railroad or steamboat lines, desirous of adopting this useful apparatus, can obtain further information on application to the manufacturer, Mr. George Jacobs, 40 Chelsea-st., Charlestown, Mass.

Ohio.

Toledo, Norwalk and Cleveland Railroad.—The partial opening of the Toledo, Norwalk and Cleveland railroad, between Toledo and Monroeville, 53 miles, shows a little what the line will do when finished through, as it will be in about two weeks. The receipts for the first six days for passengers alone exceeded an average of \$600 a day, and the freight and mail service swelled the receipts for the week to at least \$5,000. The Norwalk Experiment states that the contractors last week declined an offer of par for their entire stock, \$150,000, which they received in part payment at 80 cents on the dollar.

The great "Six Feet" Line.

We learn that the recent negotiations pending in this city in reference to this project, did not result in isolating the Erie railroad company in its support. It is supposed that this company were well inclined to the project, but were intimidated by the threatening attitude of the Lake Shore and Central interest.

The work of construction we are credibly informed will not be delayed for this cause. The scheme has been taken up by parties equally competent to carry it out, and by whom it is intended to be placed under contract with the least possible delay.

We learn also that the six feet gauge will be adopted, with the intention of carrying it to the Mississippi, by two, if not three distinct routes.

Ohio.

Cleveland and Columbus Railroad—Double Track.—We learn that the board of directors have passed a resolution to lay down a second track on this road from Cleveland to Grafton, which is to be put under contract immediately and completed early next season.

The immense business of the road already requires additional facilities, and the great increase anticipated from the connexions with the Norwalk and Toledo, and the Bellefontaine and Indianapolis roads, renders a second track indispensable.

This was the first railroad enterprise in which the citizens of Cleveland engaged, and it has ever

been a favorite with our community. It has added vastly to the wealth and business of the city. The stock is selling in New York at 130, and thus the wildest predictions of its earliest friends are fully realized. We trust its prosperity may never be interrupted.

Florence and Nashville Railroad.

The last Florence Gazette contains the report of Mr. Hazlehurst, the engineer who has been engaged in surveying the route of this railroad through Lauderdale county. It appears from the report that two routes were surveyed, designated as the "Brush Creek Line" and "Kiethlie's Creek Line." The distance by the Brush Creek route, from the Florence bridge over the Tennessee river to the State line, is nineteen and a half miles, and the grading is estimated at \$79,150 00. By the Kiethlie's Creek route the distance is 21 miles, and estimated cost for grading, \$123,400 90.

The board of directors selected the Brush Creek route, and directed that the engineers should proceed at once to locate the road upon that line.

The Gazette further says that a committee of directors "has been appointed to visit Nashville and Franklin for the purpose of conferring with the Tennessee companies and to effect the basis of a union so much desired by all. When the union is formed, or soon after, we presume the road will be let out at contract."

Indiana Railroads.

Connections at Union.—The Indianapolis and Bellefontaine railroad is nearly completed, there being only two miles of track yet to lay, to extend it to Union. The track of the Greenville and Miami railroad is all laid down to Union, and the two will be united in a few days, thus making a through railroad connection between Indianapolis, Dayton and Cincinnati. The Bellefontaine and Indiana railroad (in Ohio) will be completed to Union, by April next, which will extend the railroad connection to Cleveland and Sandusky. The Columbus, Piqua and Indiana railroad, will be completed to Union next summer, which will connect the capitals of Indiana and Ohio by a direct railroad line. A company is about being organized to construct a railroad from Union, the terminus of the above railroads, to Fort Wayne. It is in the hands of efficient railroad men, and will be speedily made. It connects important points, and will pass through a fine country, can be constructed cheaply; and it is believed that it will be a very excellent investment. *

Nashville and Chattanooga Railroad.

The following named gentlemen have been elected officers of the company for the ensuing year:—V. K. Stevenson, president, Alexander Allison, John M. Bass, Jeremiah Cleveland, Peter S. Decherd, Francis B. Fogg, Lewis Garner, Samuel D. Morgan, John T. Neil, Andrew Ewing, Joseph B. Knowles, Arthur M. Rutledge, William Spence Thomas Power, James A. Whitesides, Wm. A. Gleaves Secretary and Treasurer.

Illinois.

Savannah Branch Railroad.—An election was held by the company for this road at Savannah, on the 24th ult., which resulted in the choice of D. A. Knowlton, of Freeport for president, and L. W. Guiteau for secretary. Messrs. Geo. Purington, J. A. Adams, Dr. Martin, S. D. Clark and S. G. Bronson of this city were chosen directors. The names of the balance of the officers we have not learned. There is now scarce a doubt of the early commencement and speedy completion of this work.

Books were opened at the office of the president, in this place, last week, and \$40,000 worth of stock

subscribed the first day. We also learn that about \$50,000 have been subscribed in Carroll county.—*Freeport Journal.*

New Railroad Project.

A new road to be called the Excelsior Railroad, is projected from Steubenville to Athens, making Cambridge and McConnellsville points in the line. Some years ago we should have pronounced such a line utterly impracticable, as the country is generally very hilly. But in these days it has been demonstrated that nothing is impossible. The first Railroad meeting has been held at McConnellsville, and the people are all in favor of the road. The company has been organized, and T. W. Peacock, Esq., of Cambridge has been elected President. The services of R. McLeod, Esq., late of the Central road has been secured. It is to be a continuation of the Pittsburgh and Steubenville road, and is designed to reach South-western Ohio, by uniting with the Marietta and Cincinnati road at Athens. There are strong interests at work to extend the Pittsburgh road in that direction.—*Ohio State Journal.*

SISCO BLAST FURNACE For Sale.

THIS FURNACE, situated in Westport, Essex Co., N. Y., on Lake Champlain, is capable of producing 3000 tons Pig Iron per annum. It is blown by a powerful steam engine, and another engine raises the stock, etc., etc. There are eight Kilns, which can make 500,000 bushels Charcoal per annum, connecting by Railroad with the Furnace, and nearly an acre of sheds for seasoning wood. One large Brick Mansion House, with excellent Farm, one Brick Cottage, seventeen Houses for workmen, commodious Blacksmiths' and Carpenters' Shops, etc., etc., and about 1500 Acres of Land. The Furnace is situated on a large and convenient Dock; Wood for making Charcoal can be obtained cheaply in the neighborhood, and Anthracite coal from Rondout can be delivered at low rates. By the proposed Ship Canal from Lake Champlain to River St. Lawrence, coal could also be brought with great facility from Erie. The rich Magnetic Ore of Essex County, particularly that from the famous Port Henry Bed, can always be procured cheaply and in great abundance. The property will be sold on reasonable terms. Inquire of Messrs J. & L. TUCKERMAN, 69 West street, New York, or of F. H. JACKSON, No. 5 Liberty Square, Boston. 1m2

LOW MOOR IRON.

W. M. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York, Sole Agent in the United States and Canada for the Lowmoor Iron Co., is prepared to receive orders for this justly celebrated iron, and offers for sale an assortment of the Round sizes which he now has in store, and which for strength, soundness and uniform quality, stands without a rival.

Superior Cast Iron Gas and Water Pipes.

THE SUBSCRIBER is prepared to contract for the supply of CAST IRON PIPES required by Gas or Water Companies, Corporations, etc., delivered in any Seaport in the Union, on reasonable terms. These Pipes are cast on the most improved principle by the best Founders in Scotland, from a superior quality of Pig Iron remelted, are guaranteed to resist a pressure of 300 lbs. to the square inch, or greater if necessary, and to be soft enough to drill easily and freely. Full information regarding price, and references to parties in the United States now using the Pipes, can be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Renfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st., New York 1y50

Railroad Iron.

5000 TONS Railroad Iron, weighing about 59 lbs. per yard, "Erie" pattern of G. L. and "Crawshaw" manufacture, now on the way from the shipping ports in Great Britain to this port, for sale by **P. CHOUTEAU, Jr., SANFORD & CO.**

December 4, 1852.

No. 51 New street.
4t

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible—
7 per ct. bonds of Canandaigua and Corning R.R., payable in.....New York, 1860
Do. Buffalo, Corning and New York do.....1867
Do. Western Vermont Railroad.....do. 1861-71
Do. Evansville and Illinois.....do.....1862
Do. Michigan Central.....do.....Boston, 1860
Do. Peoria and Oquawka,.....New York, 1862
1st Mortgage—
7 per ct. bonds, Corning & Blossburg do.....1871
Do. Mansfield and Sandusky.....do.....1860
7 per ct. Vermont Valley.....do.....1860
Do. Troy and Bennington.....Troy, N. Y. 1861
Do. New Jersey Central.....New York, 1860-70
Do. Dauphin and Susq. Coal Co. do.....1871
Do. Brunswick Canal Co.....do.....1857
Also, second mortgage bonds of many of the above companies, and—

7 per ct. bonds Saratoga and Wash. N. York, 1862
Do. Troy and Boston.....do.....1864
Do. Muscogee Railroad.....Savannah, 1862
Do. Huron and Oxford.....N. York, 1862
Also, Georgia 7 per ct. State stocks, interest payable semi-annually.....do.....1872
City of Savannah 7 per cent. bonds, interest payable semi-annually.....do.....1870-76
7 per ct. bonds of the Town of Huron, Erie county, Ohio.....do.....1861

10 per ct. City of Keokuk, Iowa, Keokuk, 18-3
6 per cent, City of Memphis.. Philadelphia, 1886
10 per cent. City of San Francisco, San Fran. 1870
12 " " Benicia, California, N. Y. 1855
12 " " Sacramento, do. Sacramento
7 per cent. Atlantic Steamship Co.. N. York, 1855
12 per cent. Improvement of the State of Wisconsin for improvement of Fox River.....do.....1862

Troy and Rutland railroad Stock, with guarantee of 4 per cent. dividend and one half surplus profit of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of 4 per ct. div'd by Saratoga and Washington R. R. Also, Stock of the Cambria Iron Company.

Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York R. R. Co.

Stock in the Mansfield and Sandusky R. R. Co.
Stock in the Southern Bank of Kentucky.
Stock in the Mechanic's Bank of N. Y.
Stock in the East River Insurance Co.

The Cold Spring Iron Works, INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder.

Address **HENRY MELLUS**, Agent,
Boston, Mass.
or, **GEO. W. PRESCOTT**, Sup't,
Otis, Mass.

November, 12, 1852. 1y

Railroad Iron.

5000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by **P. CHOUTEAU, Jr., SANFORD & CO.**

December 4, 1852. 4t
No. 51 New street.

The Cambria Iron Company,

ORGANIZED under the laws of Pennsylvania, with a capital of \$1,000,000, propose embarking in the manufacture of Railroad Iron, at Johnstown, Pennsylvania. The location they have secured offers advantages superior, it is confidently believed, to any other in this country. Iron Ores, semi-bituminous Coal, Limestone, and nearly every article required for the manufacture of Iron, exist in inexhaustible quantities, on the spot; and these deposits are now worked, and the minerals delivered, cheaper than at any other known point now occupied for the manufacture of Iron. The Pennsylvania Canal and Central Railroad pass through the property, and cross each other at the spot where the mineral veins are most thoroughly opened out; and which location, for its other advantages for facility of manufacturing, and vicinity to a populous borough, has been selected for the establishment of Railroad Iron Works, and for the erection of other Blast Furnaces, in addition to those now in operation.

The attention of capitalists disposed to embark in an enterprise which offers a remunerating profit, even on the low prices of iron current before the rise of the last six months, and which promises to be very lucrative while anything like present rates prevail, and also of Railroad Companies desirous of making arrangements for Iron Rails to be delivered in 1853, is called to this enterprise.

Out of the capital named above, the sum of \$360,000 has been devoted to the purchase of about 30,000 acres of land, upon which there are six blast furnaces, which cost, including the personal property accompany them, \$350,000. Three of these furnaces are now in successful operation, and by next spring, with an outlay of about \$6,000, the other three can go into blast; and at the present price of pig iron, these six charcoal furnaces would realise a net profit of six per cent on \$1,000,000 capital.

The company contemplate erecting four more blast furnaces, for smelting with coke the iron ores at Johnstown, and also works for manufacturing railroad iron. To do this, they will require subscriptions in all to the amount of \$600,000, and to carry on most profitably the manufacture and disposal of rails, the whole chartered capital should be raised. Subscription lists, providing that no subscription shall be binding unless bona fide subscribers for the amount of \$600,000 are obtained by the 1st January next, and pamphlets descriptive of the advantages of the locality and estimates of costs, can be had of the undersigned.

D. M. WILSON, Newark,
EDWARD F. GRANT, New York,
SAMUEL H. JONES, Philadelphia,
JOHN HARTSHORN, Boston,
T. F. SECOR, New York,
G. S. KING, Johnstown,
P. SHOENBUEGER, Pittsburg,
RHEY, MATHEWS & CO., Pittsburg,
or at the office of the Provisional Committee, at **SIMEON DRAPER'S**, 46 Pine st.

The subscriber is prepared to enter into contracts to deliver RAILROAD IRON to Companies requiring it in 1853. **SIMEON DRAPER.**

Iron.

200 TONS Fishkill Charcoal Iron for sale on reasonable terms, also from 1000 to 5000 tons Fishkill Hematite Ore—delivered at Poughkeepsie or New York. Samples of the ore may be seen at the store of Messrs. Hoffman, Bailey & Co., No. 62 Water st., New York. Enquire by letter to **NORMAN M. FINLAY**, Poughkeepsie, Dutchess county, N. Y. July 10, 1851.

A. Whitney & Son, PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 311f

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by **G. O. ROBERTSON**, 135 Water street, corner of Pine, New York. November 19, 1852.

Volcano Quartz Mining Co.VOLCANOVILLE, EL DORADO COUNTY,
CALIFORNIA.

BOOKS for subscription to \$75,000 of the stock of this company are now open at the office of the company, 78 Broadway, New York.

The uncommonly rich claims of this company hold out inducements, to those who are disposed to invest capital in quartz mining in California, not surpassed, if, indeed, equaled, by those of any other company in that state.

The extraordinary richness of our quartz, as was witnessed by thousands at the late *Fair of the American Institute*, and the extent of our claims, together with the peculiarly favorable location for economical working upon a large scale, will ensure the most ample and satisfactory returns upon the investment.

It is well understood by practical men that, with machinery working twenty tons of quartz, paying two cents per lb., large profits will be realized upon each day's work. It is the intention of the company to obtain machinery sufficient to work fifty tons per day, and to work it in the most economical manner, by which they feel confident of being able, from their stock which will yield from two cents to twenty dollars to the lb., to make returns to their shareholders which will not only satisfy, but surprise them.

It will be seen, by reading the pamphlet, containing the *charter*, the laws of California, and the details of our plans of operation, that our estimates are based upon two cents per lb., and the expenses of working the mill are but, at present high prices for labor, while it is well known to all who reflect upon the matter that, as the cost of labor shall be reduced, the income will be materially enhanced.

If we work 40 tons per day, and yet two cents per lb., it will yield \$16, while three, four, or five cents per lb., would give a proportionate increase of receipts, the expenses of working the mill would not be increased a dollar, and will be less than \$470 a day.

Subscriptions can be made by mail, enclosing ten per cent on the amount, of the balance, twenty per cent to be paid on the 29th of Nov. inst., and seventy per cent on the 29th day of December next, when certificates of stock will be issued.

Pamphlets, containing the statute of California in relation to corporations, the rules and regulations of our locality, the charter and by-laws of the Co., together with much other interesting and useful matter, including a map of a portion of the northern mining regions may be had gratis at the office of the company, No. 78 Broadway, or by mail on application, (postage paid.)

TRUSTEES OR DIRECTORS.

NICHOLAS DEAN,
ROBERT M. STRATTON,
NATHANIEL CONKLING,
D. K. MINOR,
JOB S. HEARN,
SUMNER WHITNEY,
BENJAMIN C. DONNELLAN,
JAMES CLOUDSLEY
JAMES ALLEN,

} of New York.

} of California.

D. K. MINOR, President,
JAMES CLOUDSLEY, Vice President.NICHOLAS DEAN, Treasurer.
NATHANIEL CONKLING, Secretary.
New York, Oct. 25, 1852.**To Railroad Co's, Locomotive Builders and Engineers.**

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Avg. 29, 1852.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

To Railroad Contractors.

SEALED PROPOSALS, addressed to either of the undersigned, will be received at Hillsborough, Highland county, Ohio, until the 1st day of February next, at noon.

For the Graduation and Masonry of the Middle Division of the Cincinnati, Hillsborough and Parkersburgh Railway, extending from Hillsborough, Highland county, to a point near Jackson, Jackson county, Ohio, about 56 miles.

The line will be ready for examination early in January, and Profiles and Specifications of the work will be exhibited at the Engineer's office, in Hillsborough, for one week prior to the 1st day of February.

This Railway forms the recognized continuation across Ohio, of the Baltimore and Ohio, and North Western Virginia Railways, and being located as a link, in the great through line between Baltimore and St. Louis, will be found in every way worthy of the attention of able and enterprising contractors.

The remainder of the line to the Ohio river will be ready for contract about the 1st day of May next.

JAMES M. TRIMBLE, President.

ELWOOD MORRIS, Chief Engineer.

Notice to Contractors.**Alleghany Valley Railroad Lettings.**

SEALED Proposals will be received at the Company's Office, in Fourth street, Pittsburg, until the 22nd day of February, 1853, for doing the Grading, Masonry and Bridging on the portion of said road, between Pittsburg and Kittanning, Armstrong County, a distance of 42 miles. The line will be divided into Sections of about one mile in length, and bids may be made for one or more or all of said sections.

Plans, Profiles and Specifications will be ready for inspection on and after the fifth day of February.

Proposals will be received for the Grading, Masonry and bridging, and also for the superstructure, and finishing said 42 miles, complete, (except furnishing iron.)

Bids will be received and considered, for the entire work, (except furnishing iron,) from Pittsburg to the New York State line.

Satisfactory references will be required from bidders not personally known to the Company.

For further information, application may be made personally, or by letter, to Hon. William F. Johnston, President of the Company, or to George R. Eichbaum, Esq., Associate Engineer, or to the subscriber,

W. MILNOR ROBERTS, Chief Engineer.

By order of the Board of Managers.

Office of the Alleghany Valley Railroad Company, Pittsburg, December 20th, 1852.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally, are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

E. DEWOLF, Jr.

Oct. 2, 1852. 1y*

To Civil Engineers and Surveyors.

A CIVIL ENGINEER and Surveyor of very great experience in every detail of locating designing and constructing Public Works, especially Railroads, is desirous of a situation, he has been engaged practically for the past sixteen years and can produce the most satisfactory testimonials.

Address D. F. ca.: of Geo. Gilchrist.

1 m-52

422 Washington-st. N. Y.

\$200,000 SEVEN PER CENT.

CONVERTIBLE BONDS OF the NEW-CASTLE and RICHMOND RAILROAD.—The undersigned offer for sale TWO HUNDRED SEVEN PER CENT CONVERTIBLE BONDS for \$1,000 each, of the NEW-CASTLE and RICHMOND RAILROAD COMPANY, with Interest Coupons attached, payable semi-annually at the office of the Ohio Life Insurance and Trust Company, in New York. The Bonds are payable at the same place in fifteen years and are convertible into the stock of the company within five years.

These Bonds are secured by a mortgage executed by the Company to George Carlisle, of Cincinnati, and Joseph B. Varnum of New York, Trustees of the road from Richmond in Wayne County, to New-Castle in Henry County, including the superstructure, iron rails, depots, tolls, privileges and franchises of the Company. This mortgage is the FIRST AND ONLY LIEN upon this section of the Road, which is a part of the great Trunk Railroad from Cincinnati to Chicago.

The New-Castle and Richmond Railroad extends from Richmond to Logansport, 103 miles, the whole of which is under contract, and about one thousand hands are now employed on the road.

The total amount of stock subscribed upon the whole road is \$509,400. The stock applicable to the construction of the road from Richmond to New Castle is \$250,900.

This railroad passes through the most fertile, populous and highly improved part of Ohio and Indiana, and it must become the great route for freight and travel between Cincinnati and Chicago and the Northwest.

The local business alone would be sufficient to make the road profitable. The counties of Indiana through which it runs produce annually more than two millions of bushels of wheat, five millions of bushels of corn, one hundred and fifty thousand hogs, and fifteen thousand cattle, a large part of which must be transported to market on this road.

The iron rails for more than fifty miles of the road have been purchased. Ten miles of the road, from Richmond to Washington, will be completed and in operation in November next, which will make a continuous railroad of about 70 miles from Cincinnati, by way of Hamilton, Eaton and Richmond.

The holders of the bonds will have for their security the obligations of the company, with subscriptions of stock to the amount of more than half a million of dollars, and a mortgage upon the road from Richmond to New Castle, with the iron rails, superstructure, tolls and franchises of the company.

CARPENTER & VERMILYE, 44 Wall-st.
CAMMANN WHITEHOUSE & Co. 56 Wall-st.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Manufacturers,
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849.

1v

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,**
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co. London.
" Curtis, Bouve & Co. Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

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AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 3]

SATURDAY, JANUARY 15, 1853

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American Railroad Journal.

Saturday, January 15, 1853.

Railroads of Louisiana.

The State of Louisiana, having in the Mississippi river a convenient channel not only for the trade and travel of its own people, but for opening to them the interior commerce of the country, has neither attempted nor accomplished much in works of artificial improvement. Before railroads were brought into use, the river afforded the best known mode of transportation, both for persons and property, and long habit had produced a conviction that it could not be superseded by any other channels or routes of commerce. No representation could awaken the people of New Orleans to a sense of the importance of following the example of other cities, and of strengthening their natural position, by artificial works, till a diminished trade—the result of the works of rival communities—rendered the necessity of undertaking similar improvements too apparent to be longer delayed. Although the projects of the northern and eastern States, by which they sought to reach the trade of the Mississippi basin, had been only partially accomplished, yet the influence which they exerted, even in their infancy, in diverting the commerce of that

great valley from its natural and accustomed channels, has been so marked and decided, that, for a few years past, the trade between New Orleans and the distant portions of the great valley has diminished—at least has not increased—notwithstanding the rapid increase of the West in population and production. Such a fact was too startling not to arouse the whole community to a sense of the necessity of taking the proper steps to avert a calamity threatening the loss of their trade and commercial importance; and the people of New Orleans are now taking the most efficient measures to repair the consequences of their neglect, and are busily engaged in the prosecution of two great works, by means of which they propose to re-establish and retain the hold they once had upon the trade of the Mississippi valley.

The leading project now engaging the attention of the people of Louisiana, and particularly those of New Orleans, is the *New Orleans and Nashville* railroad, by constructing which they propose to connect themselves not only directly with a region of country capable of supplying the largest amount of trade, but with the numerous railroads now in progress in the south and west. The length of this road will not be far from 500 miles. It will traverse, as is well known, a very fertile and productive region, and at its northern terminus, will be brought into communication by railroad with every portion of the country. It is believed that this road will exert a strong counteracting influence to the efforts now made to draw off the trade of the Mississippi valley toward other cities. The whole line is now under survey, and will be placed under contract as soon as practicable, when the work of construction will be urged forward with the greatest possible despatch.

The other leading project dividing the attention of the State with that described, is the *New Orleans and Opelousas* railroad. The object of this road is to accommodate the trade and travel of the country traversed, and eventually to form the trunk of two other great lines; one extending into Texas, with the expectation that it will eventually be carried across the continent to the Pacific; and the other in a northerly direction, through Arkansas, to St. Louis. These extensions, however, form no part of the present project, which is limited to the territory of the State.

The route of this road traverses the great sugar-

producing district of Louisiana, from which transportation to a market, on account of the impossibility of constructing good earth-roads, involves a heavy expense and great delay. For the immense products of this portion of the State, the road will constitute a suitable outlet in the convenient direction of trade. The work of construction will be commenced immediately, as ample means are prepared for this purpose.

The above are the two leading works of the state, and alone require particular description. Most of the projects that will be constructed within the State, for some years to come, will probably be based upon the above lines.

The influence which railroads are calculated to exert upon the commerce, and in this manner upon the public sentiment of a community, has been remarkably illustrated in the present condition of the trade of New Orleans; and in the extraordinary revolution which a conviction of the necessity of these works, as a means of maintaining their prosperity and commerce, has effected in the political organization of that city and the State. So long as commerce was confined entirely to natural channels, New Orleans occupied a position possessing greater advantages than any other city on this continent. She held the key to the commerce of its largest and most productive basins, watered by rivers which afford 50,000 miles of inland navigation. This basin is now the principal producing region of those articles which form the basis of our foreign and domestic commerce.

The ability, therefore, to monopolize this trade, will be the test of commercial supremacy among numerous competitors. Before the construction of artificial channels, New Orleans enjoyed a natural monopoly of the trade of the Mississippi valley.—But it has already been demonstrated that in the United States, natural channels of commerce are insufficiently matched against those of an artificial character. The progress of the latter has already made serious inroads upon a trade, to which the merchants of New Orleans formerly supposed they had a prescriptive right. There can be no doubt that this trade is to be turned toward the eastern cities, unless it can be restored to its old routes by the construction of channels better suited to its wants than the Mississippi river and its tributaries. As already stated, the people neither of New Orleans, nor of the State, could be induced to act, till

the danger to be averted became imminent. But as, in the southern States, works of the magnitude proposed cannot be executed by private enterprise, it was found, so far as Louisiana was concerned, that neither the credit of the State, nor that of the city of New Orleans, could be made available to the works proposed; that of the State from a constitutional inhibition, and that of the city because it had already been dishonored. Under these circumstances, it was felt that the first step to be taken was to remove the disability on the part of the State, and to restore the credit of the city, to a point at which it could be made available for the carrying out of plans designed to promote its growth and prosperity. Both objects have already been accomplished. The constitution of the State has been remodelled, so as to permit extension of aid to railroad projects. A much greater change has been effected, as far as New Orleans itself is concerned. Up to a recent period that city was divided into three municipalities, each having a distinct political organization. Each of these municipalities had contracted large debts, the payment of which had been dishonored. Their credits, of course, could not be made available for any works of improvement. It was seen that the proper and only course for the accomplishment of the results aimed at, was to consolidate the different organizations into one body, and pay off old liabilities by new loans, resting upon the credit of the whole city. All this has been effected. The result has been magical. The credit of the city has been completely restored. The new loan, to pay off outstanding liabilities, commanded a handsome premium, and the city is now in a position to extend efficient aid to her proposed works. As the loss of her business and her credit could be directly traced to the indifference with which she regarded all works of internal improvement, she proposes to restore both by calling to her assistance all the agencies supplied by modern science in aid of human efforts, and in the creation of wealth.

From the Albany Evening Journal.

Trade and Commerce of the Canals.

The canals of this state closed on the night of December 14th, a period of 243 days from the opening, being the longest season of navigation since the completion of the Grand Inland Work. During the entire season there has been but little interruption or delay on the main artery, but on the Genesee Valley line weeks have been consumed in the repairs of the Dam at Mt. Morris, during which navigation was materially interrupted, and at times wholly suspended.

The business season has been one of universal prosperity. There was but little fluctuation in prices of any of the leading agricultural products up to late in the Fall, when a steadily improving export demand for breadstuffs caused the prices of some leading articles to advance. But take the season from its commencement to the end, it can be said that there has been comparatively but few speculative movements. The farmer has reaped a fair equivalent for his labor, the produce dealer and shippers have received a fair equivalent for their labor, and trouble and investments, and the commission merchant all that could be expected. Thus not only in this, but in nearly all other branches of trade, has a legitimate traffic been carried on.

Some weeks before the opening of navigation, the Canal Board resolved to reduce the tolls on merchandise ascending the canal about 50 per ct. This, with a few exceptions comprised nearly every thing but sugar, molasses and some unimport-

ant articles. The result has been a diminution in tolls to some \$200,000 less than last season, while the total tonnage shows a very large increase over that of any previous season.

The annexed tables, made up from the returns made by the collectors at New York, Albany, West Troy and Waterford, exhibits the business of the canals—the amount and value of property arriving at and departing from tide water.

The aggregate amount of tolls received on the canals this year was \$3,117,607; last year \$3,329,727—showing a decrease of \$212,120.

STATEMENT showing the total quantity of each article which came to the Hudson River on all the Canals during the years 1850, 1851, and 1852:

THE FOREST.	1850.	1851.	1852.
Fur and peltry, lbs.....	656,000	484,000	266,015
Product of wood.			
Boards & scantling, feet.....	425,095,442	427,038,600	542,996,186
Shingles, M.....	1,868,083	47,900	63,294
Timber, cubic feet.....	1,666,262	4,237,750	4,003,913
Staves, pounds.....	202,224,000	155,304,000	148,767,044
Wood, cords.....	12,411	8,726	18,642
Ashes, pot and pearl, bbls.....	52,237	29,084	37,220
AGRICULTURE.			
Product of animals:			
Pork, bbls.....	46,618	45,019	72,704
Beef, ".....	97,259	76,344	89,215
Bacon, lbs.....	6,680,000	10,964,000	9,754,790
Cheese, ".....	32,584,000	25,602,000	16,367,404
Butter, ".....	17,102,000	9,568,000	7,902,715
Lard, ".....	8,278,000	10,814,000	.....
Lard oil, galls.....	67,460	240,800	.....
Wool, lbs.....	11,986,000	10,518,000	7,645,302
Hides, ".....	458,000	572,000	763,511
Tallow, lbs.....	578,000	244,000	.....
Lard, tallow & oil.....	.....	10,787,984	.....
Vegetable food.			
Flour, bbls.....	3,256,077	3,358,463	3,464,108
Wheat, bush.....	3,670,754	3,063,666	6,754,946
Rye, ".....	472,305	288,679	273,314
Corn, ".....	3,228,056	7,915,464	5,436,769
Corn meal, bbls.....	11,983	7,065	14,174
Barley, bush.....	1,744,867	1,809,417	2,354,933
Oats, ".....	2,469,637	3,594,313	4,894,524
Bran and ship stuffs, lbs.....	402,464,000	44,036,000	60,225,603
Peas & beans, bush.....	79,515	127,500	122,849
Potatoes, bush.....	230,699	599,950	779,871
Dried fruit, lbs.....	1,468,000	1,424,000	190,504
All other Agricultural products:			
Cotton, lbs.....	1,114,000	220,000	178,392
Unmanufact'd tobacco, lbs.....	796,000	3,702,000	12,223,228
Hemp, ".....	66,000	1,160,000	1,403,122
Clover & grass seed, lbs.....	1,418,000	531,000	2,150,075
Flax seed, lbs.....	1,146,000	122,000	2,125,809
Hope, ".....	860,000	552,000	417,131
MANUFACTURES.			
Domestic spirits, gals.....	1,517,095	2,787,600	4,617,658
Beer, bbls.....	95	56	.....
Linseed oil, gal.....	908	.....	.....
Oil meal and cake, lbs.....	6,392,000	6,810,000	9,256,769
Starch, ".....	2,744,000	2,560,000	.....
Leather, ".....	7,176,000	8,204,000	6,877,815
Furniture, ".....	1,102,000	1,046,000	1,255,951
Agricultural implements, lbs.....	16,000	320,000	.....
Bar & pig lead, lbs.....	88,000	36,000	11,255
Pig iron, lbs.....	5,276,000	5,916,000	5,623,809
Castings, ".....	1,580,000	2,448,000	3,055,426
Machines and parts, lbs.....	280,000	148,000	.....
Bloom and bar iron, lbs.....	22,126,000	33,350,000	14,992,983
Iron ware, lbs.....	.....	4,000	.....
Domestic woolens, lbs.....	1,018,000	824,000	187,658

Domestic cottons, lbs.....	1,868,000	2,248,000	1,342,122
Domestic salt, lbs.....	13,164,000	12,816,000	9,817,161
Foreign salt, lbs.....	1,326,000	.....	841,122
OTHER ARTICLES.			
Live cattle, hogs & sheep, lbs.....	1,578,000	868,000	150,119
Stone, lime & clay, lbs.....	87,916,000	86,286,000	123,497,567
Gypsum, lbs.....	6,950,000	3,242,000	17,699,240
Eggs, ".....	3,280,000	3,676,000	.....
Mineral coal, lbs.....	32,146,000	26,110,000	32,330,928
Fish, lbs.....	458,000	170,000	.....
Copper ore, lbs.....	104,000	418,000	54,697
Flint enamel'd ware, lbs.....	2,000	.....	.....
Sundries, lbs.....	94,112,000	110,392,000	109,101,402
STATEMENT showing the aggregate, in tons under the divisions as specified in the above table;			
	1840.	1851.	1852.
The forest.....	947,768	913,268	1,066,980
Agriculture.....	926,048	891,420	992,932
Manufactures.....	39,669	52,302	48,267
Merchandise.....	7,105	4,580	11,610
Other articles.....	113,273	115,581	141,416
Total tons.....	2,033,863	1,977,151	2,261,063
STATEMENT showing the total value of each article which came to the Hudson River on all the Canals during the years 1850, 1851 and 1852:—			
THE FOREST.	1850.	1851.	1852.
Fur and peltry, lbs.....	818,845	605,200	344,593
Product of wood:			
Boards and scantling, feet.....	6,365,724	7,213,226	9,329,570
Shingles, M.....	202,668	203,971	221,530
Timber, cubic ft.....	440,490	505,251	681,376
Staves, lbs.....	908,612	737,686	696,843
Wood, cords.....	60,743	53,591	93,313
Ashes, Pot and Pearl bbls.....	1,518,045	841,731	1,079,851
AGRICULTURE.			
Product of Animals:—			
Pork, bbls.....	512,798	663,898	1,267,292
Beef do.....	866,789	468,054	1,034,113
Bacon lbs.....	580,922	980,956	916,950
Cheese, do.....	1,955,122	1,663,606	1,310,351
Butter, do.....	2,391,863	1,338,997	1,463,522
Lard, do.....	620,868	973,324	.....
Lard Oil, galls.....	42,506	168,537	.....
Wool, lbs.....	4,372,578	4,101,415	3,210,899
Hides, do.....	54,891	68,434	105,297
Tallow, do.....	40,524	16,976	.....
Lard, Tallow and Oil.....	.....	.....	1,175,074
Vegetable Food:			
Flour, bbls.....	16,280,425	13,436,542	15,685,965
Wheat, bush.....	3,937,763	3,051,116	6,878,291
Rye, ".....	315,928	186,986	213,451
Corn, ".....	2,000,890	4,427,175	3,645,380
Corn Meal, bbls.....	35,949	20,172	39,688
Barley, bush.....	1,417,827	1,429,332	1,722,079
Oats, ".....	1,014,678	1,348,018	2,151,846
Bran and ship stuffs, lbs.....	927,853	352,285	550,121
Peas and beans, bush.....	89,382	141,698	149,996
Potatoes, bush.....	123,269	341,531	441,300
Dried fruit, lbs.....	132,019	114,108	15,241
All other Agricultural Products.			
Cotton, lbs.....	153,239	23,994	18,636
Unmanufact'd tobacco, lbs.....	159,005	813,712	2,687,570
Hemp, lbs.....	4,960	75,469	91,303
Clover and grass seed, lbs.....	92,106	39,876	161,275
Flax seed, lbs.....	27,745	2,426	42,517
Hops, lbs.....	159,647	146,287	124,769
MANUFACTORIES.			
Domestic spirits, galls.....	394,301	627,406	1,040,355
Beer, bbls.....	473	315	.....
Linseed oil, galls.....	591	.....	.....
Oil meal and cake, lbs.....	79,859	85,150	120,264
Starch, lbs.....	144,054	135,732	.....

Leather, lbs.....	1,148,068	1,230,384	1,100,644
Furniture, lbs. . .	110,180	104,385	127,305
Agricultural im- plements, lbs. . .	777	15,852	.....
Bar and pig lead. lbs.....	4,300	820	563
Pig iron, lbs.....	52,769	59,158	59,758
Castings, lbs.....	47,428	73,438	.....
Machines and parts thereof, lbs.	27,895	14,931	.....
Bloom and bar iron, lbs.....	442,508	666,993	235,477
Iron ware, lbs....	.....	111	108,837
Domestic woolen, lbs.....	891,204	725,419	178,270
Domestic cottons, lbs.....	558,532	539,312	348,951
Domestic salt, lbs.	52,612	59,387	41,822
Foreign salt, lbs..	5,311	.....	433

OTHER ARTICLES.

Live cattle, hogs and sheep, lbs..	47,349	26,100	4,504
Stone, lime and clay, lbs.....	118,482	122,000	147,892
Gypsum, lbs.....	14,946	6,475	22,840
Eggs, lbs.....	197,544	220,652	.....
Mineral Coal, lbs.	90,951	58,753	45,807
Fish, lbs.....	14,319	7,101	.....
Copper ore, lbs....	15,747	62,667	8,204
Flint enameled ware.....	240	.....	.....
Sundries, lbs.....	1,823,914	2,202,985	2,050,430

STATEMENT showing the aggregate value of property which came to the Hudson River on all the Canals during the years 1850, 1851 and 1852 under the division as specified in the above table:—

	1850.	1851.	1852.
The Forest....	\$10,315,117	\$10,160,656	\$12,519,976
Agriculture....	38,311,546	36,394,913	45,112,636
Manufacture....	3,960,864	4,335,783	3,364,146
Merchandise....	563,615	329,423	3,904,790
Other articles..	2,323,495	2,706,733	2,387,096

Total value, \$55,474,637 \$53,927,508 \$67,288,376

Baltimore and Ohio Railroad.

A meeting of the board of directors of this company was held on the 18th of December last, at which the subject of providing for the transportation over the road of the semi bituminous coals of the Cumberland region was acted upon. The remarks of the President Thomas Swann Esq., have been ordered by the board to be printed. We shall endeavor to give the substance of his argument. He states that nearly a million tons of coal could have been transported during the year if the company had been in a situation to have undertaken it.

The following list embraces the companies now applying for transportation and it comprises but a portion of those preparing to open mines in the George's creek region.

Names of Companies.	Hopper cars. per day.	Gondolas.
Alleghany Mining Company...	50	..
Borden	30	..
Cumberland Coal and Iron Co..	150	80
Frostburg Coal Company.....	50	25
Thomas Kerr.....	16	6
Parker Vein Coal Company....	30	10
Jamer Percy.....	20	..
Percy & Co.....	8	8
Phoenix Coal Company.....	10	..
Swanton Coal and Iron Co.....	15	..
Withers Mining Company.....	30	..
	409	129

The receipts of the company are now about \$35,000 per month from coal. The Cumberland Coal and Iron Company, with a view to the enlargement of their trade, are investing \$100,000 in barges and propellers to ply regularly between this city and New York.

The Parker Vein Company, it is understood, are also constructing ten steamers, with a view to facilitate the transportation of their coal, to the Northern and Eastern markets. The applications submitted to the Board, are believed to be from parties

who are reliable, and who express their willingness to enter into security for the constant employment of the power which may be placed at their disposal.

The first thing to be done, will be to order a second track for much of the distance between this and the coal fields. This is to be disposed of by the board before they begin to talk of supplying the wants of the trade.

If the trade exists, it is our duty to provide for it. We should be blind to our interest, to disregard the applications that are now pressing so earnestly upon us.

The total outlay to accommodate a trade of 600,000 tons inclusive of what we now have, would not, it is believed, exceed \$1,500,000, that is to say, for second track, cars and machinery, in addition to your present stock.

The whole interest upon this outlay would be \$90,000, and your gross receipts from coal alone would be increased to say \$1,000,000 per annum.

If on a gross revenue of last year of \$1,325,563, the stock stood within a fraction of its par value and the bonds above par, it is believed that the iron for a second track could be negotiated for in bonds of the Company at the present market prices. The possession of such a trade must add to the credit of the company and their ability to procure the necessary means.

The following is the view taken by Mr. Swann of the proper course to be pursued by the company.

Assuming the first of April as the day on which the road will be in the fullest operation, I would respectfully suggest that the action of the board, under the resolution of the 5th of October, 1847, authorizing the appropriation of the net earnings of the road towards its construction, be rescinded after that day, and that a dividend of the earnings from the 1st of October to the 1st of April be calculated in stock as usual with the understanding that all future earnings from that time will be divided in cash.

With a view to the gradual liquidation of the funded debt of the Company, I would suggest further, that whenever the net revenue shall exceed 7 per cent., a sinking fund of one and a half per cent., provided the excess shall admit of it, be reserved to meet the obligations of the company as they mature.

If this road succeeds, as we have reason to hope it will do, the coal trade alone may soon be increased to a million tons per annum, and the general trade in western produce may require large additional expenditures for both power and second track.

Of the amount of debt which has been enumerated, a very large proportion, that is to say \$3,200,000, is a perpetual loan to the company, and may be treated as a preferred stock, paying a regular interest to the State, at a rate not exceeding 6 per cent.

The residue will comprise the various classes of bonds, applicable to construction, viz:

\$1,000,000 Bonds payable in 1867.
566,666 Bonds payable in 1, 2, 3, 4 and 5 years from January, 1855.
1,128,500 Bonds payable in 1875.
700,000 Bonds payable in 1880.

\$3,395,166

The whole amount of these various issues is less than the first mortgage of the Erie road.

The balance now to be added, in order to meet the increased cost to bring the road into use, is \$600,000.

If in funding this balance, we include in the same issue \$1,500,000 for second track and additional cars and engines for coal trade, we have a total of \$8,695,166,—to which is to be added, say \$1,000,000 for cars and machinery previously ordered for the general trade.

The total debt of the company would then be, say \$9,695,166, and the annual interest about \$600,000, or \$50,000 more than was estimated in the annual report.

Against this, on the other hand, the company would have a road 380 miles in length from Baltimore to Wheeling, which, with the Washington Branch, 40 miles more in length, yielded last year

a gross revenue of \$1,674,225 42, the main stem being in successful operation only as far as Cumberland, 179 miles. To what extent this great revenue is to be increased by a complete connexion with the Ohio river, is left to those who may understand as well as I do, the resources of that productive region, to which our attention has been so long directed, and which furnished the paramount, for the commencement of so stupendous a work. The power which has been heretofore provided for, upon a call of the General Superintendent, will be competent, upon his calculation, to yield a revenue of \$4,000,000 upon the basis of the tariff, which has been adopted by the company; and the addition now called for to accommodate the coal trade, will greatly increase this estimate. The company may well be content with far less flattering results than are here indicated; but they would not have been justified in cramping their ability within any narrower limits in view of the temptations which this road must offer to the West and the great valley of the Mississippi.

The million loan of the Washington Branch which I have not included in the above exhibit, will be due on the 1st of January, 1854. The whole amount outstanding is now reduced to \$756,340 97, against this debt the company owns in that Branch 10,168 shares of its Capital Stock. The policy of the company has been heretofore, to appropriate, besides the interest upon the Sinking Fund, which now amounts to \$243,659 03. \$20,000 per annum, which in the course of fourteen years, if persevered in, would cancel the entire indebtedness of the company on this account.

The stock has been sold, within a short time, at 111 per cent. in this market.

It seems to me advisable that the company should endeavor to make some arrangement by which they would be able to leave this debt, so amply secured, to the gradual operation of the Sinking Fund.

With a view to such arrangement, it is recommended that the Committee on Finance be authorized to extend the time, to such period as they may deem advisable, say for a term of twenty years, during which the operation of the Sinking Fund above mentioned will have extinguished the entire debt.

The advantage to the company of such an arrangement would be, that it would effectually provide for the whole indebtedness on account of the Washington Branch, within a period of fourteen years; and leave the company, at the expiration of that time, with the means of liquidating at least a million more of its funded debt.

If we deduct the \$3,200,000 Sterling Bonds which I have treated as a preferred stock, from the aggregate of the company's indebtedness, say \$9,695,166, we should have \$6,495,166 only to be provided for, payable mostly at long dates; and in fourteen years the stock in the Washington Branch being released, by the operation of the Sinking Fund, would virtually reduce this amount to \$5,495,166.

Having marshaled the obligations of the company in the manner proposed, my purpose would be to provide some system of gradual liquidation, as before stated, by a moderate sinking fund, to be retained out of the excess of net earnings over and above seven per cent. This would be necessary to assure the stockholders of the extinguishment of the debt which now limits their dividends to less than the net earnings of the company by the amount subtracted for the payment of interest.

The first thing to be cared for is the road. If this be protected by a judicious system of repairs, the stockholders may calculate on dividends; but without timely precaution and liberality in this branch of the service, it would be useless to indulge in speculation upon any thing like uniformity in the net earnings. The cost of keeping a road in proper condition is to be estimated by an average of years; and to divide your whole net earnings, without reference to the contingencies to which all roads are subject, and without provision for them, would be as unwise as it would be unjust to the stockholders.

No board have a right to make a dividend unless they have fairly earned it; and if the operations of the year show a deterioration in the character of your work, with the certainty of its becoming

worse without an extraordinary expenditure, it is evident that no dividend is earned until this is provided for. To guard against contingencies I would further recommend, as the settled policy of the company, the appropriation of a small amount annually for the purpose of keeping the road always in the best condition.

After a full discussion of the whole subject, the board unanimously passed the following resolutions, looking to a somewhat larger provision than that contemplated by the President:

Resolved, That it is expedient to lay down, without delay, such extent of second track, as may be necessary to give full accommodation to the trade of this road—to be finally decided upon by the Committee on Construction and Repairs.

Resolved, That the Committee on Finance be instructed to carry out the views presented in the remarks of the President, in such manner as they may deem most advisable for the interest of the company, by an issue of bonds not exceeding \$2,500,000, to fund the balance necessary to close the account of construction and to provide for laying down a second track at such points as in the judgment of the General Superintendent, with the advice of the Committee on Construction, it may be deemed advisable; and to supply the power necessary to accommodate the Coal trade.

Statistics of New York.

The Message of Gov. Seymour contains a variety of useful statistical information connected with the public interests of the State. The following statement is derived from the Report of the Commissioners of Emigration.

The whole number of aliens who arrived at the port of New York, since May 5, 1847.....1,336,960
Number arrived during last year up to December 15th.....295,272

The number of banks, banking associations and individual bankers doing business in this State on the first days of December, 1851 and 1852, were as follows:

	1851.	1852.
Chartered banks.....	72	70
Banking associations....	95	118
Individual bankers.....	77	89
	244	277

The bills issued by the banking department to the free banks amount to \$19,159,056, being an addition to the amount held by them on the 1st December, 1851, of \$3,488,052, and an increase of \$7,978,381, within three years. The free banks have within the same time, about doubled in number.

The actual circulation of all the banks, as shown by their quarterly reports, in September, 1851, amounted to.....\$27,254,458
1st December, 1852, to.....38,790,985

On the subject of railroads, the Governor states:

Twenty-seven corporations only have made returns. Three other corporations, which made returns last year, have not yet filed the annual reports required by law.

There have been filed in the office of the Secretary of State, articles of association for 41 additional railroad corporations. Several of these roads are known to have been completed, and upon others large expenditures have been made. The railroad corporations are by law required to file their annual reports with the State Engineer by the 1st day of December. None of them have complied with this provision, and the late date at which many of them were sent in, delays the State Engineer, and prevents him from complying with section 103 of the general railroad law, which requires him to arrange the information in a tabular form and to report to the legislature on the first of its session.

The number of miles in use on the 27 roads reported is.....1,797
And adding the lengths of three roads not reported, as given last year, makes.....2,027
This is an increase in the number of miles in use, over the number reported last year, of. 297

The total cost of the 27 roads reported up to 30th September, 1852, is \$82,812,160 63.

The total expenditure on all of the roads constructed and commenced in this State, is probably about one hundred millions of dollars.

The number of passengers carried in cars on 21 roads reported, is 7,061,909; and the number of miles travelled by the passenger is 332,847,667.—The increase on 18 roads, over the preceding year, was, of passengers, 1,487,087, and of miles travelled, 92,858,860. The number of tons of freight carried over 21 roads reported, is 2,060,379. The increase over the preceding year on 17 of these roads, is 821,101 tons.

The number of persons injured in life or limb on 26 roads reported is 256; of whom were killed 158. The increase over the preceding year, on 25 of these roads, is, of persons killed, 59, injured, 44.

These railroads traverse almost every county in the State. There are no sections of its territory which have not now cheap and convenient avenues to market, by means of lakes, rivers, canals and railroads. The recent extension of the last named improvement, will rapidly increase the wealth and population of the State.

In reference to the State canals, the Governor, while avowing his opinion to be in favor of their enlargement, proposes to effect it by an application of the annual surplus tolls to this object.

Before the year 1835, the State of New York had built 656 miles of canal, connecting the Hudson river with the Erie, Ontario, Cayuga, Seneca and Crooked lakes; and with the valleys of the Chemung and Susquehanna rivers. This great system of internal improvement cost only \$11,652,652 96. Its first and greatest enterprise, the Erie canal, was commenced in 1817. It traversed a vast extent of dense forests and pestilential swamps. Great numbers of laborers were disabled or destroyed by the diseases incident to uncultivated low grounds; the contractors, without the facilities now enjoyed, in many instances without the convenience afforded by common roads, were obliged to overcome the numerous obstacles with which they had to contend, unaided by experience. Yet this great work, 364 miles in length, connecting Lake Erie with the Hudson river, cost only \$7,143,789 86.

Subsequent to 1835, there has been expended on the canals \$25,215,000, besides \$9,477,000 paid for interest.

After reviewing the law of 1851, proposing to raise nine millions of dollars for the completion of these works, and expressing his conviction of the impolicy of borrowing money generally for this purpose, Gov. Seymour goes on to say,

The honor and interest of the State of New York require the completion of the Erie canal enlargement, and the Genesee Valley and Black River canals. These enterprises have lost none of their importance. Their completion is demanded as soon as is consistent with a judicious and economical application of money. The amount needed to finish the Black River canal and improvement, is \$248,784; to complete 13 miles of Genesee Valley canal is \$389,000. Upon the Erie canal, the locks, aqueducts and other structures, which determine the future size of the enlargement, are mostly completed. The work which remains to be done is principally the adaptation of the channel work to the size of these structures.

The Canal Board have directed that the old locks between Port Byron and Rochester shall be lengthened and widened, and contracts have been made to have the work done during the suspension of navigation, so that they may be brought into use by the 1st of June. When this is accomplished, a boat of the dimensions adapted to the enlarged canal, can go from Lake Erie to the Hudson river. When the new locks upon the Oswego canal are finished, the same class of boats can also be used upon that route. The mistaken impression prevails, that the work which has been done upon the enlargement is useless until the entire enterprise is completed, and this is frequently urged as a reason for making a debt to complete it at once. This is not so. The improvements already made have doubled the capacity of the canal. When it was first built, the boats used upon it carried, on an average, less than 40 tons.

The av. tonnage of boats built in 1844 was 64 tons.

"	"	"	1845	67
"	"	"	1846	73
"	"	"	1847	76
"	"	"	1848	74
"	"	"	1849	76
"	"	"	1850	80
"	"	"	1851	87
"	"	"	1852	90

The application of surplus revenue, and some small appropriations made before the adoption of the Constitution, have increased the capacity of the canal nearly one-half since 1844; and when the locks are lengthened next spring, it can be navigated through its entire length by boats of the largest contemplated size, carrying 120 tons. Boats of this size are now used between Rome and Albany, and between Buffalo and Rochester. It appears from examinations made by the State Engineer, that with an expenditure of about \$400,000 in addition to the work under contract, the water can be deepened so that the new boats can carry 150 tons, or four times the original tonnage. Only \$200,000 of this amount will be expended for purposes that are temporary, or that will not advance the enlargement. The work under contract for enlarging the locks, will make this improvement of the channel way indispensable. Without it, the wedging of boats will prove a serious difficulty.

If one million of dollars can be expended annually upon the unfinished public works, the lateral canals will soon be finished, the enlargement constantly improved from year to year, and the boats hereafter built can soon carry their full loads of 240 tons.

To meet this annual expenditure of one million dollars, it is supposed that it will require \$500,000 to be raised from other sources besides the surplus tolls.

The total number of boats navigating the canals of the State is estimated at 4,000, and their value at about \$3,000,000.

The report of the Comptroller of the State shows that the charges on the General Fund exceeds its revenue for the year ending 30th September, 1852. Amounts drawn, etc., on the treasury, \$1,341,821 16
Amount of receipts, etc.....1,153,477 63

Deficiency.....188,343 53

The State debt is as follows:

Amount of the General Fund debt.. \$6,389,693 32
Amount of the Canal debt.....15,501,109 16
Canal revenue certificates under law of 1851.....1,500,000 00
Contingent State debt.....933,036 16

Total debt of the State, absolute and contingent, including the Canal Revenue certificates, which are not regarded as a part of the actual debt of the State.....24,323,838 64

The estimated revenue applicable to ordinary expenses for the current year is.....\$789,840 00
The estimated expenditures.....811,835 10

The following table shows the debt authorised and contracted since the adoption of the Constitution:

1848, chap. 216, for completion of public works.....\$489,319 34
1849, chap. 225, for completion of public works.....385 000 00
1849, chap. 232, for canal damages....200,000 00
1849, chap. 228, for canal repairs....50,000 00
1849, chap. 200, for purchase of Albany Basin.....192,643 98
1851, chap. 501, to enlarge Oswego canal and locks.....200,000 00

Actual debt contracted.....1,517,433 32
Authority under chapter 501 above, to borrow.....200,000 00

Debt contracted and authorised.....1,717,433 32

The following table exhibits the debt and expenditures on the canals, from the books of the Canal Department:

CANAL DEBT.

Erie canal enlargement.....	\$8,127,386 94
Oswego canal enlargement.....	200,000 00
Chemung canal.....	193,452 34
Chenango canal.....	31,362 00
Black River canal.....	408,011 35
Genesee Valley canal.....	3,084,623 38
Oneida river improvement.....	59,843 56
To provide for deficiencies under art. 7 of the Constitution.....	3,153,844 10

Amount of the canal debt chargeable upon the Sinking fund created by § 1 art. 7 of the Constitution.....	\$15,258,523 67
To provide for extraordinary repairs, chap. 370, § 2, Laws of 1849.....	50,000 00
To Albany basin, chap. 200, § 3, laws of 1849.....	192,585 49

Total amount of canal debt Sept. 30, 1852.....	\$15,501,109 00
Canal revenue certificates, 6s, 1861.....	\$1,600,000
Canal rev. certificates, 6s, 1866.....	500,000
	\$1,500,000 00

Total of canal debt and revenue certificates.....	\$17,001,109 16
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REVENUES AND EXPENDITURES OF THE FISCAL YEAR.

Statement of the revenues of the State canals, and the expenses of collection, superintendence and ordinary repairs during the fiscal year ending 30th September, 1852. (Art. 7, § 1, of the Constitution,) by the Auditor of the canal department.

Receipts.

Tolls from canals.....	\$3,116,321 23
Tolls from railroads.....	56,901 26
	\$3,173,222 49
Rent of surplus water.....	1,635 00
Interest on current canal revenue, etc.....	4,288 29
	\$3,179,145 78

Payments.

For repairs on canals, viz:	
To superintendents of repairs.....	\$809,457 99
To canal commissioners, 126,132 83.....	
	\$935,594 82
For expenses of collection of tolls, etc.	
By collectors of tolls.....	\$62,467 38
By Weighmasters.....	7,076 93
	\$69,544 31
For tolls refunded.....	12,300 93
For printing.....	8,973 32
For salary of Auditor and clerks of the canal department.....	7,066 51
For miscellaneous payments.....	15,576 03
	\$1,049,045 92

"Surplus revenue".....	\$2,130,099 86
Amount set apart by article 7, of the Constitution, to pay the interest and redeem the principal of the State debt, and for the support of Government, viz:	
For that part of the debt called the canal debt, (§ 1.).....	\$1,300,000 00
For that part of the debt called the general fund debt, (§ 2.).....	350,000 00
For the general fund, to pay the necessary expenses of government, (§ 3.).....	200,000 00
	\$1,850,000 00

The "remainder of the revenues" of the fiscal year, applicable to the completion of the Erie canal enlargement, Black River and Genesee Valley canals.....	\$380,099 86
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Journal of Railroad Law.

LIMITING LIABILITY.

An important decision upon the limitation of the responsibility by contract of common carriers, was lately given in the English Court of Common Pleas, Easter Term. It was an action upon the case, in which the declaration alleged that the defendants were proprietors of certain railways, and possessed of certain carriages for the conveyance of horses, etc. The declaration then alleged that the defendants received of the plaintiff divers horses to be conveyed upon their road according to the known course of trade, except so far as the same was altered by certain terms expressed in a ticket prepared by the defendants and delivered to the plaintiff, in which it was stated that "the plaintiff should bear all risks of injury by conveyance and other contingencies; and that the plaintiff was to see to the efficiency of the carriages, and that the defendants were not to be responsible for any damages however caused." The declaration further alleged that by the gross negligence of the defendants in not greasing the axles, the car took fire, whereby the horses were injured, to the damage of the plaintiff, etc. The jury upon the facts proved rendered a verdict to the plaintiff for £60, whereupon the defendants moved for judgment upon points of law. Croswell, Justice, delivered the opinion of the court, stating that at one time the disposition in the English courts was to hold that common carriers could not by their notice shake off the responsibility cast upon them by the common law. His Lordship then cites American authority (Story on Bailment) to show that the opinion had been overruled, and the opposite fully recognized and settled beyond any reasonable doubt in England. The rule to arrest the judgment was made absolute.

VALUE OF LIFE.

To ascertain and estimate the value of lives in cases of the victims of accidents by railway and the like, is one of those duties which especially demand the exercise of sound discrimination on the part of juries. If verdicts are too lenient, the negligence of engineers is unchecked; if they are too severe there will be a reaction which will afford impunity to the guilty.

The case of *Keats and others, vs. the London, Brighton and South Coast Railway Co.*, lately brought in the English *Common Pleas*, in order to recover damages in consequence of the loss of a life, shows that in matters of this kind it must be often necessary to consult men of surgical science, and its features are otherwise peculiar.

The deceased, in the above mentioned case, was a tailor doing a considerable business at Portsea. He came up to London in March, 1851, to see a Miss Richards, to whom he was engaged to be married, to consult Dr. Elliotson concerning spitting of blood with which the deceased had lately been troubled, and also to buy goods. Having accomplished his business he proceeded home by the defendant's railway.

On crossing the bridge over the Avon, the engineer, regardless of signals, drove the train into a luggage car coming in a contrary direction, and upset the carriage in which deceased was riding, down a bank. The fireman was killed, and the engineer twice attempted to commit suicide after the accident happened.

The deceased was bruised on the right temple,—lost his eyesight,—and was also injured on the right side and between the lower left rib and the thigh. He was taken home, where he died in a fortnight, leaving four children of the ages of 11, eight, five and three. He had been a widower about two years and was 37 years of age.

Miss Richards was produced as a witness, and in order to guide the jury in forming judgment as to the health and constitution of the deceased as indicated by his appearance, she was permitted by

the court, after strenuous opposition, to exhibit his portrait. It turned out, on cross examination, that before the accident, the deceased had been troubled with spitting of blood, and in October 1850, had an attack of apoplexy. Dr. Engledine, of Portsmouth, his regular medical attendant was not called by the plaintiff as a witness, because Dr. E. had been employed by defendants to attend upon the deceased after the accident, and was somewhat suspected as being in their interest.

Dr. Elliotson testified that but for the accident, the deceased might have lived many years, and read a letter concerning his health addressed by himself (Elliotson) to Engledine on the day before the accident. The purport of the letter was as follows:

"I can discover nothing wrong in the state of Mr G's lungs, but his heart beats violently. It may be in the first stages of enlargement, or this symptom may arise from excitement. The excessive action is best felt by applying the stethoscope an inch or two to the right of the left nipple. There is also a faint grating sound in the situation of the valves of the left ventricle of the heart, and as I detected it nowhere else I fear that it is connected with those valves. It is heard best when he has made a long inspiration and defers expiration. The hæmorrhage began at that moment. Perhaps, by abstinence from distilled and fermented fluids and coffee, and from exertion of the voice and muscles, he may get right in time. Abstinence from animal food would also aid him materially. I rarely eat meat now, and like many I know I do very well. I should think treatment should consist in avoiding all causes of congestion and excitement. If some of the valves are organically injured they may go on from bad to worse.

Mr. Garrington testified as the result of the post-mortem examination, that there was some recent congestion of the lungs, apoplectic symptoms in the brain, enlargement of the heart in size and weight, and inflammation of pericardium. The cause of the death was most likely the railway accident.

Mr. Adams, Surgeon of the London Hospital, testified that the ailments of the deceased did not, in his opinion, occasion the death, nor preclude the idea of his life being protracted for many years.—In insuring his life he might demand an enhanced premium.

Dr. Billings, author of a work on the heart, gave similar testimony.

The value of the deceased's business was £800 a year.

The Lord Chief Justice charged the jury, that they must under the act of Parliament, by authority of which the action was brought, render no damages by way of a solace to the wounded feelings of the children of the deceased, but simply as a pecuniary recompense for the loss of his care and protection. They must consider what was the income of the deceased, how long he was likely to enjoy it, and what were the damages sustained by the children severally.

The Counsel agreed to divide the damages equally among the 4 children.

The jury rendered a verdict for the plaintiff, for £2,000.

The case of *Charlotte Williams executrix vs. the New York and Harlem railroad company*, lately tried before Judge Oakley in our Superior Court, is somewhat analogous to the case above cited.

There was much controversy as to the speed with which the defendants were going. The Counsel having summed up, the Chief Justice charged the Jury, citing the law of the State, and the ordinances of the city, which prohibit all vehicles, whether railroad or other carriages from going at a greater speed than 5 miles an hour, and to turn the corner at a walk; a provision, said his Honor, which is

to all practical purposes, such a dead letter in the city, that it might as well be a blank piece of paper; and yet it is a truth, which our every day experience verifies, that all the accidents arise from inattention to the law. This man unquestionably lost his life, and his widow brings her action, and she is entitled to recover exactly in the same way as Williams would have been if he had lived, only that she is limited to a recovery not exceeding \$5,000. If the agents of the defendants are guilty of negligence or want of care, they are liable, unless it shall appear that Williams contributed to his injuries by his own want of care. A passenger in the street must not be negligent of his own safety; if he does, he cannot turn round and charge another with causing his injuries. If both are in fault, neither can recover. If a carriage or car goes at a greater speed than is allowed by law, that is an abuse on their part, but it does not exonerate others from taking care to avoid danger. A railroad acquires no special right to the use of the street by laying its rails therein, they must use the streets like all other citizens. Neither is it strictly right to say that any citizen has the same right as the railroad company to the use of the street. A citizen may get his carriage on the track and stop the way of the railroad car altogether because the railroad car cannot turn out as any other carriage, but must keep in one continued line. The only question is, whether the deceased acted with prudence, and the Court does not think that his having crossed the railroad track should defeat the right of the plaintiff to recover. With respect to the damages his Honor said the Jury must observe that the law gave these damages solely as a pecuniary compensation to the widow and children of the deceased. The money could not be taken to pay the man's debts. As to the amount, that was for the Jury.—There were cases, undoubtedly, where the pecuniary loss might be small, such as a very drunken or dissolute husband or father. It might actually be a relief to get rid of him. But in this case it was proven that Mr. Williams was a sober, honest, industrious man, and his death, without doubt, was not only a heavy loss in a pecuniary sense, but a very great calamity to his family. The Jury awarded \$2,300 to plaintiff.

Exhibit of the Covington and Lexington Railroad Company.

The first act of incorporation of this company was granted by the Kentucky legislature in 1847, but was so unacceptable that no organization was effected under it. In 1849 an amendment was obtained repealing the obnoxious provisions, and granting powers which made the charter one of a very liberal character. The capital was \$1,000,000 with the privilege of increasing to an amount sufficient to complete the road.

The charter authorized the construction of a railway, with single or double track, from Covington to Lexington, and to any town or place in any of the counties through which the road may pass, or in any adjoining county, and to charge on all goods, merchandise and other property transported thereon a sum not exceeding 1½ cents per mile for toll, 5 cents per ton per mile for transportation, and three cents per mile for each passenger—to acquire and hold real estate, make all necessary contracts, to borrow money on the credit of the corporation, and in declaring dividends, no prohibition is imposed except such as is prescribed by the above rates. The charter is perpetual.

The company organized under the charter as amended and proceeded to have the line surveyed and located, and in the latter part of 1850, let 18 miles of the road. In 1851, were let the contracts for preparing the road for the superstructure to Paris and Lexington.

ROUTE OF THE ROAD.

Commencing at Covington, on the Ohio river, at the mouth of Licking river, opposite the central part of Cincinnati, the road pursues the valley of main Licking to Falmouth, 38 miles—thence up the South Fork of Licking 26 miles, to Cynthiana, and continuing up the same to Stone Creek, a tributary, and up that 13 miles to Paris; thence up Huston creek, another tributary, to the dividing ridge between the waters of the Licking and Kentucky, crossing the ridge, and down the waters of Elkhorn to Lexington, 19 miles—in all 96 miles.

The topography of the country on either side of the Licking for many miles, is of such character as to unerringly point to the valley of that river as the only practicable route for a railway from the Queen of the West to the interior rich lands of Kentucky.

The road occupies this valley, and while the hills constrain the track to conform to the meanders of the river, in a considerable degree, they contribute an insurmountable barrier to all competition. No short or other line can be laid in the same valley or vicinity so as to connect the same points. The line is so laid as to make easy curves, which for the most part exceed 2000 feet radius. At a considerable cost the grade has been reduced, so that the maximum ascent is only 20 feet to the mile at any point between Covington and Paris—and only 30 feet between Paris and Lexington, which will not only insure good speed, but enable the Co. to transport heavy trains at little cost.

The cost of the road will exceed the first estimates, arising from a determination of the direction to make it a superior first class road of the most durable character, and from the great increase in price of labor.

Fortunately, the company had purchased the iron rails and chairs, and a portion of the spikes, before the late advance in iron, thus saving a very considerable sum in the cost of the road.

The whole cost for the entire work put into complete order, with all necessary depots, buildings, turnouts, turning-tables, cattle-guards, fences, wood sheds, water-stations, etc., and a full complement of machinery and cars, will be \$3,156,228 89; the items of which are contained in the engineer's report.

Of the work yet to be done, the contractors take from 20 to 25 per cent in the stock of the company.

MEANS OF THE COMPANY.

Individual stock.....	\$850,150	
Less for unavailable subscriptions and losses.....	40,000	
		\$810,150 00
Stock of counties and cities.....		620,000 00
Cincinnati loan.....		100,000 00
Subscription with Kenton, Pendleton and Harrison counties are authorized to make, and every confidence is reposed in their voting the subscription, each.....	100,000	300,000 00
Bonds of the company issued for the purchase of iron....		400,000 00
Bonds issued to borrow money.....		235,000 00
Bonds to be issued to borrow money.....		465,000 00
		2,930,150 00
Leaving to be made up....		226,078 89
		\$3,156,228 89

This amount will have to be made up by temporary loans, unless the earnings of the road be found sufficient to finish up the work after it is brought into use. Only \$400,000 of these bonds are embraced in a mortgage upon the whole road—100,000 to Cincinnati, covering a part, it is anticipated will soon be removed.

The road will be put into use before expending the above named sum by some \$350,000 to \$400,000.

Should, however, these counties fail to subscribe (of which there is no reasonable grounds for fear,) then that amount will have to be raised by other means, most probably by loan. The company contemplate an application to the Legislature, to be made at the ensuing session, for authority to increase the amount that may be borrowed by the company, and to provide for all contingencies, as well as firmly to secure all their issues.

CONNECTIONS, BUSINESS OF THE ROAD, ETC.

This road is a trunk line, and main connection of the Northern, Eastern, and Western roads concentrating at Cincinnati, with the roads in the South and South West. By reference to the accompanying map gotten up under the supervision of the able editor of the Railroad Journal, H. V. Poor, Esq., and upon which the lines of this road have been accurately laid down, with its connections,

its relative importance may at once be seen. It is happy in the undisturbed possession of the Licking Valley, and feels securely enclosed from all intrusion, for nature in arranging the hills around about her, seemed to say *no harm from other roads shall come nigh thee!* Passing through this valley the road emerges into one of the fairest and most productive regions on this continent. The superabundance yielded by the unsurpassed, it not unequalled rich land, of the counties of Harrison, Bourbon, Scott, Fayette, Clarke, Montgomery, Jessamine, Boyle and Mercer, will find a market over this road, whether destined for Cincinnati, Covington and Newport, the cities of the Great Basin, now constituting the first produce market, direct from the farms, in the world, or down the Ohio and Mississippi rivers, or by railway to the eastern cities.

By the extension of the road to Danville and the Tennessee line through the agency of the Danville and Lexington company, the fertile region farther South, is likewise offered through the same channel, the enjoyment of the same markets.

The road to Danville from Lexington 35 miles, is under contract, and the work is progressing to a speedy completion.

The whole of the stock is secured. Thence to the Tennessee line 84 miles, the line is now being surveyed for location and letting.

Over a half million of stock has been taken, and the subscriptions are steadily increasing, with every prospect of an early realization of a sum sufficient to make up one million, which will secure an early completion of the road. At the Tennessee line the extension of the road to a connection with the Chattanooga road, and Alabama and Tennessee River road, via Sparta and McMinnville and Winchester is under the charge of a company of that state with sufficient means obtained, fostered by the liberal policy of Tennessee towards railroad enterprises within her borders, to accomplish the work within the shortest practicable period. Tennessee, it will be remembered, provides \$8,000 per mile toward the construction of railways in the State.

Thus, our road is put into direct connection with all the important Southern roads. A very important feature of this connection is, that the same gauge is adopted as those roads, hence an uninterrupted transit will be offered to travellers and shippers, an object so much desired yet so seldom attained. The travel and business destined for the South or South west have here presented lines of railway over this new track terminating at Memphis, Vicksburg and on the Mississippi—New Orleans and Mobile on the Gulf of Mexico; and Savannah, Charleston, Wilmington, and other points on the Atlantic. Also another important connection is formed with the line through East Tennessee into Virginia.

Some conception may be had of the business of the road, when it is remembered that the beef market of Cincinnati is mostly supplied from Kentucky, besides thousands of heads of cattle are sent through Covington and Cincinnati to the South and East. Great numbers of hogs and sheep are likewise sent to the same markets, which, with all the surplus of the country along and contiguous to the line must find a transit to market over it.

The following estimate is undoubtedly of low figure, which we adopt in preference to others furnished, so as to be certainly not subject to any charge of exaggeration.

The number of passengers who will be transported over the road immediately after its completion, are estimated by some who are very competent to do so, at from 100 to 150 per day each way, including way travel; we will, however, set the number down at 75 each way, at \$3 each.	\$164,240
60,000 hogs, at 60 cents.....	36,000
22,000 head cattle, at \$2.50.....	38,250
Miscellaneous down freight 30,000 tons, at \$3 per ton.....	90,000
Up freight 50,000 tons, at \$4 per ton.....	200,000
Mail.....	10,000

The business of one year.....\$538,000
Deduct 40 per cent. for running expenses, 215,490

Profit to be divided.....\$323,100

Which is exceeding 10 per cent upon the cost.
There are vast quantities of hemp and tobacco,

besides other products raised in the interior of Kentucky, which will find a market over this road, that is not at present sent to the Covington and Cincinnati markets. Then all the goods and manufactures, groceries, salt, iron, and for a time at least, all the stone and coal, used along and contiguous to the line, will necessarily be freighted up this road.

By this route the distances from Covington and Cincinnati to the following places, will be as follows:

	Miles.
To Lexington.....	96
" Danville.....	131
" McMinnville.....	285
" Savannah.....	812
" Charleston.....	828
" Mobile.....	871

By means of the Covington and Louisville road (the company for the construction of which is now organized, has a large amount of stock taken, and is zealously urging forward the enterprise with every prospect of success to an early completion,) the distance from Covington to Louisville will be about 100 miles. To Nashville 260 miles.

By the Cincinnati and St. Louis road—to St. Louis 335 miles.

	Miles.
To Indianapolis.....	110
" Columbus.....	120
" Cleveland.....	245
" Baltimore via Parkersburg.....	564
" Philadelphia.....	662
" New York.....	750

The distances to Philadelphia and New York via Wheeling are about the same.

With this number of railroads converging at Cincinnati and Covington, this heretofore prominent and prosperous point of commerce and manufactures is magnified into one of the first importance. This point is conceded to be the great centre of trade in the West, and with the aid of these roads completed and in progress, it is ever inevitably destined to continue to be.

Already routes East and North are completed, and in prosperous use—reaching to the Lakes and Eastern Atlantic, and routes westward in rapid progress of construction, but no connection with or avenue of trade is yet opened to the Southern Atlantic. This road now offers this most desirable consummation. This company holds the key, as it were, to the Kentucky, Tennessee and Southern trade with the great Western mart, and through it to the Eastern markets.

No other route will likely be soon selected and occupied by a road to the North, and, indeed, none can come in successful competition.

These considerations of simple facts we respectfully submit, indubitably exhibit this company's security as being of the most certain solvent character, and that the stock must yield a handsome return to the holder.

M. M. BENTON, President.

December, 1852.

Indiana and Illinois Central Railroad.

A meeting was recently held at Indianapolis, of the friends of the proposed line, and a company organized under the general railroad law of Indiana. The following are the articles of association adopted by the meeting.

ARTICLE 1st. The name and style of the corporation shall be the "Indiana and Illinois Central railway company."

ART. 2d. The capital stock of the company shall be two millions of dollars, to consist of forty thousand shares of fifty dollars each.

ART. 3d. The eastern terminus of said road shall be at the city of Indianapolis, in the State of Indiana, thence as nearly in a western direction as may be found practicable and convenient, by way, or within half a mile of the towns of Danville, Rockville and Montezuma, in the State of Indiana, and Decatur in the State of Illinois, in a direction leading to the city of Springfield, in the said State of Illinois. But that said road shall not diverge from a straight line in order to secure conditional stock; and passing through the following counties in the State of Indiana, viz: Marion, Hendricks, Putnam, Parke and Vermillion.

ART. 4th. The length of said road in the State of Indiana, as near as may be, is estimated to be seventy-five miles; and the total length to the city of Springfield is estimated to be one hundred and eighty-six miles.

ART. 5. The number of directors to manage the affairs of said company shall be seven; and we hereby declare that the following are the names of the directors elected by us from our own number to constitute the first board of directors of said company, to wit:

E. W. H. Ellis and William Sheets, of the county of Marion; Henry G. Todd and Edmund Clarke, of the county of Hendricks; Higgins Lane, of the county of Putnam; E. M. Benson and A. L. Roache, of the county of Parke.

A meeting of the stockholders and directors is appointed to be held on the 15th of February next, at Indianapolis.

Commerce of the United States.

Below we give a summary of the imports and exports of the United States for 1852:

MONTHLY SUMMARY OF IMPORTATIONS FOR 1852.

	Free Goods.	Specie, etc.
January.....	\$1,041,466	\$104,736
February.....	1,110,949	110,293
March.....	1,843,938	525,421
April.....	1,496,449	327,400
May.....	789,046	380,584
June.....	1,062,947	429,747
July.....	915,154	150,067
August.....	1,075,388	56,907
September.....	834,343	66,789
October.....	215,143	62,690
November.....	891,382	80,769
December.....	829,147	112,815

	Dutiable Goods.	Duties and Deposits.
January.....	\$8,584,311	\$2,126,586
February.....	7,024,952	1,747,468
March.....	9,302,034	2,237,931
April.....	8,410,448	2,077,291
May.....	6,096,996	1,464,107
June.....	7,626,181	1,915,577
July.....	11,438,117	2,876,319
August.....	13,711,421	3,434,835
September.....	11,095,827	2,691,031
October.....	7,775,614	1,921,878
November.....	7,167,851	1,692,034
December.....	8,421,669	2,357,649

Total.....\$106,670,411 \$26,542,229

Of which the following are some of the principal articles:

Dry Goods.....	\$62,618,424
Cigars.....	1,917,118
Coffee.....	5,249,640
Hardware and cutlery.....	2,711,286
Hides.....	3,005,862
Lead.....	1,248,960
Liquors.....	1,923,929
Molasses.....	955,880
Railroad Iron.....	3,580,883
Steel.....	1,083,554
Sugar.....	8,920,600
Tea.....	6,398,104
Tobacco.....	708,387
Tin.....	3,045,320
Watches.....	2,183,047
Wines.....	1,645,356

WAREHOUSED.

	Dutiable.	Duties.
January.....	1,281,594	355,690
February.....	1,003,383	230,793
March.....	916,519	241,399
April.....	732,422	203,418
May.....	453,109	124,659
June.....	640,722	170,106
July.....	423,919	110,901
August.....	466,962	128,293
September.....	623,263	164,312
October.....	594,426	169,531
November.....	596,068	167,445
December.....	935,257	242,223

Total.....8,667,641 2,308,765

	WITHDRAWN.	Duties.
January.....	1,584,652	473,591
February.....	1,788,977	639,229
March.....	1,605,849	491,949
April.....	1,255,429	419,547
May.....	1,380,871	477,824
June.....	911,479	314,855
July.....	1,095,800	363,452
August.....	1,329,991	448,797
September.....	1,254,358	462,774
October.....	1,256,570	466,727
November.....	1,047,972	358,109
December.....	903,841	329,245

Total.....15,415,289 5,145,099

EXPORTS FROM NEW YORK FOR 1852.

	Dom. Mdse.	For Dut.
January.....	\$2,419,296	\$358,244
February.....	3,352,943	322,772
March.....	4,313,245	357,230
April.....	4,243,044	353,262
May.....	4,249,924	545,973
June.....	3,566,869	482,594
July.....	2,965,542	325,732
August.....	2,340,820	220,978
September.....	3,289,429	318,888
October.....	3,497,874	484,801
November.....	3,529,449	541,296
December.....	2,947,848	518,852

Total.....\$40,716,781 \$4,828,622

	For Free.	Spec. & Bul.
January.....	\$26,833	\$2,868,958
February.....	98,932	3,551,543
March.....	100,557	111,944
April.....	57,710	200,266
May.....	106,818	1,834,898
June.....	125,500	3,326,355
July.....	20,759	2,971,499
August.....	46,464	2,935,888
September.....	123,184	2,122,495
October.....	82,866	2,462,301
November.....	27,634	809,818
December.....	54,805	1,180,305

Total.....\$681,921 \$25,006,255

Cumberland Coal Companies.

A meeting of the several Coal Companies of the Cumberland region was held on the 5th inst. at Baltimore for the purpose of conferring with the President of the Baltimore and Ohio railroad as to the amount of accommodation required for the coal business.

The following companies were represented:—Phoenix, New Creek, Llangollen, Swanton, Borden, Thomas Kerr, Withers, Parker, Lonaconing, Frostburg, Alleghany, Chesapeake, and Cumberland.

Mr. Swann stated, in a few pertinent remarks, that the railroad company having passed a resolution to expend, if necessary, the sum of \$2,500,000, for laying a second track, and providing cars and engines for the accommodation of the coal trade, it became necessary to ascertain how many tons per day each coal company would guarantee to transport if the railroad company should furnish the means.

Whereupon the following applications were handed in:

Companies.	Capital.	Amount.
Phoenix.....	\$2,100,000	500 tons.
New Creek.....	2,000,000	400 "
Llangollen.....	250,000	500 "
Swanton.....	500,000	100 "
Borden.....	200,000	400 "
Thomas Kerr.....	.....	75 "
Withers.....	1,000,000	400 "
Parker.....	2,000,000	600 "
Lonaconing.....	100,000	300 "
Frostburg.....	500,000	400 "
Alleghany.....	100,000	350 "
Chesapeake.....	1,000,000	1,000 "
Cumberland.....	3,000,000	2,000 "

It thus appeared that the coal companies asked for a daily transportation of 7025 tons of coal by the railroad.

Each company are left to make their own nego-

tations with the railroad company as to the security they are to furnish for the use of cars &c.

American Railroad Journal.

Saturday, January 15, 1853.

Trade and Tonnage of the Canals.

From the Auditor's statement of the business of the canals, it appears that the aggregate tonnage which came to and went from the Hudson river the past year was 2,756,349 tons, against 2,452,486 the previous year, showing an increase in 1852 over '51 of 303,863 tons.

The aggregate tonnage of property clearing from tide water the past year is 521,527 against 475,335 last year, an increase of 46,192 tons over 1851.

The aggregate tonnage of property to tide water the past season was 2,234,822 tons against 1,977,151 the previous year, an increase of 257,671 tons.

The estimated value of property which came to and went from the Hudson river the past year is \$185,789,546, and of the previous year \$143,145,297, an increase in 1852 of \$42,644,249 over 1851.

The value of property going from the Hudson river in 1852 is estimated at \$118,896,444, against \$89,217,789 the previous year, showing an increase over 1851 of \$29,678,655.

The estimated value of property coming to the Hudson river the past season is \$66,893,102, against \$53,927,508 the previous year, thus exhibiting an increase of \$12,965,594 in 1852.

We are indebted for the foregoing summary of the trade and tonnage of the canals for 1852, to the Albany Evening Journal. The result is not only most gratifying in a commercial point of view, but is a striking illustration of the influence that western works of internal improvement are beginning to exert upon the trade of the country.

Upon the canals, both the tonnage and values are stated at the *minimum* figures. The value of the tonnage leaving and arriving at tide water, it will be seen, is greater than either the entire value of the imports or exports of the whole country.

It will be borne in mind too, that during the past year the canal tolls have been removed from merchandise transported upon railroads, and consequently the Central and Erie lines have enjoyed a very large freight business in active opposition to the canal. We have not yet received the returns of these roads, and cannot give at the present time the tonnage and value of their freights. Upon the Erie road the receipts for transportation of freight alone, are equal to \$2,000,000. We presume that the receipts upon the Central line must fully equal this sum, showing the aggregate tolls for freight upon those two great lines to exceed the tolls on the canals, by nearly \$1,000,000.

Estimating the value of tonnage received at, and sent from tide water by those two roads to be equal \$65,000,000, and we have the grand aggregate of \$250,000,000 as the value of merchandise which arrived at, and left the Hudson, for the west for 1852. In comparison with this immense movement, all other routes, even the Mississippi River, dwindled into comparative insignificance.

The great increase of tonnage is owing chiefly to the extensive reduction of tolls at the commencement of navigation, in view of the extraordinary efforts making by rival works to draw off the trade of the interior to other routes.

It is remarkable that the increase of the tonnage upon our leading routes of internal commerce have shewn but a slight increase, with the exception of

the Erie canal, and that the increase of our foreign commerce has been confined almost entirely to the port of New York, by virtue of the monopoly of this trade secured to her by this work. The tonnage of the canal and the population and commerce of that city have moved forward with equal pace.

The tendency of the trade of the west has been steadily to the great lakes, and through them to the Hudson by way of the Erie canal. No western produce passes *East* over the Pennsylvania improvements. This fact may be ascribed to the inconvenient character of this work for heavy transportation.

How far this route is to be affected by the Pennsylvania railroad, remains to be seen. Another year will also show the influence that the Baltimore and Ohio railroad will have in turning this trade into new channels.

The competition of the New York railroads is apparently not felt by the canals. There can be no doubt, however, that, but for this competition, the trade of the former would have been vastly larger than it is. It remains to be seen whether the Pennsylvania and Maryland lines are in the same manner to divide its business.

One of the strongest arguments in favor of the opinion, that the northern, or New York route, will continue to maintain its ascendancy, is, the fact that the most important depots of trade in the west with two or three exceptions, now springing into existence, are situated upon the great lakes. It may be questioned, also, whether New York is not the cheapest point of access from the cities of Cincinnati, Louisville, and St. Louis, the great marts of trade of the central portions of the Mississippi valley. As far as the domestic and foreign markets are concerned, New York has some decided advantages over any other Atlantic port.

But we do not propose to touch upon matters involving the question of superiority of routes. Our object is to show the magnitude of the interior commerce of the country. It will supply a lucrative traffic to all our works constructed for its accommodation. It must be divided to a certain extent among all our great cities. The monopoly of the greatest share of it carries with it commercial supremacy upon this continent, not to say throughout the world.

Texas.

San Antonio and Gulf Railroad.—The Board of Directors of this road has at last agreed by a vote of fourteen to one, that the Gulf terminus shall finally be at Port Lavaca.

This much vexed question being finally settled, opens to merchants and speculators a fine field for investment. The fact that it will be the center of trade of Western Texas, including the rivers Caney Colorado, Navidad, Lavaca, Gaudaloupe, and San Antonio, all which enter into Matagorda Bay, and the coast reaching to Corpus Christi, added to the immense overland trade to Eagle Pass and El Paso, leading to the provinces of Chihuahua, Durango and New Mexico, will make it one of the largest mercantile cities in Western Texas.

Dayton and Michigan Railroad.

We learn that eleven miles of this road, from Dayton north, are completed, and that the track is being laid at the rate of half a mile a day. It is expected that the work will be carried to Troy by the first day of the new year, when the cars will commence running to that point, under an arrangement with the Cincinnati, Hamilton and Dayton Company.

Steubenville and Indiana Railroad.

The annual meeting of the stockholders of the Steubenville and Indiana railroad company, was held at the office of the company in Steubenville, on Monday the 3d inst.

A resolution having been adopted in accordance with a recent act of the Legislature of Ohio, the number of directors was increased from seven to thirteen members; after which, the annual election of directors was held, and resulted in the choice of the following persons: James Means, Js. Parks, Wm. McDonald, Jas. Trumbull, D. L. Collier, Jas. Collier, John Andrews, C. C. Beatty, and Wm. Kilgore, of Steubenville, Chauncy Dewey, Cadiz, Wm. K. Johnson, Coshocton, Wm. B. Arven, Newark, and Wm. Neil, Columbus.

The above contains all the members of the old board, with the addition of six new members—making an excellent board of active, enterprising business men. The indefatigable president, Mr. James Means, will be continued at the head of affairs of the company; and the policy heretofore pursued, of urging a rapid and durable construction of the work, will be faithfully adhered to under the present management.

The work of construction is in a fair state of progress, in the hands of efficient contractors. Within the present year, the Steubenville and Indiana railroad will furnish to the rich central portions of Ohio, their first direct eastern railroad outlet to the Ohio river.

Hannibal and St. Joseph Railroad.

From the Bloomington, Macon county, Journal, we learn that the surveys on the route of this road are being pushed forward with great vigor. The eastern and western corps of engineers met at Bloomington on the 24th ult. The line runs with the southern boundary of the town.

The eastern division of engineers have surveyed since the 1st of September, lines amounting to about 150 miles, or two complete routes from Hannibal to St. Louis. The topography has embraced an extent of from two to four miles in width upon these lines, and includes the bearings and length of every river, creek, water course and hollow—the position of every house, fence, road and bridge, and the location in respect to the lines of government corners, at distances not exceeding three or four miles apart. The height of the ground has been taken at every hundred feet on all the lines, and at shorter distances where the ground required it; and test lines have been run to verify the accuracy of the levels. The results of these examinations are embodied in profiles and maps on a large scale. Grade lines have been laid down, and approximate estimates of the earth work and masonry made out.

Massachusetts.

Salem and Lowell Railroad.—At a meeting of the stockholders of this corporation, held recently, Stephen C. Phillips and J. W. Peale, of Salem; Wm. Livingston, Sidney Spaulding and Josiah B. French, of Lowell; Charles F. Flint, of Reading, and Jacob Coggin, of Tewksbury, were chosen directors.

Lowell and Lawrence Railroad.—The following gentlemen have been re-elected directors of this company for the ensuing year, by nearly a unanimous vote: Wm. Livingston, Sidney Spaulding, Otis Allen, Frederick Parker, Horace Howard, Isaac Farrington, and Abner W. Buttrick. At the first meeting of the new board of directors, Wm. Livingston was re-elected President, J. A. Knowles

Treasurer, and Frederick Parker Clerk for the ensuing year.

New York.

Albany and Saratoga Springs Railroad.—The company formed some time since to construct a direct railway from Albany to Saratoga Springs have completed their preliminary arrangements and filed their articles of association. The directors are Peter Gansevoort, Thomas W. Olcott, Andrew White, H. H. Martin, J. B. Plumb, Ellis Baker, Chas. B. Lansing, G. C. Davidson, S. H. Ransom, J. F. Rathbone, and E. Wicks, of Albany; and Charles A. Stetson, of New York.

Marine Disasters.

The following is taken from the report of John C. Hoyt, agent for the underwriters on the southern coast of Florida:

Vessels ashore and in distress at Key West during the year, 22. Estimated value of vessels and cargoes, \$663,800. Amount of salvage and expenses, \$162,700.

The following is a condensed report, for eight years, of the number of vessels that have been ashore on the Florida Reefs, and those that have put into Key West in distress:

	No. of vessels.	Value of vessels & cargoes.	Salvage. Salvage.	Salvage & expenses.
1845.....	29	\$725,000	\$92,654	\$169,064
1846.....	26	731,000	69,600	105,700
1847.....	37	1,624,000	109,000	213,500
1848.....	41	1,282,000	125,800	200,060
1849.....	46	1,305,000	127,810	219,160
1850.....	30	922,000	122,831	200,000
1851.....	34	941,500	75,852	135,000
1852.....	22	663,800	80,112	162,100
Total...265		\$8,194,400	\$803,699	\$1,434,584

Saratoga and Sackett's Harbor Railroad.

The Saratoga Republican understands that an arrangement is about to be made by which a number of individuals are to build this road, and stock it ready for running, filling and owning the balance of the stock themselves, and taking from the directors and collecting whatever stock is subscribed, and the company's right to the 250,000 acres of land from the State.

City of Chicago.

The total value of real and personal property in the city and county of Chicago, is \$12,085,045. The valuation of the real estate in 1852, was \$9,693,642, in 1851, \$7,309,661, increase \$2,283,981. The total revenue is \$154,369.49.

Tennessee.

Nashville and Chattanooga Railroad.—At the annual meeting at Murfreesboro, on Dec. 29th last, of the Nashville and Chattanooga railroad company, the following named gentlemen were elected officers of the company for the present year:

V. K. Stevenson, President; Alexander Allison, John M. Bass, Jeremiah Cleveland, Peter S. Decherd, Francis B. Fogg, Lewis Garner, Samuel D. Morgan, John T. Neil, Andrew Ewing, Joseph B. Knowles, Arthur M. Rutledge, William Spence, Thos. Power, Jas. A. Whiteside, directors; Wm. A. Cleaves, Secretary and Treasurer.

Pennsylvania.

Pennsylvania Railroad.—Preparations for the erection of the depot of this company on Market street, Philadelphia, have been commenced. We learn from the Philadelphia North American that: The new depot will be very creditable in its architectural appearance, and of a capacity and extent exceeding any in the United States. It will cover a space of about 300 feet square, including the entire ground bounded by Market street on the north, Kelly street on the south, Juniper street on the west, and Thirteenth street on the east. This will sweep

away the High School, the State Arsenal, etc.—Such an edifice as this will be suitable for a work like the Pennsylvania railroad, besides being an ornament to the great thoroughfare on which it will front.

Stock and Money Market.

The stock market has been somewhat active during the past week, though at reduced figures for most of the fancies. All the sound stock are in demand at increasing rates. There has been a rapid advance in the stocks of the line from Albany to Buffalo, under the rumor that all are to be consolidated into one company. The securities of the leading Western roads are in active demand, and the supply of these is by no means large. There continues to be an active inquiry for such both for the domestic and foreign market.

The Philadelphia and Reading railroad company have declared a semi-annual dividend of 4 per cent. on the common stock and 3½ per cent. on the preferred stock; also a dividend of 8 per cent. on the common and 2 per cent. on the preferred stock. The gross receipts of the company for the fiscal year ending the 30th of November, have been \$2,480,626 41, an increase of \$166,296 01 over 1851. The annexed comparative table will show the sources of revenue in 1851 and 1852:

	1851.	1852.	Increase.
Travel..	\$152,431 64	\$168,430 20	\$15,998 65
Merchandise..	123,672 34	138,963 61	15,291 27
Coal.....	2,018,870 79	2,150,677 17	131,806 38
From other sources..	19,455 63	22,455 34	3,199 71
Total...	\$2,314,330 40	\$2,480,626 41	\$166,296 01

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, JANUARY 15, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853.....	100½
U. S. 6's, 1856.....	108½
U. S. 6's, 1860.....	114½
U. S. 6's, 1862—coupon.....	120
U. S. 6's, 1867.....	119½
U. S. 6's, 1868.....	119½
U. S. 6's, 1868—coupon.....	120
Indiana 5's.....	102
Indiana 2½.....	59
Canal loan 6's.....	97
Canal preferred 5's.....	41
Alabama 5's.....	98
Illinois 6's, 1847.....	86
Illinois 6's—interest.....	59
Kentucky 6's, 1871.....	112
Maryland 6's.....	109
New York 6's, 1854-5.....	108
New York 6's, 18 0-61-62.....	115½
New York 6's, 1864-65.....	119½
New York 6's, 1 y., 1866.....	119½
New York 5½'s, 1860-61.....	111
New York 5½'s, 1865.....	112
New York 5's, 1854-55.....	108
New York 5's, 1858-60-62.....	111
New York 5's, 1866.....	114
New York 4½'s, 1858-59-64.....	101
Canal certificates, 6's, 1861.....	—
Ohio 6's, 1856.....	104½
Ohio 6's, 1860.....	110
Ohio 6's, 1870.....	114
Ohio 6's, 1875.....	116
Ohio 5's, 1865.....	106
Ohio 7's, 1851.....	105½
Pennsylvania 5's.....	97
Pennsylvania 6's, 1847-53.....	101
Pennsylvania 6's, 1879.....	99½
Tennessee 5's.....	94
Tennessee 6's, 1830.....	108
Virginia 6's, 1886.....	110

CITY SECURITIES—BONDS.

Brooklyn 6's.....	106
Albany 6's, 1871-1881.....	107½
Cincinnati 6's.....	103
St. Louis.....	99½
Louisville 6's 1880.....	98½
Pittsburg 6's, 1869-1871.....	103½
New York 7's, 1857.....	108
New York 5's, 1858-60.....	103
New York 5's, 1870-75.....	104
New York 5's, 1890.....	10½
Fire loan 5's, 1886.....	—
Philadelphia 6's, 1876-90.....	108
Baltimore 1870-90.....	107
Boston 5's.....	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867.....	117
Erie 2d mortgage, 7's, 1859.....	110
Erie income 7's, 1855.....	103
Erie convertible bonds, 7's, 1871.....	103
Hudson River 1st mort., 7's, 1869.....	109½
Hudson River 2d mort., 7's, 1860.....	101½
New York and New Haven 7's, 1861.....	105
Reading 6's, 1870.....	91½
Reading mortgage, 6's, 1860.....	96½
Michigan Central, convertible, 8's, 1860.....	110½
Michigan Southern, 7's, 1860.....	101½
Cleveland, Col. and Cin. 7's, 1859.....	123
Cleveland and Pittsburg 7's, 1860.....	102
Ohio and Pennsylvania 7's, 1865.....	108
Ohio Central 7's, 1861.....	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Jan. 6.	Jan. 13.
Albany and Schenectady.....	113	119
Boston and Maine.....	106	105½
Boston and Lowell.....	107	106
Boston and Worcester.....	105	103½
Boston and Providence.....	91½	91½
Baltimore and Ohio.....	95½	98
Baltimore and Susquehanna.....	34	34
Cleveland and Columbus.....	129	130
Columbus and Xenia.....	—	—
Camden and Amboy.....	150	—
Delaware and Hudson (canal).....	130	130
Eastern.....	100	96½
Erie.....	93½	92½
Fall River.....	—	—
Fitchburg.....	103½	103
Georgia.....	—	—
Georgia Central.....	—	—
Harlem.....	72	72½
“ preferred.....	115	115
Hartford and New Haven.....	129	129
Housatonic (preferred).....	35	35
Hudson River.....	75½	76½
Little Miami.....	120	120
Long Island.....	31½	31
Mad River.....	59	99
Madison and Indianapolis.....	111	111
Michigan Central.....	103½	106½
Michigan Southern.....	125	124
New York and New Haven.....	117	117
New Jersey.....	132	132
Nashua and Lowell.....	—	—
New Bedford and Taunton.....	117	117
Norwich and Worcester.....	53½	54½
Ogdensburg.....	30½	30½
Pennsylvania.....	49½	49½
Philadelphia, Wilmington & Balt.....	37½	38½
Petersburg.....	—	—
Richmond and Fredericksburg.....	105	105
Richmond and Petersburg.....	35	35
Reading.....	88	87
Rochester and Syracuse.....	125	135
Stonington.....	57½	57
South Carolina.....	122½	122½
Syracuse and Utica.....	133½	132
Taunton Branch.....	115	115
Utica and Schenectady.....	145	155
Vermont Central.....	18½	19½
Vermont and Massachusetts.....	20	22½
Virginia Central.....	40	40
Western.....	102	100½
Wilmington and Raleigh.....	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Railroads in Texas.

The state of Texas has been too recently settled to allow time for the construction of extensive lines of railroad. It must, however, soon become an active theatre for the progress of these works, which are not only very much needed, but for which the topographical features of the state are favorable. The surface of the greater part of it consists of level, open prairies, which can be prepared for the superstructure of railroads at a slight expense. The soil is of great fertility, capable of producing large quantities of sugar and cotton, which must ultimately be forwarded over railroads to market from the absence of navigable rivers.

The most prominent projects at the present time, occupying the attention of the people of this state, are the proposed road from Galveston to Red River, and the extension westward of the *New Orleans and Opelousas railroad*. The line of the former of these extends from Galveston in a generally northern direction, between the Brazos and Trinity rivers, to the Red river, which forms the northern boundary of the state. It will be about four hundred miles long. Through its whole length it traverses a fertile region, well adapted to the culture of cotton. This part of Texas is entirely wanting in any natural outlet for its products. It already contains a large and thriving population, capable of supplying a lucrative traffic to a road. Towards this project the state has made a grant of land equal to 5,000 acres per mile of road, and will, if necessary, extend farther aid. These lands are a gratuity to the company constructing the road. Measures are now in progress which will probably result in placing the whole of this important work under contract. When completed it will prove of great benefit to the people upon its route, and to northern Texas; will add a large area to the available cotton-producing district of the South, and will greatly increase the commercial importance of Galveston, the principal seaport of the state.

The other work referred to traverses the state from east to west, connecting at its eastern terminus with the *New Orleans and Opelousas road*. The above is proposed, not only as the outlet for the trade and commerce of the central portion of the state, but as part of a great line of railroad connecting the Gulf of Mexico with the Pacific. It is claimed that through Texas is to be found the appropriate line for such a work. Should such prove to be the fact, the proposed line will coincide with the route of the *national road*, as far as the territory of Texas is concerned. Apart, however, from all considerations of its becoming a portion of the Pacific project, the necessity for a railroad traversing the state from east to west is so urgent that its speedy construction may be considered certain.

No state in the Union is making more rapid progress than Texas, and the lapse of time will surely bring with it all the improvements we find in older states. The value of such works is fully appreciated, and there is every disposition to encourage their construction by liberal grants of land, of which the state holds vast bodies. The only remaining work in progress in the state is the *Buffalo Bayou, Brazos and Colorado road*, extending from Harrisburg, on Buffalo bayou, to the Brazos river, a distance of thirty-two miles. The object of this road is to divert the trade of that river to Galveston bay. This trade has already become important, and the above work will open for it an outlet in a convenient direction to the principal seaport of the state.

There are numerous other projects engaging the

attention of the people in various portions of the state; but there are none, except those described, of which the direction and objects are sufficiently defined, to fall within the scope of this notice. When the great area of Texas, the favorable character of its territory for the construction of railroads, its resources, and the dense population it will soon contain, are taken into consideration, there can be no doubt that it will, ere long, become an active theatre of railroad enterprise and success.

In addition to those named, the following projects are attracting more or less attention throughout the state, viz:

1. The *Texas Western* railroad, to run from Corpus Christi to such points on the Rio Grande as may be deemed expedient, in the direction of El Paso.
2. The *Goliad and Arkansas Bay* railroad
3. The *Lavaca* railroad, to run up Guadalupe valley.
4. The *San Antonio and Mexican Gulf* railroad, to run from some point on the coast between Galveston and Corpus Christi to San Antonio.
5. The *Brazos and Colorado* railroad, from Austin to Galveston bay.
6. The *Henderson and Burkville* road, from Burkville to Henderson.
7. The *Vicksburg and Austin city* road.
8. The *Vicksburg and El Paso* road, in about 22° latitude.

Natural vs. Artificial Routes of Commerce.

In examining the character and prospective business of roads running at right angles to the parallels of latitude, compared with those following the same parallels, some marked points of difference are found. In the latter case, where there is no variety of pursuits, and where the whole population is engaged in agriculture, there can be little or no local traffic. The products being identical, all the surplus is the same in kind. But upon a route following a meridian of longitude, an entirely different rule prevails. Such routes traverse regions abounding in a diversity of productions, all of which are regarded as essential to the wants of every individual in the community. Such lines may be said to coincide with the *natural* routes of commerce, over which a large traffic must always pass, although the territory traversed may be entirely devoted to agriculture. The grains, provisions and animals of the north are wanted by the southern States engaged in the culture of cotton, rice, sugar and tobacco; and these last-named products are received by the people of the north in exchange for what they have to sell. In this country, therefore, the routes running east and west may be termed the *artificial*, those running north and south the *natural* routes of commerce. It is this fact that gives particular importance to the great line of communication which it is proposed to extend from the Gulf of Mexico to the lakes, thus uniting a country the extremes of which abound in the fruits of the tropics, and in the products of high northern latitudes.

A railroad extending from the Gulf of Mexico constitutes a great national route of commerce, and furnishes a channel of distribution over the whole country, for the vast variety of products of the regions traversed, and at the same time constitutes an outlet for such surplus as may not be required for domestic consumption. Such are the extent and range of human wants, that they require the whole aggregate production of every variety of soil and climate for their supply. Owing to the varie-

ty of climate, this country is capable of producing nearly every article used in ordinary consumption, and an abundance of all that are of primary importance. Upon the completion of a railroad from the Gulf of Mexico to Lake Michigan, a person living midway between the two will be enabled to have his table daily supplied with the luxuries of both extremes—the delicious fruits of the tropics, and the more tempered but equally valuable products of northern latitudes. The differences of climate will then practically cease to exist. The speed of the railway train will scatter over the whole country, freshly plucked, the fruits of every latitude, and one climate will practically exist for all, in the possession of an abundance of the products of each.

Extended lines of railroads are equally important in another point of view. It always happens that while in the aggregate there is an abundance of production for the wants of all, there will be failures of crops in different portions of the country. Such must be the case in a country of so vast an area as our own. With ordinary roads only, it is found impossible so to distribute the surplus produced as to secure abundance at points where production has failed. The limit to economical transportation over the ordinary roads is measured by a few miles. The greatest extremes of want and abundance, therefore, may exist in adjoining States. All these evils are remediable by railroads, so that they will not only secure to us a practical uniformity of climate, but of seasons also, giving to us the greatest variety, and at the same time the greatest certainty of uniform supply.

Boston and Lowell Railroad.

ANNUAL MEETING OF THE STOCKHOLDERS.

The annual meeting of the stockholders of this road took place at Boston on the 6th inst.

The annual report presented to the meeting states that the gross receipts of the year ending Nov. 30, 1852 was \$388,108 37. Of this sum \$230,938 42, or 59½ per cent. was from freight; and \$157,169 95, or 40½ per cent, from passengers. The expenses for the same time was \$255,293 33, to which must be added the balance of interest account (\$1,934 00), and there remains as the net profits for the year \$130,881 04; or 7 15-100 per cent upon the capital of \$1,830,000 00.

\$254,891 70 or 65½ per cent. of the gross income, has been derived from the business of the Lowell road; and \$133,216 67, or 34½ per cent. of that income, from business done in connection with other railroad companies.

Of the income from the Lowell road business, \$127,659 05, or 50 per cent., has been from passengers; and \$127,232 65, or 50 per cent., has been from merchandize; while of the income from business in connection with other roads \$29,510 90, or 22 15-100 per cent., have been from passengers, and \$103,705 77, or 77 85-100 per cent., have been from merchandize.

The gross receipts have been less than those of the previous year, by the sum of \$21,044 51; of which decrease \$11,000 94, is from the Lowell road proper, (viz: \$9,573 20 from passengers and \$1,521 68 from merchandize); and \$9,944 63 from the connecting roads, viz: \$7,497 72 from passengers, and \$2,451 91 from freight. The reduction is attributed to the diversion of business from the road at Manchester and Lowell. In reference to the diversion at Lowell the report states that "by an act passed at the last session of the Legislature, all restrictions against the connection of the Salem and

Lowell and the Boston and Maine roads, at Wilmington, were conditionally removed; and passengers and freight have been carried by that route between the cities of Boston and Lowell, without change of cars, since the first of July last. A suit has been commenced against the three companies, whose roads constitute this new line, for this infringement of the rights secured by the charter of this corporation.

The expenses of the year are \$11,744 49 less than the previous year.

During the past year two large expenditures have been undertaken. A Machine Shop, the want of which has been seriously felt, has been established at East Cambridge, where all repairs of engines and cars will hereafter be made. Also a new passenger house at Lowell. A table of receipts since 1835 is appended to the report. In 1835 they were \$64,654 39. In 1848 they reached 461,339 35. The largest year of net profits was in 1847, (195-147). The debt of the road is \$65,000, of which \$25,000 is payable on demand, and the remainder in 1856.

The number of passengers carried in the cars was 541,531. Number of tons of merchandise 246,330.

The old Board of Directors was unanimously re-elected as follows: Wm. Sturgis, Joseph Tilden, Geo. W. Lyman, Eben Chadwick, Isaac Hinckley.

Chicago and Rock Island Railroad.

The report of the chief engineer of this road, Wm. Jervis, Esq., dated 20th December, 1852, indicates the progress and the present condition of the work.

The following are the amounts estimated to contractors after deducting twenty per cent.

1st estimate, April first.....	\$58,400
2d " May first.....	25,600
3d " June first.....	33,600
4th " July first.....	116,000
5th " Aug. first.....	190,400
6th " Sept. first.....	107,200
7th " Oct. first.....	176,000
8th " Nov. first.....	222,400
9th " Dec. first.....	184,000

\$1,113,600

Per centage retained..... 278,400

Total amount of work done.....\$1,392,000

The total quantity of rails delivered at Chicago, amounts to 10,507 tons of 2000 pounds,—sufficient to complete the track to Peru with the necessary side tracks at the stations. The track was laid to Joliet, 40 miles on the 9th of Oct. last. Trains have run regularly since the 18th October. Between Joliet and Peru the grading is completed with the exception of nine thousand feet in detached places, mostly light work, and the superstructure of twenty-five bridges, all small, with the exception of the one over the Peccumsagsan, one span of 100 feet, and the Vermillion two spans of one hundred feet each. The timber for nearly all the unfinished bridges is framed and on the ground.

The track was laid at the date of the report 11 miles beyond Joliet, and a detached line of 6 miles, leaving six miles which, when closed will make a connected line from Chicago of 63½ miles.

Between Peru and Rock Island, the grading has been commenced, and active operations are in progress. On the 1st December last, seven miles of grading had been finished. The bridge at Rock river was commenced early in the season, and the two abutments and four piers completed and the foundation for the fifth pier put in, leaving the

foundations for the sixth and seventh piers and masonry for three piers to be built next season.

Equipments have been delivered as follows:

3 Engines.	
4 Passenger cars.	
6 Freight " covered.	
24 " " open.	
12 Gravel " "	
5 Hand repairing cars.	

All the station buildings between Chicago and Joliet are in progress. The wharf on the south branch of Chicago river in front of the depot ground has been completed. An engine house sufficient to store ten engines is nearly ready for the roof.

The walls of the blacksmith shop are up and those of the machine shop and car shop have been commenced.

At Joliet, a passenger house, 35 by 50 has been built, and timber prepared for a freight house. The timber is also framed for all the intermediate station buildings between Joliet and Chicago.

Fencing has been done along the line between Chicago and Joliet, and a proposition has been made for the balance of fence through to Rock Island.

The following are the quantities of land taken in the several counties for the right of way and station grounds.

Cook County.....	25.23 miles.	293.80 acres.
Will ".....	24.71 " "	313.59 " "
Grundy ".....	20.21 " "	266.96 " "
La Salle ".....	31.51 " "	411.49 " "
Bureau ".....	40.61 " "	587.21 " "
Henry ".....	27.71 " "	335.86 " "
Rock Isl. ".....	10.90 " "	132.36 " "

180.88 2,341.37

Extra for station grounds..... 149.00

Total land.....2,490 37

It is anticipated that the road will be opened to Ottawa by the first of February, and to Peru by the 1st of March next.

Maryland.

The following items of general interest are taken from the message of Gov. Lowe of Maryland. The financial condition of the State is thus exhibited:

The whole amount in the Treasury, during the last fiscal year (exclusive of the sum of \$199,442-62, received for and credited to the use of the several funds,) was \$1,530,911; the expenditures were \$1,360,459 72, and the balance in the Treasury, at the close of the year, was \$170,452 28. During the same period \$30,000 of the matured public debt were paid; and \$343 683 42 were applied, in pursuance of the provisions of the General Appropriation Act of the last session, to the augmentation of the Sinking Fund. If, therefore, you take the last two sums from the account of expenditures, and add them to the balance in the Treasury above shown, you will find that the actual surplus revenues of the year amounted to the sum of \$543,540-70, after disbursing the sum of \$677,456 30 in payment of the current interest on the public debt, and the further sum of \$309,914 for all other purposes.

The total debt of the State is set down at 15,260,668 less the amount in the Sinking Fund which on 1st of Dec. last was \$2,728,075.

During the past fiscal year, the Washington Branch paid to the State, on account of dividends, the sum of \$44,000, being the same as that of the year previous; and it also paid, on account of capitation tax, \$59,826 69, showing an increase over the year previous of \$2,602 86: over the year 1850, of \$7,304 72; and over the year 1849, of \$7,806-92; which indicates the permanency of that source of the revenues of the State. How far it may be considered good policy to continue this tax, will hereafter become a question worthy of consideration.

The tolls collected from the first of January to the thirteenth of November, 1852, on the Chesapeake and Ohio Canal amount to \$78,486 55;

which, with the estimate for December, will swell the aggregate to about ninety thousand dollars. To this sum may be added three thousand dollars for water-rents; which will give the gross revenue for the year. The whole tonnage of all articles transported for various distances from January to December, was, ascending, 13,548 tons, descending 127,447 tons; which, with the estimate for December, will show an aggregate of 160,000 tons for the year.

The receipts for tolls on the Susquehanna and Tide Water Canal for the year past will not vary much from that of the year previous, when it amounted to \$164,446.

During the past fiscal year the Baltimore and Susquehanna road has paid the State \$60,000 and since its close \$25,000 more. During the past two years four hundred tons of new rails have been laid on this road. The Governor considers that the relations these works sustain to the financial resources of the State are decidedly favorable.

Finances of Illinois.

The financial condition of Illinois is contained in the Message of Gov. French of that State.

During the last years, the yearly increase in the amount of revenue received into the treasury has been very large, by far exceeding the expectations of those who have had their attention more immediately directed to this subject. That this increase will be much greater for the future may be most confidently expected. The mill and a half tax, which is exclusively appropriated to interest purposes, amounted in 1847 to \$138,309 64, while in 1851 it had increased to \$206,728. The two mill tax, imposed by the 15th article of the constitution, was, in 1849, \$210,865 50; in 1851 it amounted to \$275,627 35, showing an increase of revenue of near 30 per cent for the last two years. The year 1845, the taxable property, real and personal, as returned to the Auditor of State, amounted to \$82,327,105. In 1849, it amounted to \$105,432,752. In 1851, it had increased to \$137,818,679 30, being an increase of the taxable property of the State, in two years, of \$32,000,000, or 30 per cent in the two years. Applications have been made to the Auditor for the establishment of 39 banks, with an assumed capital stock of \$3,460,000; 17 of this number have deposited securities to the nominal amt of \$1,642,100, while the remaining 22 have deposited no securities whatever.

The present condition of the State debt may be stated as follows:

Principal debt, funded under the act of 1847.....	\$5,771,959 74
Interest on same to date.....	1,886 926 71
Arreared interest funded.....	2,023,629 13
Unfunded internal improvement bonds and scrip.....	397,480 00
Interest on same.....	286,185 60
Wiggins' loan, principal and interest.....	172,000 00
Liquidation bonds.....	363,358 79
	1,203,024 39
	10,837,539 97

From which deduct—	
Amount new internal improvement stock, etc., purchased school fund.....	55,358 87
Amount new internal improvement stock, principal and interest, taken up and cancelled.....	172,825 75
Amount paid on principal two mill tax.....	650,000 00
Amount paid on interest mill and a half tax.....	495,000 00
	1,373,184 62

	9,464,355 35
Principal canal debt....	4,886,522 83
Int. on same up to Jan. 4, 1853.....	2,873,299 23
	7,259,822 06

Aggregate debt.....\$16,724,177 41

The lands belonging to the State, exclusive of canal lands, and which now await the action of the Legislature, amount to 124,269 56-100 acres, which

ought to realise the State, under a judicious sale, not less than \$750,000.

Caloric Ship Ericsson.

On Tuesday last the harbor of New York was the scene on which was displayed the complete success of a grand application of natural powers to the purposes of navigation. Less than half a century ago the trial trip which marked the triumph of Fulton in thus applying steam was tried in these waters, and here the Savannah and the Sirius at subsequent periods attested the capacity of the same power to propel vessels across the ocean. We rejoice that this event has taken place here, and that Capt. Ericsson the inventor of the Caloric Engine has been enabled to add this mechanical agent to those already under the control of man, by the assistance of the merchants of New York.

At half past nine the vessel which was previously lying in the river opposite the northern line of the Battery was put in motion and proceeded down the bay. At 15 minutes past ten she was off Castle William and at 45 minutes past ten at the Narrows. After proceeding about 1½ miles below this point the Ericsson was put about and proceeded to her mooring ground in the river at about 12, having accomplished a distance of nearly 20 miles in about two hours and a half. The greatest number of revolutions made during the trip was ten and a quarter in a minute, and the greatest speed was at the rate of from 9 to 10 miles per hour. During the trip the steamship Baltic met the Ericsson and salutes were exchanged, while in the minds of all the parallel between the two engines—the one in its full perfection and the other but in infancy could not but be forcibly presented.

The Ericsson is a ship of 2,200 tons, and her hull is beautifully modeled. The machinery consists of what may be termed a pair of two single acting Caloric Engines, one in front and the other abaft of the wheel-shaft and connected with it by an arrangement of levers, connecting rods and pistons as in some forms of the steam engine. The connecting rods of both engines are united with the same crank, and form with each other an acute angle in such manner as that the weight of the pistons alternately in their descent shall be employed in assisting the other while passing the center. The working cylinders are four in number, fourteen feet in diameter and having a stroke of 6 feet. The pistons playing in these cylinders have a superficial extent of 22,300 inches. Beneath the working cylinders are the furnaces, the radiant heat from which plays upon the plate forming the bottoms of the cylinders. This plate is of iron and about an inch and a quarter thick. Capt. Ericsson deems that the oxidation will be but slow, and that the plate will last at least four years before they will require to be replaced, a longer time than the iron boilers of sea going steam vessels last. These plates can likewise be coated with fire brick or some similar material still further to diminish this expense. Above the working cylinders and connected with them by a series of tubes are the supply cylinders or force air pumps—the diameter of these is 11½ feet. The pistons of the supply cylinders are connected by means of rods so that they are moved by and through the same distance as the pistons in the working cylinder. By them the air from the atmosphere is injected when the engine is working into the larger cylinder, where its expansion raises the piston and produces the mechanical result required. The difference between the area of the pistons in the working and

supply cylinders measures, as the distance they travel is equal, the expansion of the air due to the effect of the heat.

On the under side of the pistons in the supply cylinders are valves opening upwards, through these the air passes during the descent of the pistons, as they rise the air is forced into chambers or reservoirs over the supply cylinders. These reservoirs communicate with the working cylinders near their base by connecting pipes. Within the connecting pipe of each of the four engines is an apparatus formed of iron wire 1-16 of an inch in diameter woven into a web six feet long and four wide. The meshes or openings in this wire net are equal to the superficial space occupied by the wires themselves. Fifty such thicknesses of wire cloth are placed in each of the connecting pipes and through them the heated air of the working cylinder passes before it escapes into the atmosphere. The rapidly cooling properties of wire gauge were taken advantage of by Sir Humphrey Davy in the construction of the Safely Lamp and an analogous employment in the Caloric Engine by Ericsson is perhaps that which ensures its economical working by preventing the escape of the air until it has rendered up nearly all the heat with which it is charged to these folds of metallic wire. This apparatus is called the regenerator. The cold air from the supply cylinder and reservoir also passes through the regenerator and takes up in turn the heat from the surface of the wires that has been absorbed by them from the previous charge of the working cylinder. The pressure which the air is intended to exert in the working cylinders of the engines of the Ericsson is 12 pounds. To obtain this force it is found necessary to heat the air to 384° of Fahrenheit, at which temperature it stands in the working cylinder. After passing through the wires of the regenerator the escape air issuing from the valves of the connecting pipe is only 30° warmer than the surrounding atmosphere.

The engine is started by pumping air by hand into the working cylinders where it expands until the pistons have reached their topmost limit, then having acquired a considerable amount of heat on the descent of the piston it passes through the regenerators where the heat is deposited to be rendered up to the supply of air contained in the reservoir. As soon as the first cylinder full has escaped, the air on the opening of a suitable valve rushes down the connecting pipe and through the regenerator taking up the heat there stored and expanding with the additional heat derived from the plate at the bottom of the working cylinder so as to fill the cylinder to its utmost capacity, driving the piston before it and forcing the piston of the supply cylinder along while condensing in the reservoir the air which is next to be used.

Capt. Ericsson was on board during the trip and explained to the company who consisted for the most part of scientific gentlemen and those connected with the press, the various parts of his remarkable invention.

The supply of coal sufficient to work the four cylinders during 24 hours, was stated to be from 5 to 6 tons. The species of coal used is anthracite and the radiant heat from the incandescent fuel is thrown direct on the bed plate of the working cylinder—which is heated up to a low brown heat.—The piston of the working cylinder is a hollow chamber of iron shaped like a plano-convex lens, the plane surface being uppermost and the intervening space is filled in with charcoal and plaster of Paris to prevent as far as possible the conduction

of heat to the upper surface. The packing is at the top of the piston and being defended from the heat by the interposition of a slowly conducting stratum as well as being at its lowest point about six feet from the bottom of the cylinder, is in no danger of burning. The packing of the working piston is lubricated directly and the workman who performs this task stands on the top of the piston while supplying oil or tallow to the rubbing surfaces. On this piston many of the visitors gathered and were enabled to take a ride in this novel way.

The quantity of air used by the engines working at their full speed of 13 revolutions of the paddle-wheel is about 75 tons in an hour, and this draft of air can be so arranged as to effect the thorough ventilation of the ship, no unimportant consideration.

Capt. Ericsson has had many difficulties to encounter in putting his plan into successful operation, but that has now been accomplished. The casting and boring of cylinders of such large dimensions as to fit engines for the propulsion of large vessels is one of the most obvious. Indeed the builders of the present machinery, Messrs. Hogg & Delamater, declined to undertake the task of casting cylinders of more than 14 feet in diameter, they are now willing at their own risk to contract for the execution of cylinders 16 or even 20 feet in diameter. Another difficulty consists in preventing leakage at the valves and the rivets in the connecting pipe and its junctions, and this reduced the pressure during the trip to eight pounds instead of 12 pounds, that for which the various parts of the engine are arranged.

The results of this trip are, we think, a demonstrated success, the question of economy is that which must ultimately prevail in all mechanical questions, and here, we believe, the advantage is obviously in favor of the Caloric over the steam engine. An element still more important, though less regarded, that of safety, is likewise secured by the Ericsson engine. In fact we can hardly conceive of any serious accident endangering life resulting from their use, except those necessarily connected with the motion of ponderous machinery. Nothing like the destruction produced by the explosion of a boiler can happen, and all must exult at the success of an invention which thus tends to the preservation of human life.

The name of Ericsson will be handed down among those of the great inventors whose genius has pushed forward the bounds of human art. His invention is an era in mechanics, only comparable to that of the illustrious Watt. We do not bound its applications to its present brilliant success in navigation. The Ericsson engines must entirely supersede the steam engine in work shops and manufactories, and we doubt not if it would not be proper in view of their safety to prohibit the use of steam engines within the limits of a city. Ericsson has chained the *whirlwind* the myth of Ulysses and the imprisoned winds has been realized in the cylinders of the new ship which the other day crossed over the waters of the bay of New York. While thus according the palm of mechanical genius to Ericsson, we must not forget the liberal encouragement he has met with from those who have advanced means to him to make this costly experiment.—Mr. John B. Kitching, a merchant of this city, and Mr. Edwin B. Stoughton, a lawyer, have been the most prominent of those who have aided the inventor with money and advice. Mr. Hutchinson, also a merchant, has given material aid. They have

their reward in being associated with one of the finest discoveries of the age.

Schuylkill Navigation Company's Report.

The Schuylkill Navigation company has made public its regular annual report. The coal tonnage for the year is 800,423 tons, the revenues on which averaged 52 cents per ton, giving an aggregate of \$416,954. The miscellaneous tonnage ascending and descending amounted to 274,661 tons, yielding a revenue of \$66,840 80, making with the income from water rents and real estate, a total revenue for the year of \$511,527 81. The charges against this income have been for current expenses, salaries, etc. \$184,313 51 and for interest on loans \$99,417 36, making a total of expenditures of \$383,730 87, leaving a balance of \$127,796 94. Of this balance, \$44,322 03 have been appropriated for the construction of additional landings, and \$36,550 79 appropriated to complete the payment of the debt contracted for the repairs of the canal after the floods of 1850.

The total liabilities of the company are.....\$10,397,496 12

The increased tonnage over the greatest tonnage in any previous year, is 215,346 tons. The offer of a series of moderate premiums to the boatmen for dispatch, and the general prosperity and activity of the coal trade, have doubtless contributed to this gratifying result. The number of trips made by each boat has been largely increased, and in some cases more than doubled. The circular trip between Pottsville and New York and back has been made in less than eight days, and that between Pottsville and Philadelphia in less than five days. For the accommodation of any increase in the coal tonnage of 1853, contracts have been made for an additional number of cars and boats. The proposed increase of cars and boats is equal to about 900,000 tons of coal, and from the present indications of the trade, that quantity may be fairly estimated as to be carried. There has been a remarkable exemption from even ordinary accidents and detentions in 1852. It has not been deemed necessary to limit the draught of water for the boats below five feet four inches, except for a few days.—For more than half of the season, five feet 6 inches have been the usual draughts of the boats. The dams and mechanical structures generally are in good condition and tight. The navigation was opened on the 6th of March, 1852, in the midst of ice, which was speedily removed by drawing down and refilling the levels, and thus causing strong currents of water to be passed through them. Under this process, ice of from 10 to 12 inches in thickness disappeared within forty eight hours. The line was closed, for the purpose of making the ordinary repairs on the first of January, 1853, giving the largest business season on record.

Missouri.

Iron Mountain Railroad.—A meeting was held on the 20th ult., at Hillsboro', Jefferson Co., Mo., for the purpose of advancing the construction of a road direct between St. Louis and the Iron Mountain. The report, which was passed by the meeting, concluded by asserting that the road on the direct route will be between twenty and thirty miles shorter than that of the branch which is to connect with the Pacific railroad; that it will be over a surface incomparably superior for the construction of a railroad, and necessarily at a less cost. The position is proven by the estimates for the first 20 miles of the Pacific railroad, and the like number from St. Louis on Capt. Barney's survey south on the west bank of the Mississippi—the latter to cost less by \$150,000 for the first 20 miles. Resolutions were passed, requesting the Legislature to vote for a loan of the credit of the State to build such a road, and that the County Court of Jefferson Co. be requested to subscribe on behalf of the county to the stock of an independent railroad, from St. Louis to the Iron Mountain, the sum of \$50,000, provided the road runs through the county on the most direct and practicable route.

Supplemental Act to the General Railroad Law of Indiana.

The following is an act supplemental to the general railroad law of Indiana which we published last week. It was passed June 18, 1852.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana,* That nothing in said act shall be construed to grant the power to any railroad company that may be organized under the provisions of this act, to cross or intersect any railroad now in course of construction, within forty miles of its terminus, where such terminus is within the corporate limits of a city in this State, situate on a navigable stream, within two miles of the boundary lines of two adjoining states, except within the corporate limits of such city.

Sec 2. The provisions of this act shall not be so construed as to affect in any manner, whatever, the construction of any railroad by any company at any time heretofore incorporated under any act of incorporation passed by the general Assembly of the State of Indiana, upon the route designated in the act of incorporation, or in anywise to impair the rights of such company, or to prevent or hinder the construction of any railroad having both of the terminations thereof within the limits of this state, and not forming a regular connection with a railroad leading directly to some city situate upon the Ohio river beyond the limits of the State.

Kentucky.

Maysville and Big Sandy Railroad.—Mr. Childs, Chief Engineer of the Maysville and Big Sandy railroad, has organized a party to locate the line of the road between Maysville and Springville, opposite Portsmouth. He is now at Springville, at which point the work of location will commence and proceed down to Maysville. The company will be prepared to put the graduation and masonry under contract as soon as the locating party shall have prepared the line.

Maysville and Lexington Railroad.—This company are still vigorously prosecuting the graduation and masonry of their line, having a heavy force of workmen employed. They have been fortunate in the sale of all the county and corporate bonds, as we are assured by the President, Mr. Waller, who has just returned from New York, as first rate prices, and are now in possession of ample cash funds to push forward their work with increased and unusual vigor. They have purchased all their rails, chairs, spikes and machinery, at prices considerably below the present market rates; and have contracted for laying the entire track or superstructure between Maysville and Lexington. That portion of the road lying between Paris and Lexington will be completed and in running order, with all the necessary engines and cars in July next; between Paris and Millersburg, and between Maysville and Johnson, in September next; and the remaining gap between Johnson and Millersburg early in the spring of 1854. Mr. Waller, during his late trip East, purchased three more Locomotives, making five in all, and secured them at the cost of engines before the late rise in iron.—*Maysville Eagle.*

Easton and Water Gap Railroad.

At a meeting of the stockholders of the Philadelphia, Easton and Delaware Water Gap railroad company, held recently in Philadelphia, the following gentlemen were elected as officers for the ensuing year:

President.—Thos. S. Fernon.—**Directors.**—Isaac S. Waterman, John Welsh, Jr., Chas. W. Churchman, J. Gillingham Fell, John Jordan, Jr., Isaac R. Davis, Jacob M. Thomas, C. Henry Fisher, Jas. Traquair, John O. James, John Ely.

These, says the Commercial Register, are of our ablest and best citizens, and show that the road is in excellent hands. A second corps of engineers will be put on to-day, and the heavy work of the line will be begun early in the spring. We hail this movement as one calculated to benefit Philadelphia, and have confidence in its early completion.

Ohio Railroads.

We learn that the railroads radiating from Cincinnati have not sustained so much damage as was anticipated from the recent floods. Mr. L'Hommiedieu, the president of the Cincinnati and Dayton, states that the injury to the road is far less than he had any reason to suppose, and it can all be repaired for less than five thousand dollars. The company have now been able to ascertain the points on the road most exposed to danger from high water, and to successfully protect them in future. There are several points which will require strengthening by slope walls; and when this is done, there will be no apprehension of any further interruptions in the business of the road, in consequence of sudden and extraordinary floods in the streams in its vicinity.

The only material damage sustained on the Dayton and Western road was the partial destruction of two bridges over Wolf Creek. These are nearly repaired, and in a day or two the trains will pass over the entire line. They are now running regularly to within two miles of the city, from which point passengers are brought in by omnibusses.

The Greenville road, from the Junction north, including the section between Greenville and Union escaped without any injury whatever.

The Mad River road, between Cincinnati and Springfield, has been repaired and is in running order.

Railroad to Lake Superior.

We learn from the Pittsburgh Gazette that an application is about to be made to Congress, urging a grant of land to aid in the construction of a proposed railroad to the Copper mines of Lake Superior, commencing at Pontiac, in Michigan, to which point there is now a railroad in operation from Detroit. The route from Pontiac is by way of Flint in Genesee county, to Marquette Bay, in the county of Mason; and from Manitowoc on the opposite shore of Lake Michigan, in Wisconsin, to Kewana Point on Lake Superior, with a branch to the Ontonagon, and a branch to Iron Bay, and near the mouth of Chocolate river. The distance is stated, in direct lines, as follows:

Detroit to Pontiac, now railroad.....	25 miles.
Pontiac to Marquette.....	186 "
Marquette across the Lake to Manitowoc	60 "
Manitowoc to Kewana Point.....	196 "
	467 miles.
Branch to Iron Bay.....	60 "
Branch to Ontonagon.....	40 "

Total.....567 miles.

After leaving Flint, 31 miles from Pontiac, the route strikes the public lands, which continue the whole way to Marquette Bay, 155 miles. On the opposite side of the lake, from Manitowoc to Green Bay, 37 miles, there is not much Government land; but from the latter point to Lake Superior, all the land belongs to Government, except what has been taken up by miners.

Disasters on the Western Waters during the year 1852.

We learn from the Louisville Courier that there were destroyed on the Mississippi and its tributaries during the last year 78 steamboats, 4 barges, 75 coal boats, 32 salt boats, and 4 other flat boats. It appears that 48 boats were lost by being snagged, 16 by explosions, 41 were burnt, and the others lost by collision and other mishaps. The greater number of the flat boats were destroyed by the breaking up of the ice last winter, and the number of lives lost is upwards of four hundred.

Pennsylvania.

The following extracts on the finances and statistics of Pennsylvania, are taken from the message of Gov. Bigler, of that state:

The receipts of the Treasury during the late fiscal year, exclusive of the proceeds of loans, amounted to the gross sum of \$4,561,885 50, which amount added to the balance in the Treasury on the first of December, 1851, (leaving out the unavailable means which only serve to confuse the account) makes the total ordinary means of the treasury for the year, \$5,104,424 71. The payments exclusive of the cancellation of state stock—the appropriations to the North Branch canal and the Portage railroad, amounted to the sum of \$4,129,262 49, being \$976,062 12 less than the receipts. Of this excess, however, the sum of \$304,024 96 was applied to the completion of the Western reservoir—to relaying the north track of the Columbia railroad, and to other extraordinary repairs on the public works, leaving an actual available balance in the treasury on the first day of December, '52, of \$671,037 72. But, it must be observed, in order to a correct comprehension of the relative condition of the treasury, that the unpaid balances of appropriations for '51, amount to \$621,338 95, whilst those of '52 only reach the sum of \$529,801 14, showing a difference in favor of the latter year of near \$100,000.

The receipts for the current year are estimated at \$4,626,500 and the expenditures at \$4,028,670.

The Governor recommends the passage of a law authorising the cancelment of the old five per cent. bonds, and the creation of new ones free of taxation with coupons attached, bearing five per cent. interest, on which not less than 5½ per cent. of a cash premium is to be paid.

The receipts from the public works for the fiscal year of '52, as appears in the report of the Canal commissioners, amounted to the sum of \$1,896,811 42, and the ordinary expenditures for the same period, to the sum of \$1,029,341 23, leaving a net revenue to the state of \$867,470 19.

The message contains a summary of the amounts of production in the principal articles as shown by the census returns.

The population numbers 2,311,786, being an increase of almost 35 per cent. since 1840. According to this ratio of growth in 1870 it will number near 4,000,000. The debt of forty millions is, at this time, a charge on each inhabitant of a little over eighteen dollars; in 1870, according to this datum, it will but little exceed ten. The present assessed value of real and personal estate is \$497,039,649, showing an increase of eighteen per cent. since 1840, and according to this ratio of growth up to 1870, it will amount to the sum of \$675,973,922. The debt of forty millions was a lien of 8 per cent. on the assessable property of 1840; on that of 1870 it will be only five per cent. and eight mills. But in the census report of 1850, the true value of the property of the State is estimated at \$722,486,120; on this sum our present debt is but a fraction over 5½ per cent. Who can doubt the solvency of such a debtor?

The production of wheat, in 1840, was 13,213,077 bushels. In 1850, 15,482,191, being an increase of 17 per cent. at which rate the yield for 1870 will exceed twenty millions of bushels. The same rate of increase is apparent in rye, corn, oats barley, buckwheat and live stock. The census of 1840 shows a production for that year of 98,395 tons of pig metal—that of 1850, is 285,702, or an increase of 190 per cent. At this rate the yield of 1870 would be 1,371,370 tons. Wrought iron in 1840 amounted to 87,244 tons—in 1850 it is 182,506 tons. On this datum the production of 1870 would be 580,369 tons. The woollen manufactures for 1840 were valued at 2,319,161 dollars, and for 1850 at \$5,321,866, showing a gain in ten years of 129 per cent., and the enormous yield by 1870 of \$13,738,404. In cotton goods the increase has been about 6 per cent., which ratio of growth up to 1870 would show a production of about six millions of dollars.

The whole amount of anthracite coal mined and taken to market in 1840 was \$67,000 tons. In 1852 the product will reach near five millions of tons, being an increase in twelve years of 600 per cent. This rate of augmentation up to 1870 would give

the startling production of over forty-five millions of tons, and yielding, at the present Philadelphia prices, the sum of one hundred and eighty millions of dollars, being more than treble the present revenues of the whole United States.

To consummate this greatness the prosecution of the great works of the State is recommended—the North Branch Canal must be finished and the Alleghenies passed without the use of inclined planes. But prominent among these is considered the construction of a work to connect the metropolis of the State with the Lakes.

We need says Gov. Bigler the shortest and best line of communication between the Lakes and the Atlantic at Philadelphia. The considerations in favor of such an improvement are too numerous to be given in this document. The advantage which it would possess in distance—in light grades—in uniformity of gauge—when tested by the laws of trade, renders its superiority over any other avenue which now exists or that can hereafter be constructed between the Atlantic and the Lakes, a fixed fact. The harbor at Erie is regarded by competent engineers as the best on the Lakes, and from no other point can so short a line be made to the seaboard. Such a medium of communication would be of inestimable value to Erie, to the intermediate country, and to our State metropolis. Our citizens, by neglecting or deferring the construction of this work, may subject themselves to the charge of slighting the beneficence of nature in not co-operating with her great designs.

Boston and New York, vs. Philadelphia and Pittsburgh.

The immense quantities of grain, flour and provisions of the west which seek a market at Boston and New York, as compared with Philadelphia, is the result simply of no other cause than the natural effect of the difference which exists in the commercial policy of those cities. For the sake of illustration, let us take the article of flour, and compare the rate of charges on the railroads leading to Boston, and to New York, with the rates by the Pennsylvania Central railroad, leading to Philadelphia.

From Ogdensburg to Boston the distance by railroad is 400 miles; transportation 50 cents per barrel. From Albany to Boston 200 miles, transportation 25 cents. From Dunkirk to New York 489 miles, transportation 60 cents. While from Pittsburgh to Philadelphia, 357 miles, the rate is 100 cents, or more than twice the rate per mile charged by any of those three roads named. What is taken say from New Castle, Pa., transported to Cleveland, a distance by canal of 124 miles for 7 cents; thence to Buffalo 206 miles by lake for 8 cts; thence to New York, being 325 miles by canal, and 150 miles by river, for 13 cents; total cost for 800 miles 25 cents per bushel, or an average of 3 cents per bushel for 100 miles. The expenses of unloading, loading or storage at either Cleveland or Buffalo amounts to only ½ cent to 1 cent per bushel. Now suppose this wheat should be transported from New Castle to Philadelphia the expense would be about as follows: from New Castle to Pittsburgh 50 miles 5 cents per bushel, unloading, draying, etc., at Pittsburgh, 2 cents per bushel, transportation from Pittsburgh to Philadelphia 357 miles, at 65 cents per 100 lbs, 39 cents, whole cost 46 cents per bushel, for a distance of 407 miles, or nearly 12 cts per 100 miles, against 25 cents for 800 miles, or a trifle over 8 cents per 100 miles.

The miserable policy of requiring property to be drayed through Pittsburgh and the necessity for sacking grain in order to its safe transportal by the Pennsylvania improvements, while by the lake route to New York the grain is shipped in bulk, and handled by means of steam elevators, at a trifling expense, and without any necessity of draying, is among the many considerations that give to that route the almost entire trade in the grain of Ohio and the other western States, and takes from the cities of Pittsburgh and Philadelphia, an immense trade which their natural advantages of location would give them, did they pursue a corresponding liberal course of commercial policy in the management of their public improvements, which is pursued by the cities of New York and Boston.

Flour should be transported from Pittsburgh to Philadelphia for 50 cents per barrel. Wheat 15

cents per bushel, corn 12 cents. Butter, lard, pork, etc., from 85 to 50 cents per 100 lbs, and other articles in proportion. These rates would insure an immense business to the Central road—a trade to the cities of Philadelphia and Pittsburg, of which their citizens can scarcely form any adequate conception. These prices for transportation would be fully equal in proportion to distance to the rates of charges by the New York and Boston roads.—Will not the cities of Philadelphia and Pittsburg wake up to a spirit of enterprise and emulation corresponding with that of those other cities of this "great and glorious country," and reap the rich fruits which the harvests of nature has designed for them.—*Daily Pittsburg Gazette.*

Coal Trade.**LEHIGH REGION.**

The following is the official statement of the number of tons of anthracite coal sent to market from the Lehigh coal region for the last four years.

	1849.	1850.	1851.	1852.
Lehigh Co.	379,285	424,258	480,823	*510,268
Beaver Mead'w	73,702	27,571	42,263	46,278
Hazleton	92,401	54,309	113,297	130,514
Diamond	11,356	12,099	36,712	41,597
Buck Mountain	85,819	103,937	104,456	104,207
Summit	102,599	43,793	119,577	139,692
Wilkesbarrie ..	19,590	32,153	25,072	41,989
Cranberry	36,155	22,493	30,588	49,112
Colrain .....	.....	2,075	39,513	37,781
E. Sugar Loaf. ....	.....	.....	.....	12,566
Total	800,987	722,688	989,251	1,113,944

* Including 80,432 tons from Room Run.

SCHUYLKILL REGION.

The following shows the coal production for the last four years, in the region of the Schuylkill, and which finds an outlet through the Schuylkill Navigation and over the Reading railroad.

	1849.	1850.	1851.	1852.
Schuylkill, 1,	428,150	1,509,047	1,868,277	2,138,181
L. Schuyl.	174,657	211,960	310,367	324,984
Lackawana	454,240	543,886	788,485	922,897
Pine Grove	78,299	62,809	.....	75,000
Lykens V.	25,000	30,000	53,150	60,000
Shamokin.	19,658	19,921	23,989	30,000
Del. & Sus.	.....	.....	20,000	33,400
Wyoming.	258,080	275,169	336,017	320,000
Total Sch.	2,438,184	2,723,732	3,400,225	3,914,442
" Lehigh.	800,987	722,688	989,251	1,113,944
Total.	3,339,171	3,451,420	4,389,470	5,028,386

Another Evidence of the Resources of the South.

Every few days our streets present a lively appearance from the influx of wagons, loaded with Copper Ore, on its way to New York. This ore, we understand comes from the Hiwassee mines, located in Polk county, Tenn., about five miles from the state lines of North Carolina and Georgia.

This region of country is a primitive formation, and abounds in minerals.

The vein runs longitudinally, in a series of hills, in a north east and south west direction; they being a spur of the Alleghany range of mountains.

The ore is principally black oxide of copper, yielding, we understand, from ten to seventy per cent of pure metal.


The black oxide is found at a distance of about forty feet from the surface; the vein here being fifteen feet wide, on an average. Below the stratum of black oxide, the vein gradually increases in width, as you go down, and produces yellow sulphuret of copper. Several hundred tons have already been taken out of the mines.

The company is constructing a plank road from the mine, down the bank of the Ocoee river, to Cleveland.

Were our beds of iron, coal, marble, copper, &c., located in a section of country, where people have enterprise enough to work them, they would prove to be sources of wealth, far beyond the expectations of those who have never estimated their true value.—*Dalton (Ga.) Times.*

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
 Iron, Chairs and Spikes
 Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.
 Office next door to the Custom House, Main st.
 January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF
WARRANTED Cast Steel of superior quality for
 Tools, Machinery and Engineering purposes.
 Single and Double Shear, Blister, German, Spring
 and Sheet Steel of every description; also, Cast Steel
 Files of high reputation, specially adapted for the use
 of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark] 

CHAS. CONGREVE, Agent,
 58 Maldenlane, New York.

Stocks of the above goods constantly on hand.
 January 12, 1853.

SISCOE BLAST FURNACE For Sale.

THIS FURNACE, situated in Westport, Essex
 Co., N. Y., on Lake Champlain, is capable of
 producing 3000 tons Pig Iron per annum. It is
 blown by a powerful steam engine, and another en-
 gine raises the stock, etc. There are eight
 Kilns, which can make 500,000 bushels Charcoal
 per annum, connecting by Railroad with the Fur-
 nace, and nearly an acre of sheds for seasoning
 wood. One large Brick Mansion House, with ex-
 cellent Farm, one Brick Cottage, seventeen Houses
 for workmen, commodious Blacksmiths' and Car-
 penters' Shops, etc., etc., and about 1500 Acres of
 Land. The Furnace is situated on a large and
 convenient Dock; Wood for making Charcoal can
 be obtained cheaply in the neighborhood, and An-
 thracite coal from Rondout can be delivered at low
 rates. By the proposed Ship Canal from Lake
 Champlain to River St. Lawrence, coal could also
 be brought with great facility from Erie. The rich
 Magnetic Ore of Essex County, particularly that
 from the famous Port Henry Bed, can always be
 procured cheaply and in great abundance. The
 property will be sold on reasonable terms. Inquire
 of Messrs J. & L. TUCKERMAN, 69 West street,
 New York, or of F. H. JACKSON, No. 5 Liberty
 Square, Boston. 1m2

LOW MOOR IRON.

WM. BAILEY LANG, 9 Liberty Square, Boston,
 and 24 Broadway, New York, Sole Agent in
 the United States and Canadas for the Lowmoor
 Iron Co., is prepared to receive orders for this justly
 celebrated Iron, and offers for sale an assortment
 of the Round sizes which he now has in store, and which
 for strength, soundness and uniform quality, stands
 without a rival.

Superior Cast Iron Gas and Water Pipes.

THE Subscriber is prepared to contract for the sup-
 ply of **CAST IRON PIPES** required by Gas or
 Water Companies, Corporations, etc., delivered in any
 Seaport in the Union, on reasonable terms. These
 Pipes are cast on the most improved principle by the
 best Founders in Scotland, from a superior quality
 of Pig Iron remelted, are guaranteed to resist a pres-
 sure of 300 lbs. to the square inch, or greater if ne-
 cessary, and to be soft enough to drill easily and freely.
 Full information regarding price, and references to
 parties in the United States now using the Pipes, can
 be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
 21 Renfield st., Glasgow,
 Scotland.

J. M. EADIE, Agent,
 26 Front st, New York 1y50

Railroad Iron.

5000 TONS Railroad Iron, weighing about 59
 lbs. per yard, "Erie" pattern of G L and
 "Crawshaw" manufacture, now on the way from the
 shipping ports in Great Britain to this port, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
 No. 51 New street.

December 4, 1852.

SIMEON DRAPER, No. 46 Pine-st., offers for
 sale, a variety of **RAILROAD BONDS** and
STOCKS; also **CITY, TOWN** and **COUNTY**
BONDS, among which are—

1st Mortgage Convertible—
 7 per ct. bonds of Canandaigua and Corning
 R.R., payable in.....New York, 1860
 Do. Buffalo, Corning and New York do.....1867
 Do. Western Vermont Railroad.....do. 1861-71
 Do. Evansville and Illinois.....do.....1862
 8 do. Michigan Central.....Boston, 1860
 Do. Peoria and Oquawka,.....New York, 1862
 1st Mortgage—
 7 per ct. bonds, Corning & Blossburg do.....1871
 Do. Mansfield and Sandusky.....do.....1860
 7 per ct. Vermont Valley.....do.....1860
 Do. Troy and Bennington.....Troy, N. Y. 1861
 Do. New Jersey Central.....New York, 1860-70
 Do. Dauphin and Susq. Coal Co. do.....1871
 Do. Brunswick Canal Co.....do.....1857

Also, second mortgage bonds of many of the above
 companies, and—

7 per ct. bonds Saratoga and Wash. N. York, 1862
 Do. Troy and Boston.....do.....1864
 Do. Muscogee Railroad.....Savannah, 1862
 Do. Huron and Oxford.....N. York, 1862
 Also, Georgia 7 per ct. State stocks,
 interest payable semi-annually.....do.....1872
 City of Savannah 7 per cent. bonds,
 interest payable semi-annually.....do. 1870-76

7 per ct. bonds of the Town of Huron,
 Erie county, Ohio.....do.....1861
 10 per ct. City of Keokuk, Iowa, Keokuk, 1863
 6 per cent. City of Memphis.....Philadelphia, 1880
 10 per cent. City of San Francisco, San Fran. 1870
 12 " " Benicia, California, N.Y. 1855
 12 " " Sacramento, do. Sacramento.
 7 per cent. Atlantic Steamship Co. N. York, 1855
 12 per cent. Improvement Scrip of the
 State of Wisconsin for improve-
 ment of Fox River.....do.....1862

Troy and Rutland railroad Stock, with guarantee
 of 4 per cent. dividend and one half surplus profits
 of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of
 4 per ct. div'd by Saratoga and Washington R. R.
 Also, Stock of the Cambria Iron Company.

Stock in the Western Vermont R. R. Co.

Stock in the Mad River R. R. Co.

Stock in the Buffalo, Corning and New York

R. R. Co.

Stock in the Mansfield and Sandusky R. R. Co.

Stock in the Southern Bank of Kentucky.

Stock in the Mechanic's Bank of N. Y.

Stock in the East River Insurance Co.

The Cold Spring Iron Works, INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-
 setts, manufactures **CAR AXLES**, and all kinds
 of **WROUGHT IRON** used in the manufacture of
LOCOMOTIVES and **CARS**; also, **BAR IRON** of
 all descriptions. Particular attention is paid to the
 manufacture of **CAR AXLES**, and the Works being
 situated in a region of **WOOD** and **CHARCOAL**,
 with which their Axles are exclusively made, the Com-
 pany feel confident they can furnish an article equal,
 if not superior, in quality and finish to any in the
 market. They solicit the orders of **RAILROAD**
CORPORATIONS and **CAR BUILDERS**, and pro-
 mise they shall be promptly attended to; and executed
 on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Rail-
 road, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.

E. T. Osborn, Esq., Superintendent of the Mad Riv-
 er and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder,
 Address **HENRY MELLUS, Agent,**
 Boston, Mass.

or, **GEO. W. PRESCOTT, Sup't.**
 Otis, Mass.

November, 12, 1852. 1y

Railroad Iron.

5000 TONS, weighing about 55 lbs. per yard,
 now on the way from Great Britain to
 New Orleans, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
 No. 51 New street.

December 4, 1852.

The Cambria Iron Company,
ORGANIZED under the laws of Pennsylvania,
 with a capital of \$1,000,000, propose embark-
 ing in the manufacture of Railroad Iron, at *Johns-*
town, Pennsylvania. The location they have se-
 cured offers advantages superior, it is confidently
 believed, to any other in this country. Iron Ores,
 semi-bituminous Coal, Limestone, and nearly every
 article required for the manufacture of Iron, exist,
 in inexhaustible quantities, on the spot; and these
 deposits are now worked, and the minerals deliv-
 ered, cheaper than at any other known point now
 occupied for the manufacture of Iron. The Penn-
 sylvania Canal and Central Railroad pass through
 the property, and cross each other at the spot where
 the mineral veins are most thoroughly opened out;
 and which location, for its other advantages for fa-
 cility of manufacturing, and vicinity to a populous
 borough, has been selected for the establishment of
 Railroad Iron Works, and for the erection of other
 Blast Furnaces, in addition to those now in opera-
 tion.

The attention of capitalists disposed to embark
 in an enterprise which offers a remunerating profit,
 even on the low prices of iron current before the
 rise of the last six months, and which promises to
 be very lucrative while anything like present rates
 prevail, and also of Railroad Companies desirous
 of making arrangements for Iron Rails to be deliv-
 ered in 1853, is called to this enterprise.

Out of the capital named above, the sum of
 \$360,000 has been devoted to the purchase of about
 30,000 acres of land, upon which there are six blast
 furnaces, which cost, including the personal prop-
 erty accompany them, \$350,000. Three of these
 furnaces are now in successful operation, and by
 next spring, with an outlay of about \$6,000, the
 other three can go into blast; and at the present
 price of pig iron, these six charcoal furnaces would
 realise a net profit of six per cent on \$1,000,000
 capital.

The company contemplate erecting four more
 blast furnaces, for smelting with coke the iron ores
 at Johnstown, and also works for manufacturing
 railroad iron. To do this, they will require sub-
 scriptions in all to the amount of \$600,000, and to
 carry on most profitably the manufacture and dis-
 posal of rails, the whole chartered capital should
 be raised. Subscription lists, providing that no
 subscription shall be binding unless bona fide sub-
 scribers for the amount of \$600,000 are obtained
 by the 1st January next, and pamphlets descriptive
 of the advantages of the locality and estimates of
 costs, can be had of the undersigned.

D. M. WILSON, Newark,
EDWARD F. GRANT, New York,
SAMUEL H. JONES, Philadelphia,
JOHN HARTSHORN, Boston,
T. F. SECOR, New York,
G. S. KING, Johnstown,
P. SHOENBUGER, Pittsburg,
RHEV, MATHEWS & CO., Pittsburg,
 or at the office of the Provisional Committee, at
SIMEON DRAPER'S, 46 Pine st.

The subscriber is prepared to enter into contracts
 to deliver **RAILROAD IRON** to Companies re-
 quiring it in 1853. **SIMEON DRAPER.**

Iron.

200 Tons Fishkill Charcoal Iron for sale on
 reasonable terms, also from 1000 to 5000
 tons Fishkill Hematite Ore—delivered at Pough-
 keepsie or New York. Samples of the ore may be
 seen at the store of Messrs. Hoffman, Bailey & Co.,
 No. 62 Water st., New York. Enquire by letter to
NORMAN M. FINLAY,
 Poughkeepsie, Dutchess county, N. Y.
 July 10, 1851.

A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels
 for Cars and Locomotives. Also furnish Wheels
 fitted complete on best English and American Rolled
 and American Hammered Axles. 31tf

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchas-
 ers, by **G. O. ROBERTSON,**
 135 Water street, corner of Pine,
 November 19, 1852. New York.

Volcano Quartz Mining Co.VOLCANOVILLE, EL DORADO COUNTY,
CALIFORNIA.

BOOKS for subscription to \$75,000 of the stock of this company are now open at the office of the company, 78 BROADWAY, New York.

The uncommonly rich claims of this company hold out inducements, to those who are disposed to invest capital in quartz mining in California, not surpassed, it, indeed, *equaled*, by those of any other company in that state.

The extraordinary richness of our quartz, as was witnessed by *thousands* at the late *Fair of the American Institute*, and the extent of our claims, together with the peculiarly favorable location for economical working upon a large scale, will ensure the *most ample and satisfactory* returns upon the investment.

It is well understood by practical men that, with machinery working *twenty tons* of quartz, paying *two cents* per lb., large profits will be realized upon each day's work. It is the intention of the company to obtain machinery sufficient to work *fifty tons* per day, and to work it in the most economical manner, by which they feel confident of being able, from their stock which will yield from *two cents* to *twenty dollars* to the lb., to make returns to their shareholders which will not only satisfy, but surprise them.

It will be seen, by reading the pamphlet, containing the *charte*, the laws of California, and the details of our plans of operation, that our estimates are based upon *two cents* per lb., and the expenses of working the mill are but, at present *high prices* for labor, while it is well known to all who reflect upon the matter that, as the cost of labor shall be reduced, the income will be materially enhanced.

If we work 40 tons per day, and yet *two cents* per lb., it will yield \$16, while *three, four, or five cents* per lb., would give a proportionate increase of receipts, the expenses of working the mill would not be increased a dollar, and will be less than \$470 a day.

Subscriptions can be made by mail, enclosing, *ten per cent* on the amount, of the balance, *twenty per cent* to be paid on the 29th of Nov. inst., and *seventy per cent* on the 29th day of December next, when certificates of stock will be issued.

Pamphlets, containing the statute of California in relation to corporations, the rules and regulations of our locality, the charter and by-laws of the Co., together with much other interesting and useful matter, including a map of a portion of the northern mining regions may be had gratis at the office of the company, No. 78 Broadway, or by mail on application, (postage paid.)

TRUSTEES OR DIRECTORS.

NICHOLAS DEAN,
ROBERT M. STRATTON,
NATHANIEL CONKLING,
D. K. MINOR,
JOB S. HEARN,
SUMNER WHITNEY,
BENJAMIN C. DONNELLAN,
JAMES CLOUDSLEY
JAMES ALLEN,

} of New York.

} of California.

D. K. MINOR, President,
JAMES CLOUDSLEY, Vice President.NICHOLAS DEAN, Treasurer.
NATHANIEL CONKLING, Secretary.
New York, Oct. 25, 1852.**To Railroad Co's, Locomotive Builders and Engineers.**

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Aug. 29, 1851. 3m*

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK,

To Railroad Contractors.

SEALED PROPOSALS, addressed to either of the undersigned, will be received at Hillsborough, Highland county, Ohio, until the 1st day of February next, at noon.

For the Graduation and Masonry of the Middle Division of the Cincinnati, Hillsborough and Parkersburgh Railway, extending from Hillsborough, Highland county, to a point near Jackson, Jackson county, Ohio, about 56 miles.

The line will be ready for examination early in January, and Profiles and Specifications of the work will be exhibited at the Engineer's office, in Hillsborough, for one week prior to the 1st day of February.

This Railway forms the recognized continuation across Ohio, of the Baltimore and Ohio, and North Western Virginia Railways, and being located as a link, in the great through line between Baltimore and St. Louis, will be found in every way worthy of the attention of able and enterprising contractors.

The remainder of the line to the Ohio river will be ready for contract about the 1st day of May next. JAMES M. TRIMBLE, President.

ELWOOD MORRIS, Chief Engineer.

Notice to Contractors.

Alleghany Valley Railroad Lettings.
SEALED PROPOSALS will be received at the Company's Office, in Fourth street, Pittsburg, until the 22nd day of February, 1853, for doing the Grading, Masonry and Bridging on the portion of said road, between Pittsburg and Kittanning, Armstrong County, a distance of 42 miles. The line will be divided into Sections of about one mile in length, and bids may be made for one or more or all of said sections.

Plans, Profiles and Specifications will be ready for inspection on and after the fifth day of February. Proposals will be received for the Grading, Masonry and bridging, and also for the *superstructure*, and finishing said 42 miles, complete, (except furnishing iron.)

Bids will be received and considered, for the entire work, (except furnishing iron,) from Pittsburg to the New York State line.

Satisfactory references will be required from bidders not personally known to the Company. For further information, application may be made personally, or by letter, to Hon. William F. Johnston, President of the Company, or to George R. Eichbaum, Esq., Associate Engineer, or to the subscriber.

W. MILNOR ROBERTS, Chief Engineer.
By order of the Board of Managers.
Office of the Alleghany Valley Railroad Company, Pittsburg, December 20th, 1852.

LOW MOOR AXLES,
A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent - WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.
RAILROAD Companies, and the public generally, are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.
Oct. 2, 1852. 1y* E. DEWOLF, Jr.

To Civil Engineers and Surveyors.
A CIVIL ENGINEER and Surveyor of very great experience in every detail of locating designing and constructing Public Works, especially Railroads, is desirous of a situation, he has been engaged practically for the past sixteen years and can produce the most satisfactory testimonials.
Address D. F. ca. of Geo. Gilchrist.
1 m-52 422 Washington-st. N. Y.

\$200,000 SEVEN PER CENT. CONVERTIBLE BONDS OF

the NEW-CASTLE and RICHMOND RAILROAD.—The undersigned offer for sale TWO HUNDRED SEVEN PER CENT CONVERTIBLE BONDS for \$1,000 each, of the NEW-CASTLE and RICHMOND RAILROAD COMPANY, with Interest Coupons attached, payable semi-annually at the office of the Ohio Life Insurance and Trust Company, in New York. The Bonds are payable at the same place in fifteen years and are convertible into the stock of the company within five years.

These Bonds are secured by a mortgage executed by the Company to George Carlisle, of Cincinnati, and Joseph B. Varnum of New York, Trustees of the road from Richmond in Wayne County, to New-Castle in Henry County, including the superstructure, iron rails, depots, tolls, privileges and franchises of the Company. This mortgage is the FIRST AND ONLY LIEN upon this section of the Road, which is a part of the great Trunk Railroad from Cincinnati to Chicago.

The New-Castle and Richmond Railroad extends from Richmond to Logansport, 103 miles, the whole of which is under contract, and about one thousand hands are now employed on the road.

The total amount of stock subscribed upon the whole road is \$509,400. The stock applicable to the construction of the road from Richmond to New Castle is \$250,900.

This railroad passes through the most fertile, populous and highly improved part of Ohio and Indiana, and it must become the great route for freight and travel between Cincinnati and Chicago and the Northwest.

The local business alone would be sufficient to make the road profitable. The counties of Indiana through which it runs produce annually more than two millions of bushels of wheat, five millions of bushels of corn, one hundred and fifty thousand hogs, and fifteen thousand cattle, a large part of which must be transported to market on this road.

The iron rails for more than fifty miles of the road have been purchased. Ten miles of the road, from Richmond to Washington, will be completed and in operation in November next, which will make a continuous railroad of about 70 miles from Cincinnati, by way of Hamilton, Eaton and Richmond.

The holders of the bonds will have for their security the obligations of the company, with subscriptions of stock to the amount of more than half a million of dollars, and a mortgage upon the road from Richmond to New Castle, with the iron rails, superstructure, tolls and franchises of the company.

CARPENTER & VERMILYE, 44 Wall-st.
CAMMANN WHITEHOUSE & Co. 56 Wall-st.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Sole Manufacturers, 81

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.
November 3, 1849. 1v

Gerard Ralston,21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,**
COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co, London.

" Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

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SATURDAY, JANUARY 22 1853

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American Railroad Journal.

Saturday, January 22, 1853.

Journal of Railroad Law.

CONSTRUCTION OF A CHARTER.

The *Lake Shore Railroad* controversy involved in the case of *The Commonwealth vs. the Franklin Company* recently decided in the Supreme Court of Pennsylvania so far as relates to the motion for a preliminary injunction, has justly awakened an extraordinary degree of interest.

The Franklin Company was incorporated by the Legislature of Pennsylvania in 1844 for the purpose of reconstructing and repairing the Franklin division of the Pennsylvania Canal from the aqueduct over French Creek to the mouth of French Creek.

French Creek rises in the southern part of the State of New York, and flows through Erie County into the Alleghany at Franklin in the north western part of Pennsylvania.

By the act of incorporation the proprietary rights of the State to that division of the Canal, were vested in the company, together with the surplus water power, toll houses, implements, and all property real and personal, which the Commonwealth owned there, for the use of the Canal. On the 9th

of April, 1849, the company was authorized to construct a railroad instead of repairing the Canal, if they should think it more expedient, and to use the graded line or towing path of the Canal, as the bed of the road, and by the same act the privilege was given to the company, upon increasing its stock to \$500,000, of extending northward to the Lake and south to Pittsburgh.

The following is an abstract of the opinions of the Court.

Chief Justice Black after stating the nature of the case, observed that the defendants were charged with proceeding to construct a railroad from Erie to the Ohio Line without any purpose of going from Franklin to the Lake, but solely to connect with a railroad running from the State Line to Cleveland. This the bill avers to be an injury which can only be remedied by an injunction for the following reasons:

1st. The Commonwealth is interested in the due application of the funds of the company, for the purpose for which it was chartered.

2d. A road from Pittsburgh to Erie would have benefited the State,—but the road complained of will divert travel.

3d. The road in question is an unauthorized obstruction of certain public highways.

4th. It is inconsistent with the policy of the State, to surrender the advantages of her position,—which are of great pecuniary value.

To sustain this motion for a preliminary injunction, affidavits have been presented, from which it appeared that the defendants have already made a railroad commencing in the city of Erie, at the depot of the Erie and North East Railroad, (which extends into the State of New York) and terminating at the point where the Cleveland, Painesville and Ashtabula railroad strikes the line between Ohio and Pennsylvania. This road is now in use carrying the freight and passengers which arrive in both directions on the respective roads with which it connects.

The great point for decision is whether the conduct of the company is authorized by their Charter.

It is true that the defendants have been guilty of conduct which can not and will not be tolerated the sooner they are made aware of the extreme peril to which they have exposed themselves the better for them. For these reasons principally we proceed

to examine the charter and its supplements, and to compare them with the acts of the company, that we may see how they agree together.

His Honor after stating the Legislative provisions, which have been cited above, proceeded in substance to say;—It is obvious that assuming that the charter gives to the Franklin Canal company the right simply to make a railroad from Pittsburgh to Lake Erie without any restrictions expressed or implied as to the part of the work which shall be first done, can we say that they are within the law in making a road from Erie to the Ohio Line? To his question we give an emphatic answer in the negative.

The object of the Legislature was obviously to make a connection by railroad between Pittsburgh and some harbor on the Lake. The company have in making their road wholly disregarded those termini. The State contemplated an increase of her trade,—which the conduct of defendants have diminished.

The defendants' road is not part of the road chartered, it is the whole of another road not chartered. It bears no resemblance to that described in the act of incorporation. It is different at both ends—different in character, location and object, and is used at this moment for purposes totally opposite to those which the legislature ever expressed an intention to permit.

The defendants do not conceal that the profit of a connexion with the Ohio road was their motive in making it. This is a grave error. They are not at liberty to consult their own advantage—but the advantages of the route as a route. A deviation of half a mile to effect a forbidden object is not more lawful than if it were 100 miles out of the way.

Besides, we hold without doubt or hesitation that no railroad company can connect with a foreign railroad which meets it at the State line, unless expressly authorized by its charter, or unless such connection can not be avoided without losing the advantage of what is clearly the best route.

The fiercest of our Legislative controversies have related to granting rights of way, and express authority is in such cases necessary.

This connection also violates the spirit if not the letter of the act of 15th April, 1851, which forbids all connections by means of private railroads with any railroad authorized by the laws of New York or Ohio. The defendants may not have known

that it was wrong to make one road under a charter which authorized another, but to suppose that they thought them identical would require "the charity which believeth all things."

It is said that defendants intend to make a road to Franklin. This is a good intention, but not good enough to sanctify an evil deed. But there are certain facts, shown by the evidence in the case which negative the idea of any such intention on the part of the defendants.

Notwithstanding, there is an act of Assembly which, according to our construction of it, directly forbids the awarding of a preliminary injunction in any case where the Commonwealth is the plaintiff. The statute I refer to is that of 6th May, 1844, and says: "No injunctions shall be issued by any court or judge until the party applying for the same shall have given bonds with sufficient sureties to be approved by said court or judge conditioned to indemnify the other party for all damages that may be sustained by reason of such injunction." This of course does not mean final injunctions, which conclusively settle the rights of the parties, leaving no question of future damages. We can not doubt that it was intended to prevent men's rights from being jeopardized by special injunctions awarded during the pendency of causes. The words are broad and general. They apply to all cases, and we can not see upon what principle we could except a case in which the Commonwealth is plaintiff. But the Commonwealth can give no bond, there being no organ of the government authorized to execute it for her; and if she could give bond she would not be suable on it. The law which forbids an injunction to be granted without bond from the party, can only be obeyed in this case by refusing the injunction altogether.

This disposes of the matter for the present. We might have refused the motion, by a mere reference to the statute, but considered that a mere naked statement of our conclusion would have been unjust to ourselves.

Mr. Justice Gibson concurred.

Judge Lewis dissented upon the following grounds: He believed that the State was not bound to give security in the case, and was not such a party as was included within the act of 1846.

The Franklin Canal company are not bound to erect a railroad on the tow-path of the canal. They have the privilege so to do, but they may, at their option, make that part of the line a canal, or slack water navigation to the end of time.

The act authorises them to select the route which they shall deem most advantageous. They have selected such a route, and it is not denied that they may commence at any point they prefer. It has not been shown that a better route could be selected. The court should not be asked upon ex parte affidavits to presume a fraud. Two routes have been shown to the court by the company, and the one they have adopted is justified by decided advantages.

But there were other considerations; the great convenience to the passengers and the public, by a connection with the Ohio railroad terminating at the State line. If we get into the notion that it is crime to travel from one state to another, or to facilitate highways, whether wagon roads or railroads, between one state and another, we may easily imagine fraud, and getting upon the scent of it think we have discerned it. But independent of the constitution of the United States, the right of passing from one state to another is a right of nature, common to all nations, and its unjust hin-

drance is good cause of war. Congress, and no the state of Pennsylvania, has the right to regulate commerce among the states.

The Lake Shore road violates no rights of the state. Passengers from Cleveland or Buffalo would, if there were no Lake Shore railroad take the lake. A small portion would come to Pittsburg.

Forcing trade out of its natural channels is immoral.

The Lake Shore road has become a Post route. The state, with a full knowledge of the fact, acquiesced in the carrying of the road to Ohio, until it was finished and became by law a post route.

The state has not the right to change the natural course of trade to draw it into a tax trap.

She has the right, however, to tax this and all other roads, and by such tax she will receive ten times more than she ever collected by an attempt to force trade into unnatural channels.

The company has expended over half a million of dollars, with the knowledge and acquiescence of the State—she has a right to tax the road; it would be utter ruin to the company to allow no one to pass over this highway, and do no good, on the contrary, injury to the State. On the whole case his Honor was satisfied that the company stands convicted of no fraud in regard to the route they have adopted, because by the terms of their charter they may select the most useful, proper and profitable route to lake Erie.

Thus a majority of the court pronounce the Lake Shore road to be unauthorised, although upon technical grounds they refuse an injunction in the present state of the case.

The Inaccessibility of New Orleans.

Perhaps there is no city in the Union so much a place of resort for business or pleasure, that is so unapproachable, taking the year round, as New Orleans. For a part of the year, from midsummer to late in the fall, the only convenient approach to it is by sea, and that at intervals, sometimes, of two or more weeks. From the lowness of the rivers, we have known thirty days occupied in the transit from New York to this city, and twelve and fifteen is not an unusual occurrence. We have, to be sure, a mail route, on which the mail is carried through in seven and a half days, but on this route passengers have to travel on the Alabama river, never a pleasant trip, and in the summer and fall often a precarious and uncertain one. Then, again, there is the staging through a part of western Georgia, which no one who has time and will at his disposal would, under any consideration, encounter at the present season of the year. The roads are in a most horrible condition, and if report says true, the traveller has to encounter much annoying and vexatious treatment.

These are cogent reasons for establishing a railway connection between some point on the Gulf and the Atlantic cities. Two projects are in contemplation, both of which are feasible, and called for by the pressing wants of the public. One is a communication across the northern part of the peninsula of Florida, and the other, a railroad from Mobile Bay to Girard, on Chattahoochee, from which point, in a short time, there will be a continuous line of railroads to the northeastern extremity of the Union.

Whatever competition there may be between river and railroad transit for the transportation of merchandise, there is none for the conveyance of passengers. No one will take passage in a close, dirty steamer, with badly cooked fare, and subject to uncertain detention on sand bars, when he can travel comfortably with lightning speed on a railroad. It is to the interest of every railroad on the mail route from here to New York to expedite the railway communications that are in contemplation or progress, with the view of circumventing the Alabama river part of the journey, and which so seriously prejudices the interests of their continuous lines of railroads commencing at Montgomery.

We omit saying anything further in reference to the great inconveniences, discomforts and vexations of the land carriage part of the route; for we hope in a very short time hence to experience the welcome time, when rickety stage coaches, broken down spavined horses, surly stage agents, and unskillful stage drivers, will no longer be the living experiences of this progressive age.—*N. O. Com. Bulletin.*

Pennsylvania.

Reading Railroad.—The receipts of this road for the fiscal year ending the 30th of November are as follows:

From passengers.....	\$168,430 29
"merchandise.....	138,968 61
"coal, 1,650,912 tons at \$1 30	
27,1000.....	2,150,677 17
"U. S. mail.....	8,865 77
"miscellaneous.....	13,689 57
Total receipts.....	\$2,480,626 41

Expenditures—working	
pens.....	\$1,076,773 19
Drawbacks, etc.....	151,865 93
	\$1,228,639 12

Net profit for the year.....	\$1,251,987 23
Interest on bonds and mortgages and	
renewal fund.....	724,585 73

Dividend fund for the year.....	\$527,401 56
Together with balance held at commencement of year.....	8,185 94

Total..... \$535,537 50

Which has been disposed of as follows, viz:

Dividends.....	\$375,935 92
Sinking fund.....	100,000 00
Interest.....	31,093 10
State tax.....	19,392 82
	\$526,421 84

Balance dividend fund, 1852.... \$9,165 66

The conversion of bonds into stock was much larger than was anticipated, having reached, at the closing of the books, \$1,148,000. Had this conversion not taken place, the stock distribution would have equaled about 11 per cent. for the common and 5 per cent. for the preferred. The renewal fund which showed a debt at the last annual statement of \$18,716, now shows a credit balance of \$22,487 10.

Since the creation of this fund, fourteen new first class locomotives, and sixty-five cars costing together \$137,799 44, have been procured and paid for from it; while it has been credited with \$37,309 68, the proceeds of eight second and third class locomotives sold. The original object of this fund was merely to perpetuate the property then existing, and it was not designed for the purpose of acquiring more. This, the managers do not hesitate to assure you, has been fully accomplished. The large number of cars by constant renewals with better materials, are undoubtedly more efficient in all respects than when the fund was established.—This is shown by the fact that in 1849, (when the fund was created) one car was broken for every 2,282 tons of coal carried, while last year, one car failed for each 3,534 tons only.

During the year the managers of the road have made additional purchases of real estate for the accommodation of their passenger and merchandise trains at Broad and Willow-streets, and now own nearly the entire square bounded by Broad, Willow, Callowhill and Thirteenth-sts., and have also secured 1,269 feet of river front adjoining their present property at Richmond.

The increase in the coal trade in 1852 was but 544,814 tons, while in 1851, the increase was 1,001,051 tons. The business of the road has, how-

ever, realized a profit of 9 per cent on the common and preferred stock after payment of the interest on the debt. One hundred thousand dollars of the profits have gone into the Sinking fund, leaving 7 per cent. for the preferred and 6 per cent. for the common stock. The average charge of transportation during the year has exceeded that of 1851 by about 8 cents per ton, and the present winter rates exceed those of last winter by about 20 cents per ton. This alteration will secure an increase in the profits of at least \$100,000.

The cost of transportation, as compared with that of the previous year, shows a slight reduction on coal, a small increase on merchandize, and 18½ cts increase per passenger. The cost of hauling coal has been diminished over 3 cents per ton, while the roadway expenses have increased nearly 2 cents per ton. The passenger trains have been run 33 672 miles, and the merchandize trains 16,876 miles more than in 1851. The rolling stock of the road is in good order. The two long bridges at the falls are recommended to be re-built, the cost is estimated at \$193,000. In April last the company sold \$600,000 of bonds, and have during the year increased their equipment of cars and locomotives, besides purchasing largely of real estate. The managers purchased during the year 15 new first class locomotives and 70 cars; of the engines, 7 were purchased of Ross Winans, Esq., of Baltimore, and 8 were constructed in the workshops of the company, and all are adapted for anthracite coal, which fuel is now used with entire success. As this machinery was obtained for an anticipated increase of business, the cost, \$155,933 42, is not regarded as a legitimate charge to renewal fund.

The bonds and mortgages on real estate have been increased \$159,000, and the expenditures for real estate, cars, engines, etc., exceeded by \$57,855 47 the amount of securities authorized. The following statement exhibits the floating liabilities.

Bills payable and open accounts.....	\$327,475 71
Coupons and dividends due in January and April.....	488,874 60
Renewal and dividend funds.....	31,652 76
From which deduct the expenditures in 1852, authorized by the stockholders, and for which provision is to be made.....	57,855 47
	\$790,147 60
To meet which the statement exhibits assets which may be thus classified, viz:	
Cash, bills receivable, and freight and tolls, bills.....	\$118,809 12
Debts incurred in the current business of the company immediately available.....	41,867 71
Ditto secured by real estate.....	102,275 92
Do. with various securities.....	252,426 60
do. without security, chiefly for freight and tolls bills.....	\$44,767 14
Less probable loss.....	18,403 42
	\$26,362 72
Stock & bonds held by the company, chiefly stock in Telegraph line from Philadelphia to Pottsville.....	35,938 50
Materials on hand for the current business of the company, (see page 50).	209,450 61
Sinking funds 1853, being over-invested in 1852..	3,009 43
	\$790,147 60

In connection with the expenditures already incurred for the accommodation of the business anticipated, and for which it is their duty to be prepared, the managers will briefly assign some of the reasons which have influenced their judgment.—They believe that the present prosperity in all branches of industry in the country will cause an increase in the consumption of anthracite coal, at least equal to that of the past over the previous year. This would be 544,814 tons; and it will, without doubt, be largely augmented by the great stimulus given to the manufacture of iron, in consequence of the advance in the price of that article, which has exceeded fifty per cent. during the last four months. Already many works, for a long period idle, have again commenced operations, and many new furnaces, mills, etc., etc., have been started.

The other works at present engaged in conveying coal from the Pennsylvania region, it is believed, cannot transport more than 400,000 tons over what they did during the past year—any increased demand for coal must ensure to the benefit of the Reading road, and its managers ask for authority to enable them to provide means to accommodate it.

In the course of the coming year, one or more of the lateral roads connected with this work will be extended to the second great coal field, thus giving a direct railroad connection, by the Philadelphia and Sunbury road, with the rich valley of the Susquehanna at Sunbury and Danville, where some of the largest iron establishments in the country, are now in full and successful operation. The Dauphin and Susquehanna railroad and coal company are also extending their road to connect with that of this company at Auburn (ten miles below Pottsville,) and also uniting with the great Pennsylvania road six miles above Harrisburg; thus forming a portion of a line to Pittsburg, which in economy of time and cost, it is believed, will fully equal the existing route via the State works. This road also develops the immense coal region forming the western end of the first great coal basin, and secures to this company for transportation, a variety of coal from bituminous to anthracite.

The contracts are also made for the extension of the road of the Little Schuylkill Navigation and railroad company to Tamanend, the southern terminus of the Catawissa, Williamsport and Erie railway, extending to Catawissa on the Susquehanna, and thence to Williamsport, and there connecting with the Williamsport and Elmira railroad. The latter, at Elmira in the state of New York, in turn connecting with the New York and Erie railroad, and the lines of railway running north, joining at Canandaigua and Batavia the Albany and Buffalo line, and thence to Niagara Falls, there connecting with the Great Western railroad in Canada. These have branches to Sodus Bay and the mouth of the Niagara river on Lake Ontario, points most accessible to some of the other important roads in the Canadas; thus forming a direct Northern and Southern line.

These important connections will all be secured early in 1854 and several of them during the present year. Energetic measures are also now being taken for the construction of the railroad from lake Erie to Williamsport, and a vigorous prosecution of the work to an early completion may be anticipated. This, by means of the railroads already named, will give a better outlet to the vast trade of the great lakes than is presented by any other work completed or projected. This trade already equals

in value our national imports. In all these lines, the works of this company form an essential link.

FINANCES OF MISSOURI.

The following financial statements are contained in the Message of the Governor of the State of Missouri.

The results of the census returns of 1850 in Missouri give these totals.

Improved lands, 2,924,991 acres. Unimproved lands, 6,767,937. Cash valuation of farms, \$63,457,482. Value of farming implements and machinery, \$3,965,945. Horses 223,593. Mules 41,408. Milch cows, 228,553. Working Oxen, 111,248. Other cattle, 445,615. Sheep, 756,309. Swine, 1,602,043. Value of live stock, \$19,756,851. Value of animals slaughtered, \$3,344,517. Bushels of wheat, 2,966,928. Bushels of corn, 36,069,543. Bushels of oats, 5,243,476. Pounds of tobacco, 17,000,881. Pounds of wool, 1,615,860. Value of orchards, \$512,527. Value of produce of market gardens, \$99,454. Tons of hemp, 22,558.

The returns from all the counties in the State, except ten, show the aggregate amount of taxable property, as assessed for the year 1852, to have been valued by the assessors, at \$112,465,653 75.—This sum is made up of the following items: The assessed value of lands is \$45,438,609 75; value of town lots \$30,580,354; value of slaves \$22,810,675; other personal property \$13,636,015. In recurring to the aggregate statement of the assessed value of taxable property, it will be found to have doubled in the last seven or eight years.

There has been paid into the treasury from the 1st of October, 1850, to the 1st of October, 1851, \$480,260 65. From first of October, 1851, to 1st of October, 1852, \$472,423 05. This is total receipts; of which there is of revenue proper, for the first year \$296,167 18, and for the second year \$326,579 44. Adding gross amounts of receipts together, and also balance in the Treasury first of October, 1850, \$657,972 79. From this, deduct amount of warrants drawn on the Treasury for two years, ending 1st of October, 1852, \$891,687 63, and also deduct \$260,668 79, the amount due the Bank for interest paid upon State bonds, and for which no warrant was drawn, but for which, by a joint resolution of the late legislature, the Auditor was required to give the Treasurer a credit.

It will be subject to a further deduction of \$37,445 91, amount of deficit found against the late Treasurer, and also, the further sum of \$19,869 59, the amount of state bonds, and interest on the same, paid by the Treasurer, and which he holds as so much money. Deduct these sums, and it leaves chargeable upon the Treasury, on the first day of October, 1852, \$401,409 97. The revenue receipts for the last two years up to the first of October, 1852, is \$622,749 89, and exceeds the revenue for the two preceding years \$102,011 60.

The bonds of the State outstanding on the first day of October, 1852, and which constitute the State debt, amount to \$857,000. From this may be deducted \$272,263 60 held as stock in the bank, the interest on which is paid out of the dividends; and the bank is responsible to the State for the principal. This leaves the State debt \$584,736 40. Of this amount, \$225,000 falls due in 1853, and for the payment of which there will be ample means in the Treasury. The debt will then be reduced to \$359,736 40, and of this, \$200,000 (the temporary loan bonds) falls due in the year 1856—leaving the balance of State debt \$159,736 40, which does not fall due until the years 1862-63.

The railroad policy of the State is also treated by Gov. King at considerable length.

To secure the proper application of the means advanced by the State to railroad companies, it is recommended that they should be required to make quarterly returns to some officer showing the manner in which the money derived from the credit of the State, as well as that advanced by the stockholders, have been applied; and also the number of miles completed and how much it cost thereby comparing the actual, with the estimated cost per mile.

In view of the agitation of the public mind, in

reference to a national railroad to the Pacific, I have considered it of the very first importance that the Legislature should give its energies to the completion of the road from St. Louis, terminating at or near the mouth of Kansas. For when completed we have a road three hundred miles long on a direct line to the Pacific, and will afford an argument more potent than words, that at its terminus must commence the great central national highway.

The Legislature has, by its action, determined that this road can be made without the aid of the land grant, and the Pacific railroad company sought the late disposition of the land to aid in the construction of a road terminating at some point on our western boundary south of the Osage river, upon the assurance, on their part, that the road to the mouth of Kansas, should be built without the aid of this land. There is to my mind a very good reason why there should be a general acquiescence in the disposition of this land. If it had been applied to the road terminating at the mouth of Kansas, then we should have had but one road, for no one contemplated making the road to the southwest without the aid of the land.

Making the Pacific railroad, terminating at or near the mouth of the Kansas—let the Hannibal and St. Joseph railroad be built, and also the Southwestern road, with the aid of the land grant, together with the two other roads—the North Missouri railroad and the Iron Mountain railroad, and upon the hypothesis that these roads are to be completed, it is most manifest that the State will be greatly advanced in all that appertains to her interests connected with the welfare and prosperity of the people.

The Steamships of the Port of New York.

An article by Mr. J. E. Tuell, originally published in the Journal of Commerce, exhibits the number and tonnage of the Steamships at present sailing to or out of the port of New York.

Of the British Steamers, the most successful line is the British and North American Royal Mail Steamship line. This company was established in 1838 by the Messrs. Cunard of Liverpool.

Tons.	Tons.
Arabia.....2,500	Africa.....2,200
Asia.....2,200	Niagara.....1,800
Europa.....1,800	Canada.....1,800
America.....1,800	Cambria.....1,500
Persia.....3,100	

Aggregate tonnage.....10,000

The New York and Liverpool United States Mail Steamers. This line was established by E. K. Collins, Esq., in 1850. The first of its ships, the Atlantic, sailed from New York for Liverpool 27th April, 1850. The Arctic of this line has made the quickest passage of the Atlantic Steamers from New York to Liverpool, accomplishing it in 9 days and 17 hours.

Atlantic.....3,000	Arctic.....3,000
Pacific.....3,000	
Baltic.....3,000	Aggregate tonnage.....13,000

"The Ocean Steam Navigation company," comprises the United States Mail Steamship line between New York, Southampton and Bremen, and consists of

The Washington, of.....1,700 tons.
The Herman, of.....1,700 "

Aggregate tonnage.....3,300 tons.

This company was established in 1847.

"The New York and Havre Steam Navigation company" consists of the U. S. Mail Steamers.

The Franklin, of.....2,200 tons.
Humboldt.....2,200 "

Aggregate tonnage.....4,400 tons.

"The Glasgow and New York Steamship company" is running its new steamship Glasgow, of 1,962 tons and four hundred horse power.

The Steamships employed on lines between New York and the Southern cities of the U. S. are seventeen, belonging to the following companies:

4 Steamers—Marion, Union, Southerner and Adger of 12, 15, 10 and 1500 tons, respectively, New York and Charleston Steamship company.....	6,200
2 Propellers, Benj. Franklin and Wm. Penn, (1,000 each) between New York and New Orleans.....	2,000
2 Propellers, City of Norfolk and Richmond, between Charleston, Norfolk, Petersburg and Richmond, of 444 and 518 tons, respectively.....	962
1 N. Y. and Alabama Steamship company, Black Warrior, between N. Y. and N. O., Mobile and Havana.....	1,900
3 New York and Savannah Steamship company, Florida, Alabama and Augusta, of 1,300, and 1,350 tons respectively.....	3,950
2 New York and Virginia Steamship company, the Roanoke and Jamestown, 1,050 respectively.....	2,100
3 U. S. Mail Steamship company, the Cherokee, Empire and Crescent City, 1,300, 2,000, and 1,500 respectively.....	4,800
Total number of ships employed, 17.	
Aggregate of tonnage.....	21,912

The California lines consist of the steamers of the Pacific Mail Steamship Co., as follows:

The Golden Gate.....	2,500 tons.
Tennessee.....	1,300
Northerner.....	1,200
Republic.....	1,200
Oregon.....	1,099
Panama.....	1,087
California.....	1,050
Columbia.....	800
Carolina.....	600
Columbus.....	600
Isthmus.....	600
Unicorn.....	600
Fremont.....	600
John L. Stephens.....	1,500

Total.....15,536 tons

The United States Mail Steamship Co., on the Atlantic side, connect with the Pacific Mail Co.—their steamers are,

Georgia.....	3,000 tons.
Ohio.....	3,000
Illinois.....	2,500
Empire City.....	2,000
Crescent City.....	1,500
Cherokee.....	1,300
Philadelphia.....	1,200
El Dorado.....	1,300
Falcon.....	1,000
George Law.....	2,800

Total.....19,600 tons.

Vanderbilt's Line, via Nicaragua, is composed of 10 ships.

The Northern Light.....	2,500 tons.
Prometheus.....	1,500
Pacific.....	1,200
S. S. Lewis.....	2,000
Morning Star.....	2,500
Independence.....	900
Pioneer.....	2,500
Brother Jonathan.....	2,100
Sra. of the West.....	1,600
Daniel Webster.....	1,200

Total.....18,000 tons.

The New York and San Francisco Steamship Co. is composed of the following steamers:

The Winfield Scott.....	2,100 tons.
United States.....	1,500
Cortez.....	1,800
Uncle Sam.....	2,000

Total.....7,400 tons.

The Empire City Line is composed of the following steamers:

The Sierra Nevada.....	1,800 tons.
City of Pittsburg.....	2,000
San Francisco.....	3,000

Total.....6,800 tons.

The whole number of Steamship Companies is 16, with a total of 76 steamers, embracing a tonnage of 129,010.

Pennsylvania.

Pittsburg and Steubenville Railroad.—We have the proceedings of the stockholders of this road held at Pittsburg, on the 10th inst., and present the following summary of the reports of the president and chief engineer.

The president in his report states:—

That during the past year the lines of different location for the road, have been thoroughly traced by the efficient engineers of the company, and the route for the road was adopted by the board, after the most careful investigation of the merits of the respective lines, which was found to be the shortest, cheapest, and best. As soon as the selection was made, the work was put under contract on good terms for the company, and which are fair, and no doubt will prove remunerating to the contractors.

The work was commenced about the 1st of July last, and has been steadily prosecuted since that time to the value, under the contracts, of eighty thousand eight hundred and ninety dollars. A number of releases for right of way have been obtained, and several claims for damages settled. The route selected has been proved in every way as advantageous as was represented to the board by the surveys at the time of adoption, and the work done, and measurements and estimates since made prove that the original calculation will be ample to cover the cost.

Since our last annual meeting, the legislature have authorized the company to extend their road into the city of Pittsburg, to connect with the Pennsylvania railroad, to construct such bridge or bridges as may be necessary to make the road complete and perfect in all its connections, empowered the city of Pittsburg to subscribe to the stock of your road 5000 shares, and also conferred other important privileges on your company. Under the authority conferred by this Act, the city of Pittsburg by its councils, in the most prompt and liberal manner subscribed the sum authorized, which with the stock subscribed by individuals, will make fully \$600,000.

The payments of stock called for have been promptly met, showing the great interest taken by the stockholders in the speedy completion of the work, thereby enabling the company not only to meet all its engagements, but leaving us at the end of the year with a large surplus in the treasury for the continued and more vigorous prosecution of the same.

It has been started under the most flattering prospects, with the good wishes of the public for its welfare and prompt completion: we have, says the report, carefully attended to our own business, without attempting to interfere with any roads which might be supposed to be rival routes. We acknowledge no rival—with the Pennsylvania railroad, crossing the Alleghenies without inclined planes—with our road connecting directly with the same in the city of Pittsburg, and with the same gauge crossing the river by a bridge, connecting with the Steubenville and Indiana railroad, crossing the Ohio river at Steubenville, by a bridge, and the same gauge continued through to St. Louis—there will be an unbroken line of road, by which cars, without let or hindrance, can pass over mountain and river from the Delaware to the Mississippi—to which road there can be no rival. Other roads there will and must be—but rest assured your road will be crowded to its utmost capacity, and the mighty West, advancing with giant strides, in agriculture, manufactures, and commerce, will tax all roads with business, until all will be more than content. It will build up new avenues and outlets for its trade never yet dreamed of.

The report of D. Mitchell, Jr., Esq, the Chief Engineer, states that two routes were examined from Noblestown to the western terminus—one designated as the *northern route*, passing by Bavington, Florence and Kings Creek, to the Ohio, at Steubenville; the other, designated as the *southern*

route, passing by Egypt, Burgettstown and Harmon's Creek, to the same point. The line eastward from the point of divergence near Nobles-town, to Pittsburg being common. On a comparison of the two routes, the southern was found to have the advantage, being \$284,314 cheaper, having 238 feet less ascent and descent, 32 degrees less curvature, and 2 miles less distance. It was adopted on the 24th day of May last by the board, and a contract entered into with Messrs. Manfull Nicholson & Co., on the 12th of June last, to complete the masonry and grading of the whole line from Pittsburg to the Virginia State line, 4½ miles from Steubenville.

The total value of the work done up to 1st Jan., 1853, is\$80,890 29
To which may be added engineering expenses from Sept., 1851, to 1st Jan., 1853..... 16,098 00

The length of the road from the west end of the bridge over the Monongahela, to the lower crossing point at Steubenville, is 4½ miles, and was estimated, including the bridge over the Monongahela, at \$1,296,229. The expense of the bridge over the Ohio at Steubenville will be shared by the Steubenville and Indiana company, and other parties to be benefitted, so that not more than \$100,000 will be required, in the opinion of Mr. M., to be contributed by the Pittsburg and Steubenville railroad company.

Two modes of connecting with the Pennsylvania railroad at the city of Pittsburg, are proposed; one by a high bridge over the steamboat channel below the mouth of Saw Mill Run, continued with a descending grade to the point at the junction of the Monongahela and Alleghany rivers, or by bridging the Monongahela a short distance above the suspension bridge, and continuing the road on the bed of the old canal through the Grant's Hill tunnel, to the Pennsylvania railroad at the canal bridge.

The Ohio Legislature, at its session in 1852, having removed the restriction in regard to gauge heretofore prevailing under the general law of that State, and the Steubenville and Indiana, and Columbus, Piqua and Union railroad companies, having engaged to bring the 4 feet 8½ inch gauge from the western line of Ohio to the river at Steubenville, it is urged as the true policy of the company to adopt the gauge of the connection roads at each end, forming a continuous line of uniform gauge between Philadelphia and St. Louis.

As the public attention has been drawn to the comparative advantages of the Pittsburg and Steubenville and the Hempfield road, we take the following distances from the report.

Philadelphia to St. Louis, via Wheeling and Zanesville route, distance as given in reports.....957 miles.
Add for two breaks of gauge, 50 miles each100

Total1,057 miles.
Via Pittsburg and Steubenville, as above, 951

Difference in favor of the latter route...106 miles

The estimate of the local trade and travel alone between Pittsburg and Columbus it is believed, allowing 50 per cent for repairs and expenses, will yield 7½ per cent per annum on a capital of \$1,500,000, more than sufficient to cover the whole cost of the road and provide a rolling stock adequate for the accommodation of a business of 200,000 tons per annum. It is stated that if the capitalists of Pittsburg and Philadelphia are true to their interests, this important link in the through

line towards the west may be completed and in operation before the close of 1854.

The following are the items of the Treasurer's statement:

Capital stock paid in.....	\$197,615
Engineering and superintending.....	18,211 61
Office fixtures.....	456 49
Grading and bridging.....	67,411 65
Real estate.....	1,324 50
Right of way, etc.....	4,402 50
Expenses.....	2,663 88
Interest and discount.....	424 53
Balance in cash.....	102,719 84
	197,615

Georgia.

Augusta and Waynesboro' Railroad.—The following is the report of the President and directors to the stockholders of the above company.

Twelve months since the grading, masonry and bridging of the twenty miles of road nearest Augusta, had just then been put under contract. The first monthly "estimate" of work done on that division was returned in February last. The work on that portion of the line has been so constantly and judiciously pressed forward by the contractors as to give the board but little uneasiness on account of delay, and no cause can now be seen which are likely to prevent its completion at an early period within the present year. It is due to these energetic contractors to say, that much greater progress would have been made, but for a summer of almost unprecedented sickness, followed by a season of excessive rains. The disastrous effects from these causes were, in a great measure, beyond their control.

The delay and disappointments which have marked the progress of that part of the work lying between Briar and McBean creeks, referred to in the Chief Engineer's report, having been observed with great uneasiness by the board. The fact that this point is nearly midway between the Central railroad and Augusta, and while unfinished is an obstacle in the way of the use of the road at either end, has induced the board to make arrangements for a large and efficient force to be placed at once upon it. It is hoped that these energetic measures will ensure its completion by the time the superstructure laid down simultaneously from Waynesboro' and from Augusta, shall have reached that point.

The iron ordered for the middle division of the road, from Waynesboro' to Graves' store, arrived some time since, and is now at Waynesboro'—except the rails that have been already laid down beyond that point. This supply of iron, which has been paid for, will complete the track for more than two-thirds of the entire length of our road. A cargo now daily expected in Savannah, will be forwarded on its arrival, by steamboat, to Augusta, where everything is in readiness to commence laying the track from that point downward.

The negotiations with the City Council of Augusta, pending at the date of our last report, have resulted in the purchase of a site for a depot at a merely nominal price. This site is convenient and well adapted to our use, in size, shape and location; and is now in our possession, ready to receive the depot buildings, soon to be erected there.

The funds arising from the payments of subscriptions to the capital stock of the company will soon be entirely expended on the work. As the board at present sees no prospect of making any considerable additions to the list of shareholders, steps have been taken to issue 7 per cent. bonds of the company, payable in ten years. These bonds ought to be disposed of very readily, as they will constitute the only incumbrance on the road when completed. More than three-fourths of the entire work will have been paid for, in cash, before the bonds are issued; and the road will be yielding 7 per cent on the cost, under a contract with the Central company, before the first year's interest on the bonds accrue. With such security they cannot fail to be sought after as a desirable investment.

The road to Waynesboro' has been worked by the Central railroad company, since the early part of May last, under the arrangement referred to in

our last annual report. The indications are such as to satisfy the board that the travel on this route, when opened through to Augusta will be very large, and the business offered quite equal to the expectations of the most sanguine friends of the work.

Respectfully submitted,

A. R. LAWTON, President.

Savannah, Jan. 1, 1853.

We learn from the report of F. P. Holcomb, Esq., chief engineer, that the road went into use to Waynesboro, a distance of 20½ miles in May last, since which time it has been in successful operation.

The belief is expressed that the road will be completed to Augusta in the coming fall. For a distance of 23 miles, the grading is far advanced, and the superstructure will be commenced at Augusta as soon as the iron now on the way, and daily expected arrives. On the advantageous site secured for a depot in Augusta, during the summer a warehouse, passenger house, engine house, smith and machine shops will be erected. The entire length of the road is 53 1-10 miles.

The statement of receipts and disbursements to 31st Dec. 1852, is as follows:

Capital stock, cash and bonds.....	\$567,320
for interest.....	24 700
	\$592,020

On these there is due \$51,580.

DISBURSEMENTS.

Surveys and Engineering.....	\$27 430 96
Construction, cost of iron, freight etc..	141 908 45
Spikes, chairs, etc.....	15 512 91
Paid to contractors.....	331 318 51
Right of way.....	8,117 02
Interest on 247 shares of stock.....	24,700 00
Less account received for premiums.....	7,057 46
	17 612 54
For incidental expenses.....	456 86
For salaries.....	10 417 67
For advertising and printing.....	563 63
For depot lots at Augusta.....	4 240 00
Cash and bonds.....	31 421 45
	\$592,020 00

Iowa.

Improvement of the Des Moines River.—The St. Louis Intelligencer states that a bill is before the Legislature of Iowa, with a good prospect of becoming a law, "to contract with Page & Bacon, of St. Louis, for the completion of the works upon the Des Moines river. The terms of the contract are briefly these:—The State will absolutely convey to Page & Bacon, the remaining lands, amounting to nearly 900,000 acres. Page & Bacon are to pay for these lands \$1,300,000 (\$260,000 each year for five years), in which time the entire work to Fort Des Moines is to be completed. They are also to have tolls, water rents, etc., for 25 years, and the absolute control of the lands, to be graduated and sold at their own prices. Also, no railroad is to be built within ten miles of the river, running parallel with it, for forty miles. Page & Bacon give a mortgage on the lands, as security, and are to keep the works in perfect repair for the period of twenty five years.

Thus the State is insured the completion of the work, by the fund granted for it; an improvement of \$1,300,000; and the profits of the improvement after 25 years. Page & Bacon pay about \$1 50 per acre for the land, which could be had with land warrants at 60 cents. The bill will probably pass both Houses, and receive the approval of the Governor. It is more acceptable than the proposed scheme to pledge the State credit."

Maryland.

Baltimore and Susquehanna Railroad.—The following extracts from the report of the President and Directors of this Company will present the history of its operations during the fiscal year up to 30th Sept. last.

The transportation of tonnage and passengers over the road, and the roads which connect therewith, operated by the machinery of this company, has been as follows: Between Baltimore and York, over the Baltimore and Susquehanna and York and Maryland Line Railroads, passengers 151,167; tons of freight 226,730. Over the Wrightsville, York and Gettysburg railroad, between York and Wrightsville, passengers 23,741, tons of freight 85,641. Over the York and Cumberland railroad between York and Harrisburg, passengers 38,705 tons of freight 49,937, and over the Hanover Branch railroad, between Hanover and the Junction, from the period of its opening to the 30th September, 1852, was, passengers 1,876, and tons of freight 2,279; thus showing the gross number of passengers to be 183,794, and tons of freight 254,352 being an increase over the previous year of 38,518 passengers, and 31,119 tons of freight.

During the past year the company negotiated a loan on its credit, by virtue of the act passed December session, 1845, and the supplement thereto. This loan amounted to one hundred and fifty thousand dollars in the company's coupon bonds, and was effected on the terms specified in the act, at a commission of five per cent. Table No. 4 shows the net receipts from the sale of their bonds, amounting to \$142,700, of which \$109,759 75 has been expended as follows: For Locomotives, \$55,952 25; for Burden Cars, \$48,762 50; Passenger Cars, \$2,000; machinery for shops, \$3,025 and leaving balance on hand of \$32,940 25; a large portion of which has been appropriated for additional Burden Cars and other improvements of a permanent character.

The gross amount of earnings on the road-worked by the machinery of this company for the past year, was as follows:

Baltimore and Susquehanna railroad...	\$322,900 55
Wrightsville, York and Gettysburg railroad.....	40,903 59
York and Cumberland Railroad.....	47,626 14
Junction and Hanover Branch railroad.....	2,042 42
	\$413,673 70

Which, compared with the revenues of these roads last year, shows an increase between Baltimore and York of \$23,365 19; between York and Harrisburg, \$27,611 91, Hanover Junction, \$2,042 42, and a decrease between York and Wrightsville of \$1,503 80.

The expenditures of the company, on account of transportation for the year ending the 30th September 1852, was \$261,137 58, being an increase of \$67,719 30 over the amount expended the previous year. This expenditure is applicable mainly to the expenses of moving property over the road, and to large outlays for repairs of track and bridges, rendered necessary by the increase in the velocity of passenger trains; also by the introduction of a heavier description of motive power in the burden transportation than had previously been used on the line of this road, and the introduction of which was deemed indispensable to the profitable working of a road with heavy gradients. The reconstruction of the bridges has been steadily pursued as fast as a due regard to the obligations of the company, and a proper economy admitted of, and it is a source of high gratification to be able to announce to the stockholders, that all the original wooden structures being 4,700 feet, not rebuilt before 1846 have been replaced by others of a substantial character on the most improved plan. The only exceptions to this general reconstruction, are two bridges over the Codorus and three over the Gunpowder, the aggregate length of which does not exceed six hundred feet. The materials for these are on hand, and the work in such a state of forwardness as to ensure their completion at an early day. The eight hundred and forty-one feet of bridging, replaced prior to 1847 being too slight for the present business of the road, will require

strengthening during the coming year, the estimated cost of which does not exceed \$2,000; this done, the bridging on this road will compare favorably with that of any other in the country. A reference to the proper table will show the fact that the number of miles run by locomotives exceeded that of last year seventy thousand miles. Much of this increased running was caused by the necessity of perfecting our connections with other roads, and which it was deemed essential to us that we should do, even at the expense it entailed: hence trains had to be run for the accommodation of local business that could not be served by the through trains running at the hours their connections rendered necessary.

It is believed that the reputation acquired by the route as a rapid and reliable means of transit between the east and the west, will more than repay the company for the expense just alluded to. During the past fiscal year, as has been before stated, there was carried over the main stem of our road between Baltimore and York, 226,730 tons of freight; and over the Wrightsville road, between York and Columbia, 85,641 tons, being an increase on the former of 3,467 tons, and a decrease on the latter of 2,732 tons, as compared with the tonnage of the previous year. Notwithstanding that the net increase of tonnage between Baltimore and Columbia has thus only amounted to 735 tons, the increase of revenue from that source has been \$12,458, the difference of which may be fairly attributed to the favorable influence of the new toll sheet that went into effect on the 10th of June, and which on the 30th September had been in operation three and two-third months. The operation of the rates thus established, has been to throw into the cars of the company their full capacity of the company's legitimate business—viz: the transportation of freight over their own road, and instead of (as in previous years) our cars laying idle on sidings, while those belonging to individual owners were engrossing the transportation business, we have done the work ourselves; and besides establishing a cheap and uniform system of charges on the line of road, the public are protected from the demands of those whose interest it was to make all they could out of the business for the time being. The attention of the stockholders was called to this subject in the last annual report, and it was then estimated, though not expressed, that on the business of the previous year, it would increase the gross revenue of the company \$30,000—the result for the period above given indicates a much larger amount of increase from its operations during the ensuing year.

Notwithstanding the expenditures of the past year, there has been paid to the Treasurer of Maryland, during the fiscal year of the company, \$78,230 68, of which \$60,000 was in the fiscal year of the State. Since the close of the company's fiscal year, a further payment has been made to the Treasurer of Maryland of \$25,000.

At the request of the President of the company, who took charge of its affairs but a few days previous to the expiration of its fiscal year, the foregoing exposition of the current operations of the company has been prepared by the undersigned, and with the approval of the board is submitted to the consideration of the stockholders.

For the future policy and prospects of the company I most respectfully refer all interested in this work, so intimately connected with the growth and prosperity of the city of Baltimore, to the very able communication of Robert C. Wright, Esq., President of the company, addressed to His Excellency the Governor, and the Comptroller of Maryland, which, by the kind permission of its author, is hereto appended.

R. M. MAGRAW.

The President for the current year, Robert C. Wright, Esq., at the request of the Governor of the State of Maryland, has made a report on the present condition of the company. Two hundred tons of rails have been purchased and are to be laid during the winter, and it is hoped that by re-rolling the old rails no new purchases of iron will be needed at present.

The running stock of the company is generally in good condition. Some of the old locomotives

might, perhaps with advantage to the interest of the company, be replaced with others of more power. During the last fiscal year of the company, ending 30th September, six new locomotives were purchased, and large additions were made to the car stock.

Since the commencement of the present fiscal year one other new locomotive has been purchased, and one is rebuilding in the shops of the company.

The increased capacity of the moving power of the company is fully employed by the business opened between Baltimore and Harrisburg, by the completion of the section of the Pennsylvania railroad lying between Pittsburgh and the Allegheny mountains. This link now completed puts Baltimore for the first time into railroad communication with the western thoroughfares, and with Cincinnati and her western tributaries.

As some slight indication of the great importance to the city of Baltimore, as well as to this company, of the new trade opened to us through the Pennsylvania railroad, it may be stated that the income of the Baltimore and Susquehanna railroad shows an increase for the months of October and November of the present year, over the corresponding months of last year, of \$3,661.11 from passengers, and \$9,575.59 from freight, or a gross gain of \$13,236 70 in two months; and it is to be observed that this gain properly belongs to a shorter period even than two months, as the connection with Pittsburgh through the Pennsylvania railroad was not opened until the 20th November.

In reference to the prospect of paying off the indebtedness to the state, Mr. Wright expresses the belief that the last year was the turning point in the destiny of the company. An onerous contract with the Wrightsville, York and Gettysburg railroad company, has been annulled, and one condition of the new contract entered into between the companies is that the W. Y. & G. railroad shall issue to the Baltimore and Susquehanna its bonds, bearing six per cent. interest, payable in 15 years, for the amount of its indebtedness to the latter Co. Of these bonds \$100,000 have been received and are available. Negotiations are also on foot for a new contract in reference to working the York and Cumberland railroad.

The belief is expressed that the present capacity of the road is not commensurate with its future prospects, even for the accommodation of the business which will reach it from its present connections, under its natural increase, the present capacity of the road would in a very few years be found utterly inadequate. But it is known to you that the Susquehanna railroad running up the valley of the Susquehanna, and extending from Bridgeport on the south, the present terminus of the York and Cumberland railroad, to Williamsport on the north, is now under contract, and will in the course of a year or two, present to us a connection throughout its whole length with the western slope of those great Pennsylvania coal fields, which from their eastern slope now furnish the Reading railroad and the canal by its side many millions of tons of coal, and which in its distribution gives employment to an amount of tonnage greater than that employed in the foreign trade of the port of New York, which gave to the Reading railroad for its last fiscal year a gross income of over two millions of dollars, and enabled it to pay six per cent. upon the enormous cost of the road, seventeen millions of dollars for ninety-one miles.

From Dauphin, Lyken's Valley, Trevorton, Shamokin and the Wilkesboro' region, vast quantities

of coal only want an outlet to pour themselves into the shipping at the wharfs of Baltimore, and thus an outlet will be supplied by the extension of the Susquehanna railroad up the valley of the Susquehanna.

This trade with the accession to travel from the proposed junction at Elmira with the Erie railroad will, in the opinion of Mr. W. require a double track on the entire length of the Baltimore and Susquehanna and also on the York and Cumberland and the Susquehanna railroads.

Two courses are suggested in reference to the State debt—

One, that the state should retire from its position as a preferred creditor of the company, and leave it at perfect liberty to use its credit to such extent as might be necessary to accomplish the purpose proposed, with power to confer priority upon its new indebtedness; the state reserving to itself the next place in the obligations of the company, after full provision should be made for such new creditors.

The other, which it is believed would ultimately prove of greater advantage to the state, although less acceptable to the private stockholder, that the state should for the whole amount of the company's present indebtedness place itself in the relationship to the company of a simple stockholder, which would, as in the former case, leave the company in the free use of its credit, with power to confer priority upon any new creditors.

The company also ask the liberty, in case of action on the part of the state, in either alternative, to loan to the York and Cumberland and Susquehanna railroad companies, sufficient means to lay down within the shortest time double track.

Michigan.

Michigan Central Railroad.—The following statistics of the above road are taken from the Detroit Free Press.

We see by the report of the earnings of this road for the month of December, 1852, that they exceed the earnings of December, 1851, by nearly double. The report stand as follows:

	Freights.	Passengers.	Total.
Dec., 1852....	\$36,816 42	\$27,664 99	\$64,481 40
Dec., 1851....	18,154 77	17,151 02	35,305 79

Increase, 1852, \$18,661 63 \$10,513 96 \$29,175 61

Number of passengers Dec., 1851 and 1852:

	Through.	Way.	Total.
December, 1852....	2,213 1/2	12,839	15,052 1/2
December, 1851....	1,231	7,757	8,988

Increase.....987 1/2 5,082 6,069 1/2

The entire earnings of the road from freights and passengers for the last two years, are as follows:

Year ending D-c. 31, 1851.....	\$1,019,982 44
Year ending D-c. 31, 1852.....	1,025,516 08

Total number of passengers transported:

Year ending Dec. 31, 1852.....	225,101 1/2
Year ending Dec. 31, 1851.....	222,056

Increase.....3,045 1/2

This statement is sufficient evidence that the road is doing remarkably well, particularly when it is remembered that the year just passed presented a continued series of misfortunes to the steamboats on Lake Erie, connected with the road, and an active competition.

Although the year 1851 was accounted one of unusual prosperity, and the road enjoying the lion's share of the business, yet we find by the figures above quoted that the business of 1852 exceeded that of 1851.

In view of the opening, in a few weeks, of the northern portion of the New Albany and Salem road, connecting with the Michigan Central road at Michigan City, the early completion of large portions of the various Illinois lines of road now in active process of construction, and the completion of the Great Western (Canada) road, the stock of this road must be considered one of the best investments of the kind in the Union.

Finances of New Jersey.

We gather the following summary of the financial condition of this State from the recent message of the Governor.

The receipts during the year ending December 31, 1852, have been as follows, viz:

Transit duties from Delaware and Raritan canal company.....	\$31,668 43
Ditto from Camden and Amboy railroad and transportation company....	49,584 42
Ditto from New Jersey R. R. and Tr. company.....	13,081 29
Tax on capital stock of N. J. R. R. and Tr. company.....	10,000 00
Ditto on Paterson & Hudson River R. R. Co.....	2,665 00
Ditto on capital stock of Eagle Life & Health Insurance Co.....	195 78
Pedlers' licences.....	1,053 00
Dividends on stock of Camden and Amboy railroad and Tr. Co.....	20,000 00
Interest.....	3,984 38
Surplus earnings of State Prison.....	5,000 00
Commissioners to discontinue House of Refuge.....	2,904 42
Principal of bond and mortgage paid.....	784 45
Forfeited recognizances.....	561 94
Forfeiture for usury.....	111 72
Tax on insurance premiums.....	88 51
Special loan.....	30,000 00
	\$171,683 34
Cash on hand January 1, 1853.....	1,553 76
Making the available funds.....	\$173,237 10

Disbursements.

Paid during last year for the ordinary expenses of government.....	88,684 08
For extraordinary expenses, viz:	
Appropriation to Public schools.....	\$40,000 00
House of Refuge.....	14,415 80
Lunatic Asylum.....	11,145 22
State Prison improvements.....	4,887 87
Gifford's Index.....	2,000 00
Surveyor General's offices at Burlington and Perth Amboy.....	1,400 00
Vault for treasurer's office.....	1,000 00
Colonization Society.....	4,000 00
Gas fixtures for State house.....	872 25
Boundary line commissioners between Cumberland and Cape May.....	132 50
	\$75,854 04
	\$165,538 12
Leaving a balance in the Treasury of.....	7,698 98
	\$173,237 10

The Smithsonian Institution.

The first meeting of the Board of Regents for 1853, took place on Wednesday at Washington. The present board is composed of the following gentlemen:

Hon. Wm. R. King, Vice President of the United States.
Hon. Roger. B. Taney, Chief Justice of the U. States.
Hon. John W. Maury, Mayor of Washington city.
Hon. James A. Pierce, U. States Senate.
Hon. James A. Mason, U. States Senate.
Hon. R. M. Charlton, U. States Senate.
Hon. James Meacham, House of Representatives, U. S.
Hon. Graham N. Fitch, House of Representatives, U. S.
Hon. Wm F. Colcock, House of Representatives, United States.
Rufus Choate, citizen of Massachusetts.
Gideon Hawley, citizen of New York.
J. M. Berrien, citizen of Georgia.
Richard Rush, citizen of Pennsylvania.
Alexander D. Bache, member of the National Institute.
Joseph G. Totten, member of the National Institute.

St. Louis.

Below we give a few of the leading facts in reference to the trade and commerce of the City of St. Louis, for 1852, copied from the annual commercial revenue of the St. Louis Intelligencer. The population of the city is estimated at 100,000—in 1840 it was 16,000, showing an increase of 84,000, in the short space of 12 years.

During the year of 1852 there were 3,188 steamboat arrivals having an aggregate tonnage of 735,243 tons, and yielding a wharf revenue of \$51,304.73.

STATEMENT showing the comparative receipts of fifteen of the leading articles of produce for the years 1851 and 1852:

Articles.	1851.	1852.	Inc'se.	Dec'se.
Tobacco, hhd's..	11,133	13,981	2,846	....
" boxes.	6,929	12,398	5,469	....
Hemp, bales....	65,397	48,813	....	16,579
Lead, pigs.....	498,135	404,348	....	93,787
Flour, bbl's....	184,446	131,333	....	53,113
Wheat bbl's....	17,231	16,942	....	289
" sacks.	806,827	770,943	....	35,884
Corn, sacks....	895,550	338,502	....	557,048
Oats, sacks....	397,137	321,640	....	76,497
Barley, sacks...	63,215	45,824	....	17,391
Pork, tierces....	2,120	1,855	....	265
" bbl's....	92,793	63,679	....	29,029

Ackled, dry salted Meats, csks and hhd's....	2,632	2,500	....	42
tierces and bbl's	7,890	8,042	152	....
" pieces	1,173,337	436,629	....	636,708
" tons..	692	2-5	....	407
Beef, tierces....	3,228	4,036	803	....
" bbl's....	7,777	10,249	2,472	....
Bacon, csks and hhd's.....	17,033	10,328	....	6,705
Bacon, bbl's and boxes.....	3,560	1,790	....	1,770
Bacon, pieces...	6,229	12,165	5,866	....
Lard, tierces and barrels.....	5,981	39,390	....	13,591
Lard, kegs.....	14,074	9,377	....	4,697
Whiskey, bbl's..	40,480	45,568	5,088	....
Hides, loose....	86,374	97,144	10,770	....

Comparative receipts of the leading articles of Groceries for the two years last past.

	1851.	1852.	Inc'se.	Dec'se.
Sugar, hhd's....	24,722	32,523	7803	....
Sugar, barrels and boxes....	30,606	26,911	....	3,695
Sugar, bags....	....	2,416	2,416	....
Coffee, bags....	89,468	97,696	8,228	....
Molasses, barrels and tierces....	31,047	51,304	17,257	....
Salt, barrels....	30,591	42,281	11,691	....
" sacks....	152,855	206,506	113,651	....

Finances of Michigan.

Gov. McClelland, of Michigan in his message describes the financial condition of the state as healthy and encouraging. The following statement shows the result for two years:

The amount in the treasury November 30, 1850.....	\$35,360 27
Receipts during the fiscal year.....	414,390 18

Available means.....\$449,750 45
The expenditures for the same period. 352,287 22

Balance in the treasury Nov. 30, 1850. \$97,463 22
Receipts during the last fiscal year... 451,082 97

Available means.....\$548,326 25
The expenditures for the same period. 431,918 97

Balance in the treasury Nov. 30, '52...\$116,407 23

The funded and fundable debt of the state was:

November 30, 1852.....	\$2,568,269 13
November 30, 1851.....	2,307,850 19
The specific taxes for 1851 were.....	\$27,717 30
" " 1852 were.....	85,854 71

The Governor recommends provision being made for a sinking fund. It also recommended that

the legislature take into consideration the propriety of enacting a general banking law. It is estimated that the number of foreign bank notes in circulation in the state is \$3,000,000; specie in actual circulation, \$500,000, making an aggregate of \$4,100,000.

American Railroad Journal.

Saturday, January 23, 1853.

Ohio.

Toledo, Norwalk and Cleveland Railroad.—We give elsewhere the first annual report of this company, the entire line of which is opened for travel this week. The whole road, 87 miles in length has been constructed within little more than a year. A feat unequalled, we believe, in the history of railroads in this country, reflecting no small credit upon the parties who have had charge of this important enterprise.

This company are now in a fair way of being speedily repaid for the extraordinary energy and ability they have displayed in the prosecution of the road. It is, and must for some years continue to be, the only line of road, connecting Southern Michigan, and Northern Indiana and Illinois, and the far West, with the East. Over it must pass all the travel and business of 1,500,000 of people, till other avenues shall be opened, which cannot be done for some time to come. These facts must secure to this road an enormous *through* business, independent of its local traffic, which must place its stock in a very short time alongside of the highest priced stocks in the West. The company have issued no *convertibles* which is an important fact in relation to the value of its stock. This now cannot be had at par, and we believe that when a few months operation shall be made public, it will take position with the stocks of the Cleveland and Columbus and Michigan Southern roads.

Bellevue and Indiana Railroad.

The annual meeting of the stockholders in the Bellevue and Indiana railroad company was held at Bellevue on the 12th inst., and the following gentlemen were elected as directors for the year: James H. Godman, Wm. L. Kendrick, and Owen Patten, of Marion Ohio; Wm. A. Otis, of Cleveland; Robt. H. Canby, of Bellevue; J. Mills, of Sidney; Levi Houston, of Houston.

There were 17,800 votes polled, all of which were for the above ticket. The only change from the old board is Wm. A. Otis, Esq., of Cleveland, in place of John McElroy, Esq., of Sidney, who declined being a candidate again.

At a subsequent meeting of the board, H. M. Jas. H. Godman was unanimously re-elected President, Wm. L. Kendrick, Esq., Secretary and Treasurer and W. Milnor Roberts, Chief Engineer, J. Pemberton and James P. Harper, Resident Engineers, Charles Sellers, Superintendent and Master Machinist.

It is expected, if the winter should prove favorable, that the whole line from Galion to Indiana will be in operation in April.

Ohio.

Dayton and Greenville Railroad.—At the annual meeting of the stockholders of the Dayton and Greenville road, on the 5th inst. the following gentlemen were duly elected directors for the current year: E. B. Taylor, W. W. Wilson, H. Arnold, D. R. Davis, A. Koogler, A. Kitchen, J. Wharry, W. A. Weston, F. Waring, W. S. Westerman, Thomas Parrott, H. Gebbair, R. Lowry.

Indiana.

Junction Railroad.—The stockholders of the Junction Railway Company recently held their annual meeting at Connersville, and elected the following gentlemen directors for the current year: Messrs. Ridenour, J. S. Reid, C. Walker, W. M. Smith, Conwell H. Ridee, and Cook. Mr. Ridenour was re-elected President.

New Castle and Richmond Railroad.—The stockholders of the New Castle and Richmond road have elected as directors: Messrs. J. T. Elliot, J. Holland, and Mr. Murphy, of New Castle; W. Wright, of Logansport; John Davis, of Anderson; Bradbury, of Wayne county; and James Pullan, M. E. Reeves, and G. T. Stedman, of Cincinnati. The Board organized and chose J. T. Elliot, President; J. W. Grubbs, Secretary; E. Murphy, Treasurer, and J. Meinsinger, Resident Engineer.

Connecticut.

New London and Stonington Railroad.—The New London and Stonington railroad company has been organized, and at a meeting of the stockholders on Monday, the 10th inst., at New London, the following gentlemen were elected directors: John Griswold, of New York; Amos Sheffield, of Old Saybrook; George L. Schuyler, of New York; Henry L. Champlin, of Old Saybrook; Augustus W. Lord, of New York; Gouverneur Morris, of Morristania; E. E. Morgan, of New York; G. R. Bowdoin, of New York; Alexander Hamiton, Jr., of New York. And at an adjourned meeting held in this city on the 13th inst., Amos Sheffield in the Chair, E. E. Morgan was elected President, and A. W. Lord, Secretary.

Trade of Buffalo.

The Buffalo Express gives a gratifying account of the business and trade of that city, relating more directly to its lake and canal commerce. The season of navigation has extended from April to January.

Notwithstanding rival routes have competed with Buffalo for its trade, the imports of this point have increased largely over any former year, and many of the articles have nearly doubled in quantity! The aggregate valuation of the imports according to our figures, \$45,265,992! Of this amount, we will state some of the leading articles of trade.

Flour—There have been received, 1,299,513 bbls. valued at \$5,847,808.

Wheat—The amount is 5,549,773 bushels, valued at \$4,994,800.

Corn—5,136,719 bushels, valued at \$3,082,047.

Oats—2,596,231 bushels valued at \$1,141,311.

Grain—Of all kinds, including that manufactured in flour, shows an aggregate of over 20,000,000 of bushels.

Pork—60,669 bbls, valued at \$1,031,373.

Lumber—This is a very important article of trade as will be seen by the figures. There have been received at this port during the season 72,337,255 feet valued at \$8,680,470. Staves, 12,928,614, valued at \$8,689,470. Staves, 12,928,614, valued at \$3,899,584.

Live Hogs—111,223, valued at \$1,112,230.

Ohio.

Cleveland and Columbus Railroad.—At the annual meeting of the stockholders of the Cleveland, Columbus and Cincinnati Railroad company, held at Cleveland on the 12th instant, the following gentlemen were unanimously elected directors for the ensuing year: Alfred Kelley, John Miller, of Columbus; Leonard Case, H. B. Payne, J. M. Woolsey, R. Hilliard, J. Gillett, Wm. A. Otis, A. Stone, Jr., H. Williams, of Cleveland; Richard H. Winslow of New York. By a vote of stockholders, in accordance with provisions of charter, the number of directors was increased from nine to eleven.

Pacific Railway.

The first annual report of the Pacific railroad of Missouri states that the amount of its capital stock authorized by the charter is \$10,000,000, of which \$2,714,700 are subscribed, and \$512,600 paid in.—The expenditures have been, for construction of the road, \$740,785 22; buildings, \$45,182 04; engines and cars, \$44,675 85; right of way land for depots, etc., \$155,357 90; miscellaneous, \$14,087 18—making a total of \$1,000,090 49. The indebtedness of the company, including \$500,000 to the State for bonds on account of the loan of its credit for \$2,000,000, is \$513,713 47, while the amount due the corporation for unpaid instalments on the stocks is \$2,202,100.

Indiana.

Indiana Central Railway.—The stockholders in this road held a meeting for the election of directors on the 6th inst., which resulted as follows: Dr. Charles Parry, Nathan Crawford, James P. Foley, John T. White, William Butler, Solomon Meredith, William Petty, Caleb B. Jackson, David Commons, John S. Newman, James R. Mendall, Henry L. Brown, Peter P. Lowe.

The following gentlemen were elected officers for the ensuing year: John S. Newman, President; Solomon Meredith, Vice President; John M. Commons, Secretary; Samuel Hannan, Treasurer, and Henry C. Moore, Chief Engineer.

Illinois.

Western and Atlantic Railroad.—The following gentlemen were chosen directors of this road at a meeting of the stockholders held at Vandalia, Ill., on the 6th inst., viz:

Directors.—Wm. B. Archer, E. H. Starkweather, N. M. McCready, N. D. Sweeny, R. H. Winlow, J. J. Palmer, T. R. Young, J. F. Washford, Wm. S. Wait, John Brough, Charles Moran, J. F. Lanier, Edward Sanford.

At a subsequent meeting of the directors, the following officers were elected:

John Brough, President, T. R. Young, Vice-president, Wm. S. Wat, Treasurer, Edward Kainy, Secretary.

Missouri.

Iron Mountain Railroad.—The following gentlemen have been chosen directors of the Iron Mountain railroad: John O'Fallon, James Harrison, Wm. M. McPherson, Jules Valle, Henry Kayser, Francis Kellerman, Wm. H. Belcher, Andrew Christy, Solon Humphreys, L. V. Bogy, John Simons, Frederick Schulenberg, John C. Under. At a subsequent meeting of the directors of this company, Wm. M. McPherson, Esq., was chosen President, and James H. Bacon, Esq., Secretary.

Illinois.

Terre Haute and Alton Railroad.—The friends of the above most important road, and especially those living in Montgomery county, will be pleased to learn that a portion of the road east of Bunker Hill was put under contract last week, and the work upon it has doubtless been commenced before this. The contract for the grading of the first two miles has been taken by Maj. P. C. Huggins of Bunker Hill, whose well known character for industry and enterprise, is a sufficient guaranty that it will be well and promptly executed. Laborers are now at work upon every mile of the road between Alton and Bunker Hill; and the bridges at Shields' branch, and the west fork of Wood river are already completed, while several others are under way. On the east end of the road a considerable force is employed, and at work from Terre Haute to some distance this side of Paris, Edgar county. —*Alton Tel.*

Mississippi Valley Railroad.

We find in the St. Paul (Minnesota) Democrat, the following call:

Louisiana, Missouri, Iowa and St. Paul Railroad.—The citizens of St. Paul are respectfully requested to meet at the Court House, on Saturday evening the 17th inst., to respond in an appropriate manner to the noble efforts of our Southern friends in the grand scheme of uniting Louisiana and Minnesota by railroad, and to appoint committees to co-operate with them in the speedy completion of the said road.

Stock and Money Market.

We have but little change to note since last week with the exception of a decline among some of the leading fancies. The most marked depression is in the New York and Erie. A great decline in this stock is inevitable, but it may temporarily recover from its present depression. We have an article in type upon this road which is designed to supply the omission of the annual report by the company.

The Bond market is active, the tendency of good securities is steadily upward, the demand for home investment is very large, beside a constantly increasing one from Europe. Securities well based find a ready sale.

Semi-annual dividends have been declared by the following companies on or about the first of January.

Cleveland, Painesville and Ashtabula	6	per ct.
Camden and Amboy	5	"
Albany and Schenectady	4	"
Michigan Central	4	"
Western Railroad Mass.	3	"
Boston and Worcester	3½	"
Boston and Maine	3½	"
Boston and Providence	2½	"
Fitchburg	3	"
Boston and Lowell	3	"
Manchester and Lawrence	3½	"
Fall River	4	"
Easton	3	"
Philadelphia and Reading	4	"
Macon and Western	4	"
Harlem, old stock	2	"
Rome and Watertown	5	"
Buffalo and State line	10	"
Galena and Chicago	8	"
Columbus and Xenia	5	"
Cleveland and Pittsburg	6	"
Rochester and Syracuse	5	"
Little Miami	5	"

The annexed is a statement showing the amounts and nature of the securities held in the Banking Department of Albany, for the circulating notes issued to associations and individual bankers, outstanding on the 1st December last. The circulation covered by these securities amounted to \$19,159,056:

Bonds and mortgages	\$4,114,443 00
N. Y. State Stocks, 4 per cent.	\$337,600 00
N. Y. State Stocks 5 per cent.	4,126 661 29
N. Y. State Stocks, 5½ per cent.	1,156,400 00
N. Y. State Stocks, 6 per cent.	3,007 840 26
	\$8,628,501 55
U. S. Stocks, 5 per cent.	\$1,783,600 00
U. S. Stocks, 6 per cent.	2,963,562 52
	\$4,747,121 52
Canal Rev. Certificates, 6 per cent.	1,371,500 00
Illinois State Stock, 6 per cent.	646 687 83
Arkansas State Stock, 6 per cent.	355,000 00
Michigan State Stock, 6 per cent.	181,000 00
Cash in deposit for stocks matured, bonds and mortgages paid, and banks closing business	185,817 77
Total	\$20,230,112 67
Total amount of securities, Decem-ber 1, 1851	16,822 714 35

Increase of securities year ending

Dec. 1, 1852.....\$3 407,397 82

Total circulation outstanding Dec. 1,

1852.....\$19,159,056 00

Total circulation outstanding Dec. 1,

1851.....15 671,004 00

Increase circulation in year ending

Dec. 1, 1852.....\$3,488 052 00

There have been 24 banking associations and 14 individual bankers that have deposited securities for circulating notes during the year, as appears by the annexed table:

	Associa-tions.	Individual Bankers.
Bonds and mortgages	\$461,000	\$195 388
New York State Stocks	969 820	293 228
United States Stocks	858,900	265 200
Canal Rev. Certificates	118,000	40,000
Total	\$2,377,720	\$793,811
Circulation issued on the above securities	2,082,366	647,937
The following is from the statement of the New Orleans Banks, made up to the 25th ult.:		
Capital	\$10,860,130	Loans.....\$13 053,919
Deposits	13,796 945	Specie.....8,240 384
Circulation	5,478 651	Due by Banks 5,012,930
Due Banks	1,205,787	Other assets. 1,670,676
Other liabilities	1,096,947	Branches.....1,312,992
		Real estate.....857,939
	\$32,439 359	Public im-provements.. 1,149,015
Profits	4 223 367	On Stocks... 656 036
Total	\$36,662,666	Long Loans. 1,757,155
		Other disco-unts.....2,243 696
		Protected.... 497,921
		Total.....\$36,662,666

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, JANUARY 22, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	100½
U. S. 6's, 1856	108½
U. S. 6's, 1862	114½
U. S. 6's, 1862—coupon	120
U. S. 6's, 1867	119½
U. S. 6's, 1868	119½
U. S. 6's, 1868—coupon	120
Indiana 5's	102
Indiana 2½	59
" Canal loan 6's	97
" Canal preferred 5's	41
Alabama 5's	98
Illinois 6's, 1847	87
Illinois 6's—interest	59
Kentucky 6's, 1871	110
Maryland 6's	109½
New York 6's, 1854-5	108
New York 6's, 18 0-61-'62	116
New York 6's, 1864-'65	119½
New York 6's, 1 y., 1866	119
New York 5½'s, 1860-'61	111
New York 5½'s, 1865	112
New York 5's, 1854-'55	108
New York 5's, 1858-'60-'62	110
New York 5's, 1866	114
New York 4½'s, 1858-'59-'64	101
Canal certificates, 6's, 1861	—
Ohio 6's, 1856	105½
Ohio 6's, 1860	110
Ohio 6's, 1870	115½
Ohio 6's, 1875	116
Ohio 5's, 1865	106
Ohio 7's, 1851	105½
Pennsylvania 5's	97
Pennsylvania 6's, 1847-'53	101
Pennsylvania 6's, 1879	99½
Tennessee 5's	94
Tennessee 6's, 1880	108
Virginia 6's, 1886	110

CITY SECURITIES—BONDS.

Brooklyn 6's	106
Albany 6's, 1871-1881	107½
Cincinnati 6's	103½
St. Louis	99½
Louisville 6's 1880	98½
Pittsburg 6's, 1869-1871	103
New York 7's, 1857	108
New York 5's, 1858-'60	102
New York 5's, 1870-'75	103½
New York 5's, 1890	104
Fire loan 5's, 1886	—
Philadelphia 6's, 1876-'90	108
Baltimore 1870-'90	107
Boston 5's	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867	117
Erie 2d mortgage, 7's, 1859	111½
Erie income 7's, 1855	103½
Erie convertible bonds, 7's, 1871	103
Hudson River 1st mort., 7's, 1869	109½
Hudson River 2d mort., 7's, 1860	101½
New York and New Haven 7's, 1861	105½
Reading 6's, 1870	91½
Reading mortgage, 6's, 1860	95½
Michigan Central, convertible, 8's, 1860	110½
Michigan Southern, 7's, 1860	102
Cleveland, Col. and Cin. 7's, 1859	123
Cleveland and Pittsburg 7's, 1860	102
Ohio and Pennsylvania 7's, 1865	109½
Ohio Central 7's, 1861	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Jan. 20.	Jan. 13.
Albany and Schenectady	117½	119
Boston and Maine	105½	115½
Boston and Lowell	106	106
Boston and Worcester	103½	103½
Boston and Providence	99½	91½
Baltimore and Ohio	98	98
Baltimore and Susquehanna	34	34
Cleveland and Columbus	130	130
Columbus and Xenia	—	—
Camden and Amboy	150	—
Delaware and Hudson (canal)	130	130
Eastern	98	96½
Erie	90½	92½
Fall River	—	—
Fitchburgh	103½	103
Georgia	—	—
Georgia Central	—	—
Harlem	72½	72½
" preferred	115	115
Hartford and New Haven	129	129
Housatonic (preferred)	35	35
Hudson River	75	70½
Little Miami	119	120
Long Island	37½	31
Mad River	59	99
Madison and Indianapolis	111	111
Michigan Central	106	106½
Michigan Southern	126½	124
New York and New Haven	115½	117
New Jersey	134	132
Nashua and Lowell	—	—
New Bedford and Taunton	117	117
Norwich and Worcester	53½	54½
Ogdensburg	31	30½
Pennsylvania	49½	49½
Philadelphia, Wilm'gton & Balt.	40	38½
Petersburg	—	—
Richmond and Fredericksburg	105	105
Richmond and Petersburg	35	35
Reading	86	87
Rochester and Syracuse	133	135
Stonington	57½	57
South Carolina	122½	122½
Syracuse and Utica	113	112
Taunton Branch	115	115
Utica and Schenectady	158	155
Vermont Central	21½	19½
Vermont and Massachusetts	21	22½
Virginia Central	40	40
Western	101½	100½
Wilmington and Raleigh	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Panama Railroad.

"The Panama railroad company has made a dividend of ten per cent, payable in stock. The road has been in operation, we think, about six months. This, for an unfinished work, is certainly highly encouraging."

The above, which is going the rounds of the papers, is certainly one of the most extraordinary specimens of humbugging that we ever heard of. It may be proper for this company to pay dividends upon its stock before the opening of the road, but to do so upon the pretence that one has been actually earned, and that, too, equal to 10 per cent for the first six months' operation of an unfinished road, is, we think, a most bare-faced act of deception. The road has done well if it has paid running expenses. We believe, from the best information we can obtain, it has not done this. We are not furnished with any financial statement of the affairs of the company, and presume none has been published. Such an exhibition would probably defeat the object of the dividend.

The above, which appeared in the *Journal* of the 8th instant, has given some offence, without, we believe, any good reason.

The charge is, that if the company declared a dividend of ten per cent, predicated upon the earnings of six months' operation of the road, that such dividend was not earned, and consequently was made for the purpose of imposing upon the public an erroneous estimate of the value of its stock, with the very obvious object of inducing said public to purchase it at a higher price than its real worth.

We believe that the following considerations fully justify all that we have said in reference to this company.

In the first place, the dividend was accompanied by no exhibit of the financial condition of the company; and all information as to its condition was refused upon application, on the ground that such exhibit was shown only to *stockholders*. Now we contend, that where a railroad company, whose stock is upon the market, makes an exorbitant dividend, and refuses to the public press any information as to the state of its affairs, that such proceedings carry on their face a dishonest intent. The rule is, that where an exhibit would reflect credit upon a company, it is made; on the other hand, where there is misconduct, or bad management, there is concealment.

The concealment of the affairs of a manufacturing or railroad company, in the State of New York, is a *fraud*, which is fully recognized and made punishable by *law*. This law requires, under heavy penalties for neglect, all railroad and manufacturing companies to make public exhibition of their affairs, under oath, to prevent imposture, and to place in the hands of every man in the community correct knowledge as to the condition and value of a property which he may be called upon to trust or purchase. The legal obligation of this law the Panama company avoids, by virtue of having its road beyond the limit of the State. Does this fact absolve it from so obvious a moral obligation, and justify it in evading the intent of the existing statute?

The company has not earned a dividend upon the cost of the finished portion of its road. From the best information we can obtain, it has not more than paid running expenses; nor do we believe it has paid even these. No road in the *United States* is expected to do better than pay running expenses till a considerable portion, at least, of its line is opened, no matter how important a route it may occupy. Take the Hudson River road for instance. Until this road was opened to Albany, the receipts barely paid expenses, and certainly this occupies

the greatest route of travel in the United States.

We apprehend, the Panama cannot do better.—In that pestiferous climate, so destructive to life and nearly every kind of material used in railroad construction, it cost three or four times as much to accomplish the same results, as in the U. S. If with us, the expenses of operating a road equal one half the receipts, which is the usual estimate, upon the Isthmus, the former must absorb at least three-fourths of the latter. Under such a state of things to declare a dividend of 10 per cent, upon six months earnings of an unfinished road, is an attempt to impose upon a credulity, that certainly does not exist among people who know anything about the management of railroads.

We have had a pretty good opportunity of keeping ourselves posted up as to the way the affairs have been managed. We have been acquainted with a great many Engineers who went out in the service of the company, and have seen most of the few who had the good luck to return, and we know a concern of the kind where, in our opinion, so much has been sacrificed to incompetency and folly, to ignorance and insolent assumption as in this. It could not be otherwise, the way this company went to work, which was to build the road by *days work*, sending out agents to superintend affairs upon the Isthmus, the executive power remaining in New York. We early pointed out the folly of this course, and predicted failure, unless the company retraced its steps, and adopted the ordinary mode of building their road, by letting out the work to competent contractors. After going to the length of their tether, the company at last adopted the policy we recommended, and placed the completion of the road in the hands of Messrs. Law & Story.—These, with a few exceptions, which the company soon removed, are the only names associated with the enterprise, whose experience in railroad construction was calculated to inspire confidence in the proper management and success of the work.—The company have found out by hard experience, that maxims drawn from Wall street, are but poorly fitted to conduct an enterprise like the Panama railroad.

Again; why was the dividend made in stock? Not for the want of means, if earned; because the stock sells at a large premium in the street. The above fact is conclusive to our mind, that a dividend has not been earned. One was declared in stock in order that the original stockholders might derive an additional advantage from its speculative value, by putting it upon the public at its advanced rates. This can be the only object. If the enterprise be a good one, the present holders are certainly able to credit the road till it is opened. A dividend in stock makes them no richer, unless they sell it. Such a step is only a parallel to the familiar process of watering your liquor, and selling the dilution at the price of the original article. Now, if the public is to become the purchasers of this new issue, we insist that it is right that they should know what they are buying, which is refused by the company.

The only vindication we have heard of the act is, that it has been done by "highly respectable men." If the sanction of great names makes wrong right, then every offence in the decalogue may be proved to be a virtue. For one we are heartily tired of this test of respectability. In the present case nothing but the respectability of the names connected with this concern shields their acts from public reprobation. Should a *weak* railroad company in this country, no matter how upright the

parties connected with it, follow the example of the Panama company, it would be scouted out of the market, and none would express greater horror at such a piece of impudence and audacity than the very men connected with the latter road. An act which would disgrace others, became honorable only when proceeding from such men. Whether they can change the real character of the transaction, or secure in the long run the end proposed, is quite another question.

OFFICE MAYSVILLE & BIG SANDY R. R. CO., }
Maysville, Ky., January 8, 1853. }

TO THE EDITOR OF THE RAILROAD JOURNAL:

Dear Sir—I observe in your issue of the 1st instant, a list of railroads constructed and in progress in the United States, and you request subscribers to oblige you by sending any corrections of the list. In your list of roads in progress in Kentucky, you have omitted all mention of this company, while you have embraced others not more forward. This company was fully organized in July last, the preliminary surveys of the line having been previously made and reported. I sent you a copy of the report on its publication, which you kindly noticed. We have now a strong party in the field, locating the line between Maysville and Springville (opposite Portsmouth), and we expect to put the construction under contract by the first of April next, and have the cars running in less than two years from that date. We should accomplish the same result precisely as to the line beyond Springville, all the way to the mouth of Big Sandy, if we had any reliable assurance that Virginia would, at an early day, as she ought, push her Central road to that point.

These facts justify us in claiming a place for this road in any list of roads in progress. Moreover, we shall have one of the best roads in the west, or perhaps on the continent, as we are extraordinarily favored in the nature of the ground and the character and quality of materials for construction. The maximum grades are but 15 feet to the mile; the sharpest curves, two degrees; and very little even of these obstructions. In short, we may say that the road will be nearly all level, and nearly all straight. Its structure is to be on the most durable plan, the stream crossings being all stone viaducts, instead of wooden trusses; and we have immediately on the line an abundance of the finest sandstone, which has been tested for fifty years and found to stand any action of the climate and any pressure, while it is easily wrought, and may be taken out of the quarries in blocks of any required size, ten, twenty, or forty feet in length and appropriate depth and breadth, as required. There is an abundance of the finest river-washed gravel all along the route for superior ballasting; and on the line, also immense forests of superb timber (chiefly oak), but embracing ash, walnut, cherry, locust, cedar, pine, etc., etc. So favorable are the elements of the line, and so ample, convenient and superior the materials for construction, that the estimates for the road equipped, are but \$18,500 a mile. The estimates, however, were made before the late rise in iron; but we shall save more than enough, on other branches of estimates, to cover the advance in iron. We have already secured the right of way for nearly all the line without cost, and have, as before stated, a party in the field locating the line; and we lack less than \$200,000 of means enough in possession to prepare the road for the iron, while we have sources to draw upon for aid, from which, if necessary, we could assuredly

realize double the needed amount, the enterprise being exceedingly popular in view of its favorable elements, and its necessity to complete the connection between the southwest and the Atlantic seaboard. It is hoped, therefore, that your omission to insert this road in your list, was merely inadvertent, and that you will hereafter do it full justice, for it is infallibly destined to be the connecting link between Kentucky and the Atlantic lines. There is indeed a rival line from Lexington to Big Sandy proposed, which is geographically some 15 miles shorter than the line via Maysville; but that line runs through a mountainous country a great portion of the way, and, compared with this line, it is less populous, less productive and less wealthy. The taxable property on this line exceeds that of the other more than ten millions. Moreover, that line is solely dependent on the slow and doubtful movements of Virginia, if it ever secures a junction or connection with any other line. Ours, (though we highly appreciate the Virginia connections, and ardently desire their speedy consummation,) is entirely independent of the Virginia system; for, through Portsmouth, we shall have speedy railway communications, very direct, to the lakes on the north, and to all the ports of the Atlantic from Baltimore northward. Furthermore we are confident, that although our line via Maysville may be some 15 miles longer, it will be practically shorter, in railroad estimation of distance; that is, it certainly can be constructed far cheaper, operated far cheaper, and, besides, owing to the easy grades and curves, we can run a train through from Sandy to Lexington quicker and cheaper than any other road that can be constructed. By this line, the interior of Kentucky will reach the Ohio river, on the shortest route, at Maysville, and there have choice of land or water conveyance, east or west. The road between this city and Lexington, as you are well advised, is in vigorous progress, and will be soon completed, having ample means therefor; and the continuation hence to Springville is certain to be pushed onward, and will be completed before it is possible any other can be. A new road is proposed, leading from Frankfort, via Georgetown, to Paris, through as rich a country as the sun shines upon, by which the through route from Louisville or Frankfort to Paris, will be shortened some 15 miles, as compared with the line through Lexington; and this project carried out, as it will be, and ought to be, the through line from Louisville, via Maysville, to Big Sandy, will be geographically as short as that via Lexington and Mount Sterling. When this Georgetown cut-off shall be made, I think it is more likely that Mount Sterling will drop a short line down to Paris, by which she will secure the most direct railway communication with both Louisville and Cincinnati; and scarcely go out of her way in her route to the Atlantic via Maysville. All this I deem more feasible, more judicious, more economical, and more certain to be earlier accomplished than the Lexington, Mount Sterling and Big Sandy road.

Nor are these all the considerations that commend the Maysville system to the confidence of capitalists, railroad and business men. The very moment Virginia gives assurance of the extension of her Central road to Big Sandy, not only will the Maysville and Big Sandy road promptly meet it, but a railway will speedily be constructed from Maysville to Newport and Covington; and this line, in my judgment, founded on opinions of professional engineers, will be the best between Norfolk, Richmond, and even Baltimore, that will con-

nect those seaports with Cincinnati, Louisville and St. Louis, as well as Nashville, Memphis, etc. I think I am justified, on the intrinsic merits of the scheme, in claiming a favorable consideration for this road.

Respectfully,

THOS. B. STEVENSON,
Pres't M. & B. S. R. R. Co.

For the American Railroad Journal.

Plan for Building a Railroad to the Pacific.

1. Let Congress appropriate \$100,000 for a survey of this road—two or more routes to be surveyed—one the Southern by the Gila through or near El Paso or Dona Ana—the other by Santa Fe.

2. Let Congress incorporate a company with power to build the road, through the territories of the United States, giving to the company all the land for 30 miles on each side of the road whether in the States or Territories from the Mississippi to San Francisco, issuing warrants for this land with the privilege of locating them any where on the public domain, if the lands along the road should not be subject to entry by reason of previous sale or pre-emption right, or if the locator should for any reason prefer to locate them elsewhere, the United States to receive one share of the stock for every 160 acres of the lands for which the warrants may issue.

3. Let the States through which the road shall pass incorporate the company with power to build the road through their limits.

4. Let the United States Government appoint six directors of the company, and the stockholders have power to elect six others who shall have the entire management of the location and construction of the road and of every other business of the company.

5. Let warrants issue to the directors for the land for fifty miles along the road and for no more until that portion is graded; then for the land for fifty miles farther and no more until the second fifty is graded, and the first fifty completed, and so on until the whole is finished.

6. Let proposals be issued by the directors for the sale of stock to the highest bidder, immediately after each issue of the land warrants, the number of shares thus sold, to be equal to the number of shares taken by the United States.

7. All the stock to be forfeited to the United States unless 100 miles shall be completed in three years, and 100 miles for every year afterwards.

REMARKS ON THIS PLAN.

1. No individual or company can receive any advantage from it until the whole shall be completed—and then only upon the successful working of the road.

2. This plan provides sufficient means to construct the road; the value of the warrants alone, at the present market price, bring \$36,000 per mile. If the lands along the road should be increased in value, they would be worth more. The receipts from stockholders would add to this to some extent.

3. No minimum price is put on the shares of the private stockholders; they may bid 100 dollars or one dollar per share, or even less. The main benefit to be received from them is to see that the funds raised shall be faithfully and economically applied to the construction of the road, and that it be worked profitably when finished.

4. The stockholders would yet have to pay the real market value for the stock, since it would be offered for sale by the directors to the highest bidder, on the completion of every fifty miles of the road.

5. The action of Congress for the last two or three years shows that the United States Treasury is to be but little benefited by the public lands, and the construction of this road would thus be but little loss to the Treasury; while the advantage to be derived from consolidating the Pacific and Atlantic portions of our country would be immense.

6. The road should commence at the Mississippi, for thus far west, besides the Ohio, routes of travel will soon be opened by private enterprise through Mississippi, Tennessee, and Illinois.

C. F. M.

Finances of Maine.

The report of the Treasurer of the State shows the following summary of operations from 1st of May to 1st of December 1852.

Receipts into the Treasury from all sources for the period above named.....\$744,879 56
Balance on hand April 30, 1851.....44,670 07

Making an aggregate of.....\$789,549 63
Disbursements during the same time...624,101 46

\$165,448 23

To be further reduced by existing appropriations.....60,116 58

Leaving a balance of.....\$105,331 68

The extraordinary items of receipts are made up of \$143,002 42 received from the general government on account of advance made by the State for the protection of our N. E. frontier; of \$32,763 51 growing out of the same transaction. \$102,038 60 has been received from the Land Office on general account, \$12,710 61 from sales of school lands; and \$44,090 03 from sales of timber and grass on reserved lands. The balance has been received from ordinary sources.

Of the public debt \$154,900 has been paid leaving a balance of \$471,500 as the funded debt at the present time. To meet this are \$65,000 in the Treasury which can be spared from the necessary wants of the government. The sale of the public lands for the coming two years are estimated at \$150,000 which it is recommended to be applied to the extinguishment of the debt. The receipts for 1853 are estimated at \$480,526 60, and the expenditures at \$308,419 92.

Marietta and Cincinnati Railroad.

The Philadelphia North American uses the following language in reference to the above road:—"The Marietta and Cincinnati railway is not a local road but a principal link in a great chain of improvements uniting the East with the entire region embraced in the Ohio and Mississippi valleys. Hence it is apparent how extensive are its business resources, and how much greater must necessarily be its receipts than those of a thoroughfare of limited length and connections. It will form the most direct line from Cincinnati, through central and northern Ohio, to either Baltimore or Philadelphia; and as the tendencies of trade are to the Ohio Valley rather than from it, it is obvious that a large and ever increasing amount of traffic will adopt this central channel of intercourse between the West and the Atlantic seaboard. In competition with the Ohio river as a commercial avenue, it will have the vast advantage of at least one hundred and seventeen miles less distance between Cincinnati and Marietta, besides the yet more considerable superiority of five times quicker speed of transit. It is computed on reliable data, that the railway passengers from Cincinnati will be carried through to the Baltimore and Philadelphia connections of the road in five hours; whereas, the travel by steam-

boat on the river with the most powerful vessels and the best stage of water, will require, at the least, twenty-four hours. So great a difference in point of distance and speed, will give a proportionate advantage in respect of cheaper rates of conveyance; and with all these several influences combined in favor of the Marietta road, none can doubt that it will appropriate a very large part of the transportation now accomplished by a comparatively slow and often obstructed navigation between Wheeling and the Queen city."

HENDERSON & NASHVILLE R. R. OFFICE, }
Henderson, Ky, January 1853. }

EDITOR RAILROAD JOURNAL:

By order of the Board of Directors of the Henderson and Nashville Railroad Company, I am directed to prepare and publish in your Railroad Journal, until the 1st day of April next the inclosed advertisement inviting bids for the construction of nearly the whole of that part of our line of road which is within the State of Kentucky.

We have caused two experimental surveys to be made by Mr. Henry J. Eastin, from Henderson to Madisonville, one of which is 38, and the other about 39 miles long—differing in length less than a mile. We have also caused a line to be run by Mr. Bewley from Madisonville via Hopkinsville and Trenton to the Tennessee State line. These gentlemen are both deemed competent engineers and their estimates of the average cost of the road per mile with stock and so forth, based upon these surveys is about \$13,000. Since these surveys and estimates were made we have appointed Mr. William Bewley our Chief Engineer who has been some weeks in the field, with a sufficient corps, engaged in locating the road. He expects to complete this work in time to have his plans, profiles and estimates ready for exhibition to bidders by the 1st of March next. From the known energy and industry of Mr. Bewley we entertain no doubt that his expectations will be realized. From the low estimate of cost per mile stated above, it will at once be apparent that the country through which our road will run is singularly favorable. It is a fine agricultural region, abounding for many miles in iron ore, and in the richest beds of bituminous coal, the strata varying from four to ten feet in thickness, and the quantity apparently inexhaustible. Much of this region is covered with the best oak and other timber, suitable for ship building and other useful purposes. The four counties in Kentucky through which our road will pass, are Henderson, Hopkins, Christian and Todd. Their resources, numbers &c., as taken from the State Auditor's Report for the year 1851, (which is official and accurate because it is taken from the County Assessor's books) are as follows:

	White males over 21 years old.	Slaves over 16 years old.	Total value of all pro- perty.	Increase of value in one year.
Henderson...	1,674	2,109	\$4,759,442	\$332,382
Hopkins....	2,014	1,001	2,318,174	311,382
Christian...	2,260	3,629	6,158,666	618,502
Todd.....	1,456	2,129	3,631,132	186,603

Total 7,434 8,868 \$16,870,414 \$1,478,869

This table is made out from the Kentucky State Auditor's Report for the year 1851 because it is the latest, and the increase of \$1,478,869 is for the year ending October 10th 1851. Preceding years will show a similar ratio of increase in the value of property in these four counties. Our charter (a copy of which I send you) allows thirty per cent. per annum per share as the maximum amount

which can be collected by the corporation for the two first years, and the balance may be collected in the third year. We expect to make that part of the road situated in Kentucky on the voluntary subscription plan and our company bonds, and not by county or city taxation or bonds. The present constitution of Kentucky practically prohibits our legislature from giving to us any state aid by bonds or otherwise, and we therefore do not expect it. We have now, I believe, about \$300,000 of individual stock actually subscribed, and our people are every day becoming more deeply interested in the prosecution of the work, and more fully determined on its completion. The entire estimated cost of the road within the limits of Kentucky is about \$1,170,000 as calculated by our engineers upon their abovementioned experimental surveys, and it is believed very confidently that the more accurate surveys for location now being made will be more likely to reduce, than to increase this amount. The above table shows that we are amply able to build the road with our own means, and many gentlemen of the greatest energy and of high reputation are now actively engaged along the line soliciting and receiving further subscriptions of stock. These with the power which the charter gives us, through a vote of our stockholders, to issue \$750,000 of company bonds secured by mortgage on the road, form at once our prospect and resources for the completion of our road on the assumption that we are to look only at home for the necessary means and spirit. But these are far from being the only resources and interests involved in the construction of the road from Henderson to Nashville. A glance at a map of the United States will show that it is not a mere local or even sectional work, but one which in many respects rises to the dignity of a national work. Its local importance and the local means applicable to its construction are ample for that end. Its sectional value is still greater, for it will at once be seen that it is greatly more than one hundred miles the shortest; and the above estimates show that it is the cheapest line of communication between the great valleys of the Ohio, Wabash, Mississippi and Missouri rivers and the Lakes in the Northwest, comprising the States of Indiana, Illinois, Missouri, Iowa, Wisconsin, Michigan, and the territory of Minnesota, and the Southeastern Atlantic and Gulf States viz: Tennessee, North Carolina, South Carolina, Georgia, Florida and Alabama. Seven states, the great granary and provision warehouse of the Northwest, are connected by it on the shortest and cheapest route with six states in the southeast, five of which are on the Atlantic or the Gulf, and all six cotton growing states, with an unlimited supply of the best bituminous coal, iron, and every other material necessary for carrying on and erecting manufacturing factories situated in southwestern Kentucky, and penetrated and developed by our road. It cannot be doubted that the four millions of provision growers in these seven northwestern states, who are anxiously hunting markets for their teeming products, nor that the three millions of consumers in the five southeastern states, (leaving out Tennessee) who are searching for cheap provisions, and laboring to extend their commerce, will aid us with their means in the construction of this road as the most efficient engine for the furtherance of the cherished objects and interests of both. Such a doubt would imply a contradiction of the principle engraven upon the very nature of man by the strong hand of selfishness, and lying therefore a

the foundation of his actions. "Where a man's treasure is, there will his heart be also."

Charleston and Savannah have long ardently thirsted for a participation with New Orleans, Boston, New York, Philadelphia and Baltimore in the rich fruits and gushing prosperity resulting from the commerce of the west. God, by piling up the Appalachian chain of mountains, and its peculiar position, denied it to the cities of the Atlantic seaboard, and by pouring out the Mississippi and its hundred tributaries through the great western valley, gave this commerce to New Orleans. The four eastern cities spurning the mountain horizon which put limits to their commercial prosperity, and seemed to say "thus far shalt thou go and no farther," have cleft these mountains to their very base by their canals and railroads, and by uniting with similar improvements in the West, are now dividing with New Orleans the abounding commerce of the Great West—Charleston, Savannah, Wilmington, and Norfolk, but especially the two former are exhausting their ingenuity and have poured out their wealth to level mountains, fill up valleys, and stretch their iron arms into the valley of the Mississippi, and thus grasp the golden prize for which all the states and cities on the Atlantic seaboard are alike struggling. Charleston and Savannah have succeeded in reaching Nashville,—Norfolk and Wilmington will soon effect the same thing—all have poured out their means heavily, to attain this object, and yet at Nashville they have only reached the confines of the great valley whose commerce they desire to drain. They are 135 miles from the Ohio river, and 326 from St. Louis, the commercial heart and centre of the great valley—The people of this valley, anxious to multiply their markets, and to meet the efforts of their brethren on the Atlantic seaboard in their exertions to promote commercial and social intercourse, have constructed and are constructing a perfect network of railroads and canals terminating at various points on the northwestern side of the Ohio river, among others at Evansville where both a railroad and canal exist, leading to the lakes, are connected with the whole north western system of both artificial and natural means of transportation and travel. Henderson is only distant from Evansville about ten miles, and the navigation between them on the Ohio is perpetual, there being never less than from five to six feet depth of water in the channel. The distance from Henderson to Nashville is only 135 miles, which is filled up by our own and the Edgefield and Kentucky proposed railroads. These railroads are by compact between the two companies to be united and ultimately to form one road, and this link of 135 miles is the only one which is wanting to connect Charleston, Savannah and the cities and States of the south Atlantic seaboard with the centre of the Great Valley of the West. Will these States and cities withhold their means from the construction of this road? To suppose so would be to imagine that a community would expend their money, and appropriate their labor and intellect to achieve an object of great magnitude, and when that object was just within their grasp, refuse to clutch it. The supposition is unreasonable and is contradicted by the whole history and by the interests of those states and cities. We then may reasonably expect aid in the construction of our road from the northwest and the southeast. We also may expect aid from the cities of the northeast, for our road will fill up the circle of railroad routes which either by the northwest or southeast will lead to the cities of the northeast. Thus, with

both the ability and the will at home, with the just expectations of aid from abroad—with the amount of means both of stock and bonds already subject to our control—and with the coal, iron, and other local trade created by the road itself, combined with the remarkably favorable profile of the country through which it will pass, it is certainly fair to presume that we are able to pay for it, or most assuredly will be so by the end of the time fixed in our advertisement for the reception of bids. Knowing the interest which you feel in all proper railroad enterprises, I have thought proper to say this much to you, as to the condition, prospects and importance of the Henderson and Nashville railroad, which you may, if you choose, publish in the Railroad Journal, as a communication, in connection with our advertisement. Very respectfully,

EDWARD H. HOPKINS, Prest. H. & N. R. R. Co.

Indiana.

Wabash and Erie Canal.—The following is an extract from the message of Gov. Wright to the legislature of Indiana, on the subject of the above work:

The report of the trustees of the Wabash and Erie canal, will put you in possession of the progress and management of the work the past year. There are many interesting questions presented for your consideration. The tolls and water rents of the past year received were \$193,400 18, being an increase of \$14,119 42 over the corresponding period of the year immediately preceding. The amount realized from the sales of land in the two land districts, and collected from previous sales were \$352,794 98, being an increase over the same period of the year preceding, of \$147,521 14. The work has progressed rapidly during the past year, and no doubt is entertained, that by the first day of March next, the waters of the Lake and of the Ohio will be united, and the entire Canal from Toledo to Evansville, a distance of four hundred and sixty-five miles will be in successful operation. This work, conducted with such energy, will be the longest line of inland continuous navigation in the world, and its completion will form a new era in Indiana.

It was to be expected that in the prosecution of a public work of such magnitude, and its management and police, the trustees would often come in conflict with local and private interests. This was so under the state management of the work.

Frequent complaints have been made to the Executive Department for relief, by bringing suits against the board.

In the county of Clay, a large public meeting of the citizens was held during the past season, at which divers resolutions were adopted, among others the following:

"That the trustees of the Wabash and Erie canal have constructed a reservoir on Splunge Creek in said county, covering among the rest about one thousand acres of heavily timbered land, the timber left standing to rot and decay; and that the miasma arising from said reservoir has already destroyed the health and lives of many of our best citizens, and has become a common and public nuisance, and no prospect of becoming any better for years to come,—not until the timber therein entirely decays or is otherwise removed." A copy of the proceedings of the meeting was presented to me. I directed counsel to examine the case. Suit has been brought and is now pending.

These applications for relief by suits are embarrassing, and I again suggest that you adopt some rules to be observed in such cases. The views of my predecessor on this subject are worthy of your special consideration.

It is our duty to protect the rights of the citizens and the community in every way compatible with our past engagements; but we are always to consider the circumstances under which the Wabash and Erie canal was transferred to the trustees for completion, and the objects for which it is pledged.

We must ever regard those objects as intimately identified with the character and credit of our state. We should be recreant to every principle of honor

if we do not maintain inviolate the arrangement with our bondholders.

Ohio.

FIRST ANNUAL REPORT OF THE TOLEDO, NORWALK AND CLEVELAND RAILROAD.

It was one year last spring that we took the votes of the municipal corporations along our line, under the authority contained in our charter, granted the previous winter; and it is now about fifteen months since our principal contractors, Messrs. Baxter, Brown & Co., got their forces fairly engaged on our road, in the work of construction.

Since that period the grading, bridging and masonry, have been done, the road prepared for the iron, the iron purchased in England, transported and laid in the track, and the furniture and depot accommodations partially provided.

Fifty-two miles of the Western end of the road have been run since the 20th inst. The residue will be ready soon.

Though you may now look upon the enterprise as prosecuted to a successful issue, and begin to reap the benefits anticipated from it, we have not yet provided ourselves with a sufficient number of cars and engines, nor are our depot arrangements in such a state of forwardness as to accommodate business that may be fairly expected to pass over our road.

Occupying, as we do, a position in a great line of thoroughfares, with roads in full operation at either end, we found ourselves pressed with the offer of business before we were ready to undertake it; and though we commenced running one train a day over the Western section for the carriage of passengers and mail, with such accommodations as we could get in readiness at the time, we did not expect to be in a condition to carry freight; or even entirely meet the wishes of the travelling public; yet our business, on the section opened, has been quite as large as we had any reason to expect.

The paying passengers daily, on the average, have amounted to over three hundred; and the gross earnings at the same rate for a year of 313 days, deducting therefrom fifty per cent. for running expenses, would be equal to nine per cent. on the cost of that section of fifty-two miles, at \$16,000 per mile. We hope, in a few weeks, to get into operation, for both freight and passengers, over the whole line.

The final estimates of the cost of our road have not yet been carried on to our books. Annexed is a statement made up from the Treasurer's books, and from estimates just returned to this office by our Chief Engineer, of the cost of construction.—The small amount of work yet to be done, brought into this statement, will not be greater than the estimates, and the gross amount covers the cost of surveys, depot grounds, right of way, and land damages, (including about fifty-five miles of fencing,) cost of work and material, of machinery, of station buildings as far as undertaken, of interest on bonds and debt to the time of opening the Western section, of discounts, commissions, engineering, salaries, and all incidental expenses.

The estimate of Mr. Harbach, who made our preliminary surveys, was eighteen thousand dollars per mile for road and less equipment than we have provided; which is about two thousand five hundred dollars per mile more than the actual cost.

In the incipient stages of construction, and especially in closing a contract with Messrs. Baxter Brown & Co., (who have driven the work forward with great energy,) we were obliged to submit to some sacrifices on our stock and bonds, in order to provide the means of payment. Our subscriptions to the capital stock, though quite equal to the ability of the country, were very far from being adequate to carry on such an enterprise with vigor.

The work is of the first class. The masonry, bridging, and other structures are all made in a very substantial manner, and we confidently refer to the statement of the cost as evidence of having hit upon a very fortunate period for the purchase of our iron, if not of prudence and economy in the construction of the whole road. The difference in cost of that single item, and the present market value, is over two hundred and fifty thousand dollars on the amount purchased. It will, however be necessary, in addition to the above, to expend a sum in the aggregate equal to about two thousand

dollars per mile, in completing the fencing and ballasting of the road, in furnishing additional cars and engines, in building machine shops, passenger houses, and other station accommodations, and in the erection of a bridge across the Maumee river.

The grades and alignment are very favorable. The aggregate length of curved line is less than nine miles in the eighty-seven—the total curvature, 344 degrees, mostly in the vicinity of stations—maximum grade of mainline, thirty feet to the mile. We have one reach of twenty-nine miles with only one very slight curve, and almost level the whole distance.

Our road will be operated under an agreement with the Cleveland, Columbus and Cincinnati railroad company, by which a connected line, as a part of the Lake Shore route, is formed between Cleveland and Toledo, and there will be no change of cars at the point of Junction.

We have issued no railroad bonds convertible into stock. The amount of stock issued, up to this date, including that which we are to pay our contractors, is about \$551,000 in amount, and its market value is rapidly advancing.

Should the building of the bridge at the Maumee river, and additional station accommodations be entered upon at an early day, it may become necessary and convenient in providing means, to issue an additional amount of stock. It is right, however, that the stockholders generally should have the benefit of any premium it may command. The directors have, therefore, ordered the books of subscription to be closed. This is a subject which may very properly be referred to the stockholders themselves. There will be no necessity, in any event, of issuing an amount of stock greater than one-half of the cost of the road, should the stockholders think it expedient to give their sanction to the issue of an amount so large as that. We predict great success for the enterprise.

By order of the Board.

C. L. BUALT, President.

COST OF ROAD, EQUIPMENT AND STATION BUILDINGS.

Contract with Baxter, Brown & Co.

Clearing, grubbing, grading, masonry, bridging, cross ties, distributing and laying track and switches, and ballasting.....	\$322,659 62
Ten per cent on above and on iron.....	\$70,036 33
Deduct \$10,000 as per modification of contract.....	10,000 00
	60,036 33
Ballasting, on which no ten per cent is to be paid.....	35,000 00
Extra, for rock excavation.....	2,220 00
Total.....	\$419,915 95

Other work and Material.

June and Grabach's contract for masonry.....	\$19,661 37
Clearing, grubbing, grading, cross-ties bridging, and wharf on east side river at Toledo, 29 miles western section.....	88,781 32
Station grounds, land damages and rights of way, including 55 miles fencing.....	56,692 20
Engineering.....	25,726 53
Salaries, rents and incidental expenses to Dec. 20, 1852.....	14,578 00
Extra allowance for distributing, counting iron, etc.....	3,100 00

Iron, &c.

7,993 gross tons iron in N. York, at \$36 76 per ton.....	\$293,832 68
Chairs and spike.....	82,176 00
Transportation of the same at \$5 per ton net.....	55,695 00
	\$377,703 68

Equipment.

Ten locomotives arriving and arrived.....	\$77,250 00
Fifty platform and 40 house double cars.....	53,220 00
Eight first class, and eight express, post office and other cars.....	28,400 00
	\$158,870 00

Station Buildings, &c.

Engine houses, wood sheds, water tanks, freight houses, turn tables, and other accommodations as far as commenced and to finish.....	\$34,000 00
Commissions of all kinds and trip to England.....	2,500 00
Discounts on bonds and stock taken by contractors in payment and all other discounts, and interest on bonds sold and on debts up to Dec. 20th, 1852, date of opening western section.....	146 642 90
Real estate and Miscellaneous items...	3,242 21
Cost of 87 miles of road, station buildings.....	\$1,351,714 16
Being \$15,530 per mile.	

New England Railroad Convention.

A final meeting of this body was held at Boston on the 15th inst. All the Northern lines were represented. The committee appointed at the previous meeting, consisting of Mr. Swift of the Western road, Mr. Hendee of the Rutland, and Mr. Stearns of the Vermont Central, reported the expediency of raising the freight tariffs 25 per cent, and of abolishing all free-passes. The report was unanimously accepted. There are now three important railroad lines from Boston to the West, namely:—the Worcester and Western line, the Fitchburg, Cheshire and Rutland line, and the Lowell, Northern, Central, and Ogdensburg line.

Illinois Canal.

The annual statement of the Trustees of the Illinois and Michigan Canal has been published for the benefit of the subscribers to the loan of \$1,600,000, obtained for the completion of the canal. All the back interest and 70 per cent. principal have been paid, and the whole debt will soon be canceled. Twenty per cent. of the principal, in addition to the interest was paid last October. The sales of lands, belonging to the canal, for 1852, were 32,873 acres, at \$289.911, being an excess above the valuation of \$85,551; in addition, 692 town lots were sold for \$198,903, leaving unsold 116,234 acres of canal lands, and 2,379 town lots; of the latter 527 are in Chicago or its immediate vicinity. The trustees are Messrs. William H. Swift, of Boston; David Leavitt, New York; and Joseph R. Wells, Chicago.

Florida.

Savannah and Pensacola Road.—We learn through the editorial correspondence of the Georgian, that the legislature of Florida has passed a bill to incorporate "the Pensacola and Georgia railroad company." The correspondent of the Georgian says: "Under its provisions, Savannah will have no difficulty in reaching Pensacola by both the Savannah and Pensacola, and by the South-western railroad. The latter, it can hardly be doubted, will work its way down through Sumpter, Lee, Baker, Early, and Decatur counties, to the Florida line, at a point in the vicinity of the junction of the Chattahoochee and Flint rivers. The former, throwing off a branch to Albany, will construct another through Southern Georgia by nearly a direct line to the point already designated as the Georgia terminus of the South-western road, to wit: the vicinity of the junction of the Chattahoochee and Flint."

We are much obliged to our Florida friends for a charter for so much of the proposed road as will pass through their state, but the obligation would have been increased if they had devoted a portion of their magnificent internal improvement fund to the construction of the road. What is to be done with that fund, if anything, we are unable to say. We observe that the legislature refused to appropriate any portion of it to the Central road passing through the state, though they granted it a charter. This road is to "commence in East Florida, upon some tributary of the Atlantic ocean within the limits of the state of Florida, having a sufficient outlet to the ocean to admit of the passage of sea steamers, and shall run through the state in the most eligible direction, to some point, bay, arm or tributa-

ry of the Gulf of Mexico, west of the Apalachicola river, in West Florida."

The connection of the Atlantic and the Gulf has long been a favorite project with the people of Florida, but so divided have they been as to the direction the road shall take, that they have failed thus far to accomplish any thing. They might easily enough have insured this connection by embarking in the Savannah and Pensacola road; as it is, they only grant a charter and leave us to do the work.—*Sav. Republican.*

Wilkinson's EXPLOSIVE RAILWAY SIGNAL, For sale by BRIDGES & BROTHER, 64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable. They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

PATENT Locomotive Steam Cylinder BORING MACHINE AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinder to be re-bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agents,
64 Courtland St. New York.

To Contractors.

HENDERSON AND NASHVILLE R. R.
SEALED bids addressed to the President of the Henderson and Nashville Railroad Company at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:
 1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure.
 2. The same with the wooden superstructure.
 3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.

4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

By a compact between the Henderson and Nashville Railroad Co., and the Edgefield and Kentucky Railroad Co., their roads are to be united at the Tennessee and Kentucky State line, and then form a continuous line of Railroad from Henderson on the Ohio; to Edgefield, on the Cumberland river immediately opposite to Nashville, a distance of only about one hundred and forty miles. When it is considered that at Nashville, through the Nashville and Chattanooga Railroad, this road connects with the whole system of Railroads and rivers leading to Charleston, Savannah, and the South Atlantic seaboard, and from thence by a Southern route of Railroads to all the Eastern and Northern cities, and that at Evansville, Indiana, only ten miles of perpetual navigation on the Ohio river distant from Henderson, it connects with the systems of Canals, Railroads and Rivers which penetrate and drain the valleys of the Mississippi and the Lakes, and extend by a Northern route to the Eastern and North-eastern cities, it cannot be doubted that this is a most important road. But if it be taken into the account that it presents much the shortest, and owing to the remarkably favorable profile of the country, for the cheapest route for a railroad designed to connect these Northern and Southern Systems, that it penetrates the richest beds both of bituminous coal and iron ore heretofore valueless because land-locked—that it passes through an agricultural region of great fertility and remarkable beauty, and opens in the South Atlantic States by the shortest, speediest, cheapest and best route, a market comparatively new, for the farming products, especially provisions of the valley of the Mississippi and the Lakes, its value and importance cannot be over-estimated—that it will pay and pay richly, both in dividends to the stockholders and in indirect profits to those whose residence gives them an interest in the means of transportation and travel which it will afford cannot be doubted.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co. ED. H. HOPKINS, Prest.
Henderson and Nashville R. R. Co.

To Contractors.

CLEVELAND AND MAHONING RAILROAD LETTING.

SEALED PROPOSALS will be received at the Office of the Company, on Superior street, Cleveland, until the first day of March, 1853, for the Grading, Masonry and Bridging of the portion of said road from Cleveland to Warren, a distance of 53 miles.

Plans, Profiles, and Specifications, may be seen at the Company's Office, in Cleveland, and the line will be ready for inspection by Contractors, 2 days previous to the letting.

The line is divided into sections of about one mile each, and bids will be received for each section separately, or for the whole line.

Estimates will be made monthly, and the payments made in cash.

Further information may be obtained on application to Jacob Perkins, Esq., President of the Company, George C. Backham, Esq., resident Engineer, Cleveland, or to the undersigned.

The remainder of the line from Warren will be let as soon as the location can be completed.

By order of the Board.

EDWARD WARNER, Chief Engineer.

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
Iron, Chairs and Spikes
Also, Cars, Locomotives, and all kinds of Machi-
nery for Railroad purposes.
Office next door to the Custom House, Main st.
January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF

WARRANTED Cast Steel of superior quality for
Tools, Machinery and Engineering purposes.
Single and Double Shear, Blister, German, Spring
and Sheet Steel of every description; also, Cast Steel
Files of high reputation, specially adapted for the use
of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS CONGREVE, Agent,
68 Maidenlane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

SISCOE BLAST FURNACE
For Sale.

THIS FURNACE, situated in Westport, Essex
Co., N. Y., on Lake Champlain, is capable of
producing 3000 tons Pig Iron per annum. It is
blown by a powerful steam engine, and another en-
gine raises the stock, etc., etc. There are eight
Kilns, which can make 500,000 bushels Charcoal
per annum, connecting by Railroad with the Fur-
nace, and nearly an acre of sheds for seasoning
wood. One large Brick Mansion House, with ex-
cellent Farm, one Brick Cottage, seventeen Houses
for workmen, commodious Blacksmiths' and Car-
penters' Shops, etc., etc., and about 1500 Acres of
Land. The Furnace is situated on a large and
convenient Dock; Wood for making Charcoal can
be obtained cheaply in the neighborhood, and An-
thracite coal from Rondout can be delivered at low
rates. By the proposed Ship Canal from Lake
Champlain to River St. Lawrence, coal could also
be brought with great facility from Erie. The rich
Magnetic Ore of Essex County, particularly that
from the famous Port Henry Bed, can always be
procured cheaply and in great abundance. The
property will be sold on reasonable terms. Inquire
of Messrs J. & L. TUCKERMAN, 69 West street,
New York, or of F. H. JACKSON, No. 5 Liberty
Square, Boston. 1m2

LOW MOOR IRON.

WM. BAILEY LANG, 9 Liberty Square, Boston,
and 24 Broadway, New York, Sole Agent in
the United States and Canada for the Lowmoor
Iron Co., is prepared to receive orders for this justly
celebrated Iron, and offers for sale an assortment of
the Round sizes which he now has in store, and which
for strength, soundness and uniform quality, stands
without a rival.

**Superior Cast Iron Gas and
Water Pipes.**

THE Subscriber is prepared to contract for the sup-
ply of CAST IRON PIPES required by Gas or
Water Companies, Corporations, etc., delivered in any
Seaport in the Union, on reasonable terms. These
Pipes are cast on the most improved principle by the
best Founders in Scotland, from a superior quality
of Pig Iron remelted, are guaranteed to resist a pres-
sure of 300 lbs. to the square inch, or greater if neces-
sary, and to be soft enough to drill easily and freely.
Full information regarding price, and references to
parties in the United States now using the Pipes, can
be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Renfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st., New York 1y50

Railroad Iron.

5000 TONS Railroad Iron, weighing about 59
lbs. per yard, "Erie" pattern of G. L. and
"Crawshaw" manufacture, now on the way from the
shipping ports in Great Britain to this port, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.

December 4, 1852.

4t

SIMEON DRAPER, No. 46 Pine-st., offers for
sale, a variety of RAILROAD BONDS and
STOCKS; also CITY, TOWN and COUNTY
BONDS, among which are—

1st Mortgage Convertible—
7 per ct. bonds of Canandaigua and Corning
R.R., payable in.....New York, 1860
Do. Buffalo, Corning and New York do.....1867
Do. Western Vermont Railroad.....do. 1861-71
Do. Evansville and Illinois.....do.....1862
Do. Michigan Central.....do.....Boston, 1860
Do. Peoria and Oquawka.....do.....New York, 1862
1st Mortgage—
7 per ct. bonds, Corning & Blossburg do.....1871
Do. Mansfield and Sandusky.....do.....1860
7 per ct. Vermont Valley.....do.....1860
Do. Troy and Bennington.....Troy, N. Y. 1861
Do. New Jersey Central.....New York, 1860-70
Do. Dauphin and Susq. Coal Co. do.....1871
Do. Brunswick Canal Co.....do.....1857
Also, second mortgage bonds of many of the above
companies, and—
7 per ct. bonds Saratoga and Wash. N. York, 1862
Do. Troy and Boston.....do.....1864
Do. Muscogee Railroad.....Savannah, 1862
Do. Huron and Oxford.....N. York, 1862
Also, Georgia 7 per ct. State stocks,
interest payable semi-annually.....do.....1872
City of Savannah 7 per cent. bonds,
interest payable semi-annually.....do.....1870-76
7 per ct. bonds of the Town of Huron,
Erie county, Ohio.....do.....1861
10 per ct. City of Keokuk, Iowa, Keokuk, 1863
6 per cent. City of Memphis.. Philadelphia, 1866
10 per cent. City of San Francisco, San Fran. 1870
12 " " Benicia, California, N.Y. 1855
12 " " Sacramento, do. Sacramento.
7 per cent. Atlantic Steamship Co.. N. York, 1855
12 per cent. Improvement Scrip of the
State of Wisconsin for improve-
ment of Fox River.....do.....1862
Troy and Rutland railroad Stock, with guarantee
of 4 per cent. dividend and one half surplus profits
of this and Rutland and Wash. R. R.
Rutland and Whitehall Stock, with guarantee of
4 per ct. div'd by Saratoga and Washington R. R.
Also, Stock of the Cambria Iron Company.
Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York
R. R. Co.
Stock in the Mansfield and Sandusky R.R. Co.
Stock in the Southern Bank of Kentucky.
Stock in the Mechanic's Bank of N. Y.
Stock in the East River Insurance Co.

The Cold Spring Iron Works,
INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-
setts, manufactures CAR AXLES, and all kinds
of WROUGHT IRON used in the manufacture of
LOCOMOTIVES and CARS; also, BAR IRON of
all descriptions. Particular attention is paid to the
manufacture of CAR AXLES, and the Works being
situated in a region of WOOD and CHARCOAL,
with which their Axles are exclusively made, the Com-
pany feel confident they can furnish an article equal,
if not superior, in quality and finish to any in the
market. They solicit the orders of RAILROAD
CORPORATIONS and CAR BUILDERS, and prom-
ise they shall be promptly attended to: and execut-
ed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Rail-
road, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad Riv-
er and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder.

Address **HENRY MELLUS, Agent,**
Boston, Mass.,
or, **GEO. W. PRESCOTT, Sup't.**
Otis, Mass.

November, 12, 1852. 1y

Railroad Iron.

5000 TONS, weighing about 55 lbs. per yard,
now on the way from Great Britain to
New Orleans, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.

December 4, 1852.

4t

The Cambria Iron Company,

ORGANIZED under the laws of Pennsylvania,
with a capital of \$1,000,000, propose to embark
in the manufacture of Railroad Iron, at Johns-
town, Pennsylvania. The location they have se-
cured offers advantages superior, it is confidently
believed, to any other in this country. Iron Ores,
semi-bituminous Coal, Limestone, and nearly every
article required for the manufacture of Iron, exist,
in inexhaustible quantities, on the spot; and these
deposits are now worked, and the minerals deliv-
ered, cheaper than at any other known point now
occupied for the manufacture of Iron. The Penn-
sylvania Canal and Central Railroad pass through
the property, and cross each other at the spot where
the mineral veins are most thoroughly opened out;
and which location, for its other advantages for fa-
cility of manufacturing, and vicinity to a populous
borough, has been selected for the establishment of
Railroad Iron Works, and for the erection of other
Blast Furnaces, in addition to those now in opera-
tion.

The attention of capitalists disposed to embark
in an enterprise which offers a remunerating profit,
even on the low prices of iron current before the
rise of the last six months, and which promises to
be very lucrative while anything like present rates
prevail, and also of Railroad Companies desirous
of making arrangements for Iron Rails to be deliv-
ered in 1853, is called to this enterprise.

Out of the capital named above, the sum of
\$360,000 has been devoted to the purchase of about
30,000 acres of land, upon which there are six blast
furnaces, which cost, including the personal prop-
erty accompany them, \$350,000. Three of these
furnaces are now in successful operation, and by
next spring, with an outlay of about \$6,000, the
other three can go into blast; and at the present
price of pig iron, these six charcoal furnaces would
realize a net profit of six per cent on \$1,000,000
capital.

The company contemplate erecting four more
blast furnaces, for smelting with coke the iron ores
at Johnstown, and also works for manufacturing
railroad iron. To do this, they will require sub-
scriptions in all to the amount of \$600,000, and to
carry on most profitably the manufacture and dis-
posal of rails, the whole chartered capital should
be raised. Subscription lists, providing that no
subscription shall be binding unless bona fide sub-
scribers for the amount of \$600,000 are obtained
by the 1st January next, and pamphlets descriptive
of the advantages of the locality and estimates of
costs, can be had of the undersigned.

D. M. WILSON, Newark,
EDWARD F. GRANT, New York,
SAMUEL H. JONES, Philadelphia,
JOHN HARTSHORN, Boston,
T. F. SECOR, New York,
G. S. KING, Johnstown,
P. SHOENBUEGER, Pittsburg,
RHEY, MATHEWS & CO., Pittsburg,
or at the office of the Provisional Committee, at
SIMEON DRAPER'S, 46 Pine st.

The subscriber is prepared to enter into contracts
to deliver RAILROAD IRON to Companies re-
quiring it in 1853. **SIMEON DRAPER.**

Iron.

200 Tons Fishkill Charcoal Iron for sale on
reasonable terms, also from 1000 to 5000
tons Fishkill Hematite Ore—delivered at Pough-
keepsie or New York. Samples of the ore may be
seen at the store of Messrs. Hoffman, Bailey & Co.,
No. 62 Water st., New York. Enquire by letter to
NORMAN M. FINLAY,
Poughkeepsie, Dutchess county, N. Y.
July 10, 1851.

A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels
for Cars and Locomotives. Also furnish Wheels
fitted complete on best English and American Rolled
and American Hammered Axles. 31uf

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchas-
ers, by **G. O. ROBERTSON,**
135 Water street, corner of Pine,
New York.
November 19, 1852.

Volcano Quartz Mining Co.VOLCANOVILLE, EL DORADO COUNTY,
CALIFORNIA.

BOOKS for subscription to \$75,000 of the stock of this company are now open at the office of the company, 78 Broadway, New York.

The uncommonly rich claims of this company hold out inducements, to those who are disposed to invest capital in quartz mining in California, not surpassed, if, indeed, equaled, by those of any other company in that state.

The extraordinary richness of our quartz, as was witnessed by thousands at the late Fair of the American Institute, and the extent of our claims, together with the peculiarly favorable location for economical working upon a large scale, will ensure the most ample and satisfactory returns upon the investment.

It is well understood by practical men that, with machinery working twenty tons of quartz, paying two cents per lb., large profits will be realized upon each day's work. It is the intention of the company to obtain machinery sufficient to work fifty tons per day, and to work it in the most economical manner, by which they feel confident of being able, from their stock which will yield from two cents to twenty dollars to the lb., to make returns to their shareholders which will not only satisfy, but surprise them.

It will be seen, by reading the pamphlet, containing the charter, the laws of California, and the details of our plans of operation, that our estimates are based upon two cents per lb., and the expenses of working the mill are but, at present high prices for labor, while it is well known to all who reflect upon the matter that, as the cost of labor shall be reduced, the income will be materially enhanced.

If we work 40 tons per day, and yet two cents per lb., it will yield \$16, while three, four, or five cents per lb., would give a proportionate increase of receipts, the expenses of working the mill would not be increased a dollar, and will be less than \$470 a day.

Subscriptions can be made by mail, enclosing ten per cent on the amount, of the balance, twenty per cent to be paid on the 29th of Nov. inst., and seventy per cent on the 29th day of December next, when certificates of stock will be issued.

Pamphlets, containing the statute of California in relation to corporations, the rules and regulations of our locality, the charter and by laws of the Co., together with much other interesting and useful matter, including a map of a portion of the northern mining regions may be had gratis at the office of this company, No. 78 Broadway, or by mail on application, (postage paid.)

TRUSTEES OR DIRECTORS.

NICHOLAS DEAN,
ROBERT M. STRATTON,
NATHANIEL CONKLING,
D. K. MINOR,
JOB S. HEARN,
SUMNER WHITNEY,
BENJAMIN C. DONNELLAN,
JAMES CLOUDSLEY
JAMES ALLEN,

} of New York.

} of California.

D. K. MINOR, President,
JAMES CLOUDSLEY, Vice President.

NICHOLAS DEAN, Treasurer.

NATHANIEL CONKLING, Secretary.
New York, Oct. 25, 1852.**To Railroad Co's, Locomotive Builders and Engineers.**

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Aug. 28, 1852

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

To Railroad Contractors.

SEALED PROPOSALS, addressed to either of the undersigned, will be received at Hillsborough, Highland county, Ohio, until the 1st day of February next, at noon.

For the Graduation and Masonry of the Middle Division of the Cincinnati, Hillsborough and Parkersburgh Railway, extending from Hillsborough, Highland county, to a point near Jackson, Jackson county, Ohio, about 56 miles.

The line will be ready for examination early in January, and Profiles and Specifications of the work will be exhibited at the Engineer's office, in Hillsborough, for one week prior to the 1st day of February.

This Railway forms the recognized continuation across Ohio, of the Baltimore and Ohio, and North Western Virginia Railways, and being located as a link, in the great through line between Baltimore and St. Louis, will be found in every way worthy of the attention of able and enterprising contractors.

The remainder of the line to the Ohio river will be ready for contract about the 1st day of May next.

JAMES M. TRIMBLE, President.

ELWOOD MORRIS, Chief Engineer.

Notice to Contractors.

Alleghany Valley Railroad Lettings.

SEALED PROPOSALS will be received at the Company's Office, in Fourth street, Pittsburg, until the 22d day of February, 1853, for doing the Grading, Masonry and Bridging on the portion of said road, between Pittsburg and Kittanning, Armstrong County, a distance of 42 miles. The line will be divided into Sections of about one mile in length, and bids may be made for one or more or all of said sections.

Plans, Profiles and Specifications will be ready for inspection on and after the fifth day of February.

Proposals will be received for the Grading, Masonry and bridging, and also for the superstructure, and finishing said 42 miles, complete, (except furnishing iron.)

Bids will be received and considered, for the entire work, (except furnishing iron,) from Pittsburg to the New York State line.

Satisfactory references will be required from bidders not personally known to the Company.

For further information, application may be made personally, or by letter, to Hon. William F. Johnston, President of the Company, or to George R. Eichbaum, Esq., Associate Engineer, or to the subscriber.

W. MILNOR ROBERTS, Chief Engineer.

By order of the Board of Managers.

Office of the Alleghany Valley Railroad Company, Pittsburg, December 20th, 1852.

LOW MOOR AXLES,

A SUPERIOR Article of Railroad Axles, supplied by the Manufacturers' Agent - WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD COMPANIES, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

E. DEWOLF, Jr.

Oct. 2, 1852

To Civil Engineers and Surveyors.

A **CIVIL ENGINEER** and Surveyor of very great experience in every detail of locating, designing and constructing Public Works, especially Railroads, is desirous of a situation, he has been engaged practically for the past sixteen years and can produce the most satisfactory testimonials.

Address D. F. Carr of Geo. Gilchrist.

1 m-53

422 Washington-st. N. Y.

\$200,000 SEVEN PER CENT. CONVERTIBLE BONDS OF

the NEW-CASTLE and RICHMOND RAILROAD.—The undersigned offer for sale TWO HUNDRED SEVEN PER CENT CONVERTIBLE BONDS for \$1,000 each, of the NEW-CASTLE and RICHMOND RAILROAD COMPANY, with Interest Coupons attached, payable semi-annually at the office of the Ohio Life Insurance and Trust Company, in New York. The Bonds are payable at the same place in fifteen years and are convertible into the stock of the company within five years.

These Bonds are secured by a mortgage executed by the Company to George Carlisle, of Cincinnati, and Joseph B. Varnum of New York, Trustees of the road from Richmond in Wayne County, to New-Castle in Henry County, including the superstructure, iron rails, depots, tolls, privileges and franchises of the Company. This mortgage is the FIRST AND ONLY LIEN upon this section of the Road, which is a part of the great Trunk Railroad from Cincinnati to Chicago.

The New-Castle and Richmond Railroad extends from Richmond to Logansport, 103 miles, the whole of which is under contract, and about one thousand hands are now employed on the road.

The total amount of stock subscribed upon the whole road is \$509,400. The stock applicable to the construction of the road from Richmond to New Castle is \$250,900.

This railroad passes through the most fertile, populous and highly improved part of Ohio and Indiana, and it must become the great route for freight and travel between Cincinnati and Chicago and the Northwest.

The local business alone would be sufficient to make the road profitable. The counties of Indiana through which it runs produce annually more than two millions of bushels of wheat, five millions of bushels of corn, one hundred and fifty thousand hogs, and fifteen thousand cattle, a large part of which must be transported to market on this road.

The iron rails for more than fifty miles of the road have been purchased. Ten miles of the road, from Richmond to Washington, will be completed and in operation in November next, which will make a continuous railroad of about 70 miles from Cincinnati, by way of Hamilton, Eaton and Richmond.

The holders of the bonds will have for their security the obligations of the company, with subscriptions of stock to the amount of more than half a million of dollars, and a mortgage upon the road from Richmond to New Castle, with the iron rails, superstructure, tolls and franchises of the company.

CARPENTER & VERMILYE, 44 Wall-st.
CAMMANN WHITEHOUSE & Co. 56 Wall-st.**Etna Safety Fuse.**

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Sole Manufacturers, 41

No. 55 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 4, 1852

17

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

George Peabody & Co, London.

Currie, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

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AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 5.]

SATURDAY, JANUARY 29, 1853.

[WHOLE No. 876, VOL. XXVI.]

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American Railroad Journal.

Saturday, January 29, 1853.

Considerations addressed to Foreigners who wish to invest in Securities of American Railroads.

We have recently received numerous applications from Europe, from parties wishing to invest in their stocks and securities, for information respecting our railroads, the rights secured to companies by their charters, the relation they sustain to the governments and laws of the several States, in fine, for all such information as would enable a person in England or Germany, to form a correct idea as to the value of our roads, as investments of capital. The low rates, and the difficulty of finding employment for money, in England particularly, has turned the attention of capitalists to this country, and should the favorable opinion now entertained of our railroads be confirmed, a large amount of capital would at once flow hither for investments, not only in their securities, but stock; and we are happy to take this opportunity and mode of replying to the queries addressed us, intending to convey an entirely correct idea of the legal relations sustained by our companies, and hoping to present a view of the objects, uses, and probable value of our roads, that will be sufficiently understood.

It is probably pretty well understood, even in Europe, that all the charters of railroads in this

country proceed from the several State governments; the general government never claiming to exercise, if it possesses, this power, which is generally denied. As an ordinary rule, a charter for a railroad is granted as a matter of course, and in a number of States, there are what are termed "*General Railroad Laws*," which provide for the organization of railroad companies, and the construction of railroads, without application to the Legislature. In either case, there is little difference in the privileges conferred; the object of the *General Laws* being to save the necessity of application to the Legislature in each particular case, and to place all companies on an equal footing.

A charter for a railroad necessarily carries with it all the powers essential to the construction of a road, the company is a unit as far as its legal relations are concerned. Its property occupies the same relations to the government, as does that of the individual citizen; the government, in the former case, retaining only such control over the companies, as is necessary to provide for the safety, and protect the rights of the community and the stockholders. It has no (we now speak of all the States) control over their management (with the exceptions stated), dividends nor property, any more than it has over the conduct or property of the individual citizen, which can only be taken in an imminent necessity, such as war, and then only by making full compensation.

The *special* charters frequently designate the leading points on the route. A few of those first granted in several States limited the dividend to 10 per cent per annum, and their legal existence to a certain period. But as a general rule, both *special* and general charters are perpetual in their duration, and are unrestricted in their dividends.

In accordance with the tendency in this country to *general*, instead of special legislation, and to provide an uniform mode for the organization of companies, which have the same general characteristics and objects, many of our leading States have enacted such *general laws*, authorising the construction and providing for the management of railroads. New York was the first to take this important step in liberal legislation, and the leading features of her law have been copied by the other States which have followed her example. This law provides that any number or company of her citizens may associate themselves for building a

railroad, and upon subscribing at the rate of \$1000, and the payment of \$100, per mile for the length of the road, into the treasury of the company, and on filing in the office of the Secretary of State the articles of the association, which set out its objects, the route, the title of the company and the capital stock proposed to be raised, the Secretary of State, as a matter of course, issues a charter, conferring legal authority to carry out the objects of such association. Under this authority the company may proceed to the construction of the road, and do every necessary act for this purpose. Such company may build their road when and where they choose, and parallel to those already in operation, whether constructed under a general, or special, charter, may borrow whatever money, and upon such rates of interest, and upon such time, and declare such dividends, as it may deem proper. The law entirely ignores the expediency of protecting rights which are based on priority in point of time, but throws open the construction of railroads to the competition of the public, and makes this right the common privilege of all, as is the building of ships, steamboats, or manufacturing establishments.

There can be no doubt whatever that the public interests are immensely benefited by *general laws*. Instead of stimulating the building of railroads beyond the wants of the community, they only promote their healthy progress. When the right to build a railroad always exists, and can be exercised as well at one time as at another, and when no advantages are forfeited by delays, parties will take a suitable time for reflection before they act.—Where, too, every road is exposed to the liability of having a parallel rival road upon its immediate route, those constructing it will be very certain to avail themselves of the strongest of all monopolies, and which is secured by adopting the *best and cheapest* route. Men do not go into ship building unless with a good prospect of making money, which cannot be the case provided the ships already built have sufficient capacity, and are sufficiently adapted to the business for which they were constructed. So with railroad construction in New York. If an existing road meets the wants of the country traversed, there is little disposition, or danger, that a rival will be constructed; and to ward off such danger, it is necessary that such road should be well built and well managed. We have therefore the constant and immediate corrective of

public opinion for any abuse or mismanagement of railroads, and such public retains, as a matter of common right, the power to apply this corrective, in the shape of a new road.

In the States where general laws exist, which are New York, Ohio, Indiana, Illinois, and, we believe, Wisconsin, special charters are forbidden. In these States, from the recent enactment of such laws, most of the companies in operation and progress have been built under the former. In the other States, special charters are usually granted on application, as a matter of course; so that, practically, similar results are secured, as under general laws. There can be no doubt, however, that all the States will speedily adopt such laws. In none is a *retroactive* effect given to the general laws, but their provisions are applicable to old companies, except where they are incompatible with the rights specially secured.

As already stated, the several State governments possess no more authority or power over the conduct or property of railroad companies, than over those of the individual citizen. The rights of the former are the rights that every community possesses, to protect the persons and property of citizens of which it is composed. With the management and disposition of this property, so that no injury results thereby, these governments have nothing to do, and can only take and use such property under the plea of imminent necessity, and then only by returning an equivalent value.

The stocks and bonds of railroads are regarded as *personal property*, and as a general rule are subject to taxation, like other personal property in the hands of their owner. The *franchise* of a railroad, its road bed, right of way, rails, equipment; etc., etc., are not subject to taxation in any shape. The reason is obvious. A road constructed under one charter may run through a number of counties, and States even, and it would of course be impossible to estimate the value of the different portions of it lying in such counties, or States, and the amount of rolling stock belonging to each. But where companies own a large amount of real estate, which is used for a depot, and the value of which is not effected by, or dependent upon the road, such real estate is taxed in the cities or counties in which it is situated. Were not such property subject to taxation, it is easy to see that extraordinary privileges would be granted to railroad companies, and that they might become a cover to shield from taxation large amounts of property, not wanted by them, and belonging in fact to other parties. The shares and bonds, and the real estate of the company, which would be productive without the road, may be made the subject of taxation. But the shares can only be taxed to the holder. Consequently they are not taxable in this country, when held abroad.

In England, the railroad companies are subject to many onerous burdens, in the shape of local taxes, one of which, if we mistake not, are the poor rates of the parishes traversed by them. In the United States, all money necessary to support government, as well as to provide for the support of the poor, is raised in a gross sum, from taxes uniformly assessed, and the proceeds applied to their specific objects. The foreigner, therefore, in purchasing our railroad securities, has a property of which government cannot dispossess him, (with the exception stated, which, as far as railroads are concerned, has never been exercised, and can be only in the case of war, which may, under certain

circumstances, suspend all the civil rights of its citizens, and then only by making a full equivalent,) cannot interfere with its management any more than with the property of every citizen, and one that is exempt, in his hands, from local taxation. As far as his legal rights are concerned, he is perfectly protected, and stands in a more favorable position even than our own citizens, who may be taxed for their securities as so much personal property.

After a railroad is constructed, the company cannot be dissolved, without special authority from the Legislature for such act. We are not aware of any such dissolution of a railroad company in this country. It would be authorized only for the most urgent and satisfactory reasons. In such an event, the property of the company would be distributed *pro rata* among the stockholders.

The directors are simply the agents of the company, appointable and removable at will of, or according to certain prescribed rules established by, the stockholders. Like all agents, they bind their principals only when acting within the scope of their appropriate duties. Should they be guilty of any misfeasance, they may be removed, or restrained by the courts of law. For instance: should the directors of a road, or should the company itself, attempt to declare a dividend upon its stock, from monies required to meet the obligations of the company, or pay the interest upon its debts, it would be competent for a court of equity to interfere, and direct such application to be made of the earnings of the road, or of the company's property, as to protect the rights of all the parties.

To take stock in a railroad, is, of course, to assume the risk of its proper management. The balance only of the earnings, after meeting the liabilities and charges upon the company, go to the stockholders.

It is customary for most of our companies to borrow money for a portion of the cost of their roads, by sale of bonds having usually from 10 to 30 years to run. These bonds are generally secured by a mortgage of the road and all the property of the company making it. Until breach of condition of the mortgage, the control of the road remains in the hands of the company. Both in the case of mortgage bonds, and those not secured by mortgage, the Courts of equity of the several States, or in case of final resort, the Supreme Court of the United States would compel the companies to pay the interest accruing on such bonds, before paying dividends, provided such dividends would absorb what might be necessary for the payment of such interest; and at the maturity of such indebtedness, it would compel companies to appropriate all their property in payment.

In case of mortgage bonds upon breach of condition of the mortgage, the mortgagees become vested with, and may be placed in possession of all the rights of the mortgagors. The Vermont Central railroad, one of the largest corporations in the U. S., is at the present time under the control of, and is managed by, the trustees named in their mortgage bonds, for the benefit of their holders. The relations of the mortgagees and mortgagors of property is well established, and the right to apply the well known principles of law to the relations sustained by the parties to the mortgage of a railroad, is one of the powers incident to every Court of equity in the United States.

The bonds issued by our roads have the same general features; differing chiefly in the fact that,

some are secured by a mortgage upon the property of the companies by whom they are issued, while others are not so secured, but are only promises for the payment of money. These bonds are again divided into two classes, designated as *convertible*, and *unconvertible*; the former carrying the right to be changed into stock at the option of the holder, which privilege is regarded as adding materially to their value, as most of the stocks of western roads, go to a premium soon after their opening.

The rights of creditors as they are defined in the securities they hold, are fully recognized by law, and may be vindicated in case of any violation of them. So with the rights of the stockholders in a company. They are equally under protection of law, which will always interpose in their behalf in case of any violation of the terms of subscription.

Having thus taken a brief view of the securities of our railroads in their legal relations, the next point for consideration is their productiveness as investments of capital, for this after all is the most important fact in reference to them, not only for foreigners, but our own people, to know.

To understand the usefulness and value of our railroads it must be borne in mind, that by far the greater part of our people and a much greater portion of the territory of the United States is devoted to agriculture, and that the markets for its products are either a narrow belt of country lying immediately upon the sea coast, and extending north, from Baltimore, or in Europe; and that consequently, the whole surplus product of the interior has to be sent to the sea coast. We have no interior markets, which can only be supplied by the existence of large manufacturing, or commercial cities or communities. The surplus of the Southern States is cotton; in the Northern States, corn, wheat, and domestic animals. All these articles must be sent from 50 to 1,000 miles to market, as the case may be; and where the production is so enormous as it is in this country, it is easy to see that an immense traffic must be thrown upon all the avenues connecting the interior with the sea coast.

From the difficulty of constructing good earth roads, the economic limit to transportation, is confined upon such, to a comparatively few miles, depending of course upon the kind of freight and character of the roads. Upon the average of such ways, the cost of transportation is not far from 15 cents per ton per mile, which may be considered as a sufficiently correct estimate for the whole country.—Estimating at the same time the value of wheat at \$1 50 per bushel, and corn at 75 cents, and that 33 bushels of each are equal to a ton, the value of the former would be equal to its cost of transportation for 330 miles, and the latter, 165 miles. At these respective distances from market, neither of the above articles would have any commercial value, with only a common earth road as an avenue to market.

But we find that we can move property upon railroad at the rate of 1.5 cent, per ton per mile, or for one-tenth the cost upon the ordinary road.—These works therefore extend the economic limit of the cost of transportation of the above articles to 3 300 and 1,650 miles respectively. At the limit of the economical movement of these articles upon the common highway, by the use of railroads, wheat would be worth \$44 50, and corn \$22 27 per ton, which sums respectively would represent the actual increase of value created by the interposition of such a work.

The following table will show the amount saved

per ton, by transportation by railroad over the ordinary highways of the country:

STATEMENT showing the value of a ton of wheat, and one of corn, at given points from market, as effected by cost of transportation by railroad, and over the ordinary road.

	Transportation by railroad.	Transportation by ordinary highway.
Wheat.	Corn.	Wheat.
Value at market....	\$49 50 \$24 75	\$49 50 \$24 75
10 miles from market	49 35 24 60	48 00 23 25
20 " " " " " " " "	49 20 24 45	46 50 21 75
30 " " " " " " " "	49 05 24 30	45 00 20 25
40 " " " " " " " "	48 90 24 15	43 50 18 75
50 " " " " " " " "	48 75 24 00	42 00 17 25
60 " " " " " " " "	48 60 23 85	40 50 15 75
70 " " " " " " " "	48 45 23 70	39 00 14 25
80 " " " " " " " "	48 30 23 55	37 50 12 75
90 " " " " " " " "	48 15 23 40	36 00 11 25
100 " " " " " " " "	48 00 23 25	34 50 9 75
110 " " " " " " " "	47 85 23 10	33 00 8 25
120 " " " " " " " "	47 70 22 95	31 50 6 75
130 " " " " " " " "	47 55 22 80	30 00 5 25
140 " " " " " " " "	47 40 22 65	28 50 3 75
150 " " " " " " " "	47 25 22 50	27 00 2 25
160 " " " " " " " "	47 10 22 35	25 50 75
170 " " " " " " " "	46 95 22 20	24 00 00
180 " " " " " " " "	46 80 22 05	22 50
190 " " " " " " " "	46 65 21 90	21 00
200 " " " " " " " "	46 50 21 75	19 50
210 " " " " " " " "	46 35 21 60	18 00
220 " " " " " " " "	46 20 21 45	16 50
230 " " " " " " " "	46 05 21 30	15 00
240 " " " " " " " "	45 90 21 15	13 50
250 " " " " " " " "	45 75 21 00	12 00
260 " " " " " " " "	45 60 20 85	10 50
270 " " " " " " " "	45 45 20 70	9 00
280 " " " " " " " "	45 30 20 55	7 50
290 " " " " " " " "	45 15 20 40	6 00
300 " " " " " " " "	45 00 20 25	4 50
310 " " " " " " " "	44 85 20 10	3 00
320 " " " " " " " "	44 70 19 95	1 50
330 " " " " " " " "	44 55 19 80	00

The above table is chiefly valuable in this connection in showing that, from want of domestic markets, and cost of transportation from ordinary roads, the whole surplus products of the interior must, of necessity, be thrown upon railroads, which fact sufficiently guarantees a large business to them.

There is no other country in the world where an equal amount of labor produces an equal bulk of freight for railroad transportation. One reason is that the great mass of our products is of a coarse, bulky character, of very low comparative value, and consisting chiefly of the products of the soil and forest. We manufacture very few high priced goods, labor being more profitably employed upon what are at present more appropriate objects of industry. The great bulk of the articles carried upon railroads, is grains, cotton, sugar, coal, iron, live stock, and articles of a similar character. The difference between the value of a pound of raw and manufactured cotton is measured frequently by dollars, yet both may pay the same amount of freight. Wheat, corn, cattle, and lumber, all pay a very large sum for transportation in proportion to their values.

Again, for the want of domestic markets, the transportation of many of our important products involves a *through* transportation. Take, for instance, a cotton producing state like Mississippi. Nearly the whole industry of this state is engaged in the cultivation of this article. Of the immense amount produced, no part is consumed or used within the state. The entire staple goes abroad; but as the aggregate industry of the people are confined to the production of one staple, it follows that all articles entering into consumption must be imported; so that over the channels through which the cotton

of this state is sent to market, *an equal value, or tonnage must be imported*, as the case may be. This necessity both of an inward and outward movement, equal to the whole bulk of a surplus agricultural product, is peculiar to the United States, and is one of the reasons of the large receipts of our roads. While this is the case, it is equally true that newly settled sections of our country will often supply a larger amount of traffic than an older one. There can be no doubt that an equal amount of labor would produce four times as much corn and wheat in Illinois as in Massachusetts; consequently, a man living in the former, would contribute four times as much business to a railroad as one in the latter. In clearing the soil, it often happens that the transportation of lumber supplies a larger traffic for two or three years than agricultural products for an equal length of time.

It is, therefore, a great mistake to suppose that because a country is new it cannot yield a large traffic to a railroad. In the southern and western states only one year is required to prepare the soil for crops, which may be renewed, the same in kind, for a long series of years. The amount raised, and consequently the surplus, is much larger in the more recent than in the longer settled portions of the country. In the more recent, too—the number of inhabitants being the same in both cases—the amount sent to distant markets is greater from the fact that there is no diversity of pursuits, which in older communities supply from a limited circle nearly all the prime necessities of life that enter into consumption. In newly settled districts, all these are often imported from distant markets at a very heavy cost of transportation.

These general statements and illustrations will tend to show the important relations that railroads sustain to the interests of the country, and the ample provision which already exists in every portion of it for an ample and remunerative traffic.

Of the amount of movement of produce from the interior outward, we have accurate returns, and from one only of the numerous routes that exist, the New York canals. Over this route there reached tide water during the season of navigation of about eight months, 2,234,822 tons valued at \$66,893,102, and there left tide water for the interior over the same route 521,527 tons valued at \$118,896,443. At the same time the trade of the canals was subject to the most active competition from parallel lines of railroad.

The influence of railroads in increasing the value of lands and real property, is an indirect but striking evidence of the immense business thrown upon them. This increase of value is not confined to the lands embraced in the immediate district traversed, but extends to those lying hundreds and thousands of miles distant. The railroads of Ohio exert as much influence in advancing the prices of real property in the city of New York, as do the roads lying within the state. This fact will show how very imperfect every estimate must be. But taking only the farming lands of the particular district traversed by a railroad, where the influence of such a work can be more directly seen, there is no doubt that in such case the increased value is many times greater than the cost of the road. It is estimated by the intelligent president of the Nashville and Chattanooga railroad, that the increased value of a belt of land ten miles wide, lying upon each side of its line, is equal to at least \$7 50 per acre, or \$96,000 for every mile of road, which will cost only about \$20,000 per mile. The work has already created a value in its influence upon real

property alone, equal to about five times its cost. What is true of the Nashville and Chattanooga road, is equally so, probably of the average of roads throughout the country. It is believed that the construction of the three thousand miles of railroad of Ohio will add to the value of the landed property in the state at least five times the cost of the roads, assuming this to be \$60,000,000. In addition to the very rapid advance in the price of farming lands, the roads of Ohio are stimulating the growth of her cities with extraordinary rapidity, so that there is much greater probability that the above estimate will be exceeded, than not reached by the actual fact. We are not left to estimate in this matter. In the case of the state of Massachusetts, what is conjecture in regard to the new states, has with her become a matter of history. The valuation of that state went up, from 1840 to 1850, from \$290,000,000 to \$580,000,000—an immense increase, and by far the greater part of it due to the numerous railroads she has constructed. This increase is a much greater ratio to the cost of her roads, than has been estimated of those of Ohio.

We have considered the effect of railroads in increasing the value of property in reference only to lands devoted to agriculture; but such results do not by any means give the most forcible illustration of their use. An acre of farming land can at most be made to yield but a small annual income.

An acre of coal or iron lands, on the other hand, may produce a thousand fold more in value than the former. These deposits may be entirely valueless without a railroad. With one, every ton of ore they contain is worth one two, three or four dollars, as the case may be. Take for example the coal fields of Pennsylvania. The value of the coal sent yearly from them, in all the agencies it is called upon to perform, is beyond all calculation. Upon this article are based our manufacturing establishments, and our government and merchant steamships, representing values in their various relations and ramifications, equal to thousands of millions of dollars. Without coal it is impossible to conceive the spectacle we should have presented as a people, so entirely different would it have been from our present condition. Neither our commercial nor our manufacturing, nor consequently our agricultural interests, could have borne any relation whatever to their present enormous magnitude. Yet all this result has been achieved by a few railroads and canals in Pennsylvania, which have not cost over \$50,000,000. With these works, coal can be brought into the New York market for about \$3 50 per ton; without them, it could not have been made available either for ordinary fuel or as a motive power. So small, comparatively, are the agencies by which such immense results have been effected, that the former are completely lost sight of in the magnitude of the latter.

The foregoing considerations adduced for the purpose of showing that a larger business must be thrown upon our railroad, from the peculiar industrial condition of our people, are fully sustained by the fact. We believe that the whole railroad investment in the United States is at the present time paying over seven per cent; (we now speak of bonds as well as stock) and we think that the value of this kind of property is steadily improving. This improvement is owing to the rapid development of our resources, which is constantly supplying an increased traffic, and from the extraordinary progress of our roads, by which a largely increased business is collected upon those already in operation. Our roads too, are built at what may be

said to be a *minimum* cost, that is they are built with the expenditure of the smallest sum necessary to accomplish their object. They are regarded and treated purely as *commercial* enterprises, and are built upon the same principles as that upon which ships and manufacturing establishments would be constructed, which is to adopt that model and style of finish, as shall best adapt them for their specific objects. It is to this fact, that our great success in this line is owing, the whole community through which a road runs, from the richest to the poorest are the stockholders, and all are interested in making it good property, as they are in the incidental advantages resulting from it, to some of which, allusion has already been made.

Railroads for the reasons given, yield not only a profitable return upon the cost, but they must continue to do so for a long time to come, they are necessary to every producer and business man in the country, they supply the lack of domestic markets by opening outlets to foreign ones. The progress of all the interests of the country is found to increase their business in an equal, or greater ratio than the increased cost of the management, or the progress of new works; and the relations they sustain to the whole mass of the people, and the fact that these stocks are nearly as well distributed among the community as are other kinds of property, is a guarantee for their economical and prudent management, the popular sentiment acting as an efficient corrective of incompetence or unfaithfulness.

The result which we now witness in the United States, which is without a parallel in the world, is a full and ample confirmation of the above statements. Our success is the appropriate result of *adequate* causes, which have been already detailed. We have now over 13,000 miles of road in successful operation, and as many more in progress. The amount expended upon those in operation cannot be far from \$400,000,000. This vast sum not only yields a remunerating revenue, but the stocks and bonds representing it, probably, command a premium in our markets upon their cost, at the same time that they have directly added to the *cash* value of the real and personal property of the country by a sum four times greater than their cost. This increased value is not fictitious, but real. Railroads are the only means of imparting value to remote and isolated districts. They are the instruments that develop our real strength, and we grow with their growth.

The roads engrossing the chief attention of the public at the present time, are those in progress, which are chiefly in the southern and western states. The roads of these sections of the country, constitute the great majority of those that come in to the market for money, the older projects in the east having already their wants supplied. The former promise to be more productive for a long time to come than those in the eastern and northern states, from the fact that they are constructed at less cost, will have an equally large business with the majority of, and adopt the same rate of charges as are in use on the former. It will, too, require a long time to supply the newly settled portions of the country with these works, removing for an equal length of time danger from competing lines.

The amount sought to be borrowed by new works averages from 5 to \$10,000 per mile, the cost of such roads may be estimated at \$20,000 per mile. To pay the interest on the loans, at 7 per cent, requires from \$350 to \$700; or \$1,400 to pay the same per cent. upon the entire cost of the road. The net

earnings of our new roads, averages annually from 2 to \$300 per mile. We believe our Western roads will continue to earn dividends of at least 10 per cent., annually, for many years to come. A sufficient traffic exists to yield this amount, and we do not well see how it can be reduced, till competition shall have brought down the rate of charges, and divided the business, of our roads, which cannot take place for years to come.

We have in the foregoing, stated in general terms, the reasons in favor of the value of our railroads, as investments of capital. We have shown the aggregate investment to be a productive one. We think that they present the most attractive field in this country for foreign enterprise and capital. We believe that no one can attentively study the social and industrial condition of our people, or thoroughly inform himself as to the capacity of this country for vast production and the great variety of our products, and the consequent necessity for a large internal commerce, without coming to a similar conclusion, independent of all confirmatory facts in the case.

We shall take up this subject again in future numbers of the *Journal*.

Journal of Railroad Law. LIABILITY FOR BAD WELDING.

Who is liable for the bad welding of a wheel tire?

This question is suggested by the coroner's late inquest upon the body of the engineer killed by the recent accident at Harrisburg in England. The engine on this occasion jumped, separated from the train and crossed over to the field side, where she fell sideways dragging with her the tender. It turned out that the accident was caused by the fracture of the welding of a tire.

The coroner observed after hearing the evidence in the case that "it appeared that the railway company had gone to one of the best manufacturers for the engine, the tire of which had proved defective, and it was admitted that no external examination would have detected the flaw in question. He could see no liability for the accident except that resting on the manufacturers of the tires. He also recommended that more attention should be paid to the padding of the interior of the cars. He had never held an inquest upon a passenger in any of the first class cars, which are well padded. When a man's head was violently knocked against an oak board the head and not the board would be broken, unless the former was very thick." A verdict was rendered of accidental death from the bad welding of the tire.

In respect to accidents occasioned like the one above mentioned by bad welding, it is probably that legislation is necessary reaching farther than any at present in force.

FREIGHT NOT LUGGAGE.

An action was lately brought against the *Boston and Maine Railroad Company* in the Supreme Court of Massachusetts, for the loss of a box containing shoes, shoe pegs, etc., taken in a passenger train. It was held that the liability of railroad companies, as common carriers, under such circumstances, is strictly limited to personal luggage in which term the articles in question can be by no means included.

Articles of merchandise should be delivered as such to the agents of transportation companies, so that they can take due precautions for their safety, and receive a due compensation for their carriage. Passengers are entitled to be indemnified for the loss of personal luggage to an amount which va-

ries with the laws of different states, but the luggage so protected must consist of such articles and of such an amount of cash as are appropriate to the purposes of a journey. It may be added that in order to entitle goods delivered for transportation to be deemed freight, it is not indispensably necessary that they should be entered on the freight list as freight, or that any definite sum should be agreed to be paid for their transportation. Yet such an entry and such an agreement are very important elements in ascertaining the real intentions of the parties to a contract for the transportation of goods, and consequently demand careful attention.

Merchandise is a different and distinct thing from the mere evidences of value, such as notes, bills, policies of insurance and the like. Merchandise is something which possesses intrinsic value, and consequently when common carriers merely hold themselves as carriers of merchandise, they would not, in the absence of a special agreement or notice be liable for the value of lost bank bills, beyond the amount deemed as mere luggage. This was so held in the case of the *Citizens' Bank, vs. the Nantucket steamboat company*,—2 Story, C. C. R. 16.

EJECTING INTRUDERS.

An interesting case in relation to this subject was tried last week in the *Superior Court of Cincinnati*, *Edward Goldman vs. the Little Miami railroad company*.

The defendant's train was descending a grade in that city at about the rate of 7 miles per hour—a number of little boys jumped upon the rear steps; at the voice of the conductor, they all jumped off excepting the son of the plaintiff, a lad of about 12 years of age. He testified that he did not see the conductor. The conductor then pushed or kicked him off in such a manner that the boy's foot was dragged under the wheel, and his leg so injured that amputation was deemed necessary. It appeared that the boys were in the habit of getting on the cars to steal peaches.

Distressing as was the case, no little diversion was occasioned by one of the witnesses, for plaintiff who was evidently one of the "b'hoys" of Cincinnati. His name was *Edward Garwood*, and a portion of his cross-examination was as follows.

Question.—If you were behind the conductor,—how could you see the manner in which he pushed off the boy?

Answer.—Well, I didn't look through his head.

Question.—Did he push or kick him off?

Answer.—Well, I should call this a kick—(giving at the same time a vigorous representation of one.)

Question.—Do you think such a kick would bend you double?

Answer.—Well, I think if I had a kick at you in the pit of the stomach, it would bend you some.

The presiding Justice Headley charged the jury, in substance as follows.

The defendants being a corporation, must act by agents, they are liable for the misconduct of their agents to the same extent, and under the same circumstances as private individuals, who employ agents. The conductor of a rail-car has an undoubted right to turn out intruders; but in exercising this right it is necessary that he should use ordinary diligence to prevent injury—and more caution, of course, is required in this respect when those who are ejected from the cars are young or feeble, than if they were quite vigorous and able to take care of themselves. The removal of the boy from the car, of itself, affords no ground for complaint. The main question to be settled is, in what manner was he removed. The evidence in this re-

spect is contradictory. It is the duty of the jury, if they can, to reconcile contradictions, and to weigh the testimony, fully and fairly, without being too much influenced by preponderance of numbers. In the boy, by his own want of caution, in leaving the car contributed to his own injury—then according to the legal principles applicable to these cases damages are not recoverable, yet no such degree of caution would be required of a boy like the plaintiff's son—as of a person of experience and of mature judgment. They must consider what would be reasonable caution, under the peculiar circumstances of the case. If the cars were going at a very rapid rate, it would be wholly unjustifiable to eject an intruder in any way. The Jury must therefore inquire both whether the cars were going slowly enough to admit of removing the boy—and whether or not this removal was performed in a right manner.

If the Jury should conclude that the conductor had been guilty of negligence, the defendants were liable, not for any special damages sustained by the boy, but for the damages sustained by the father, who is plaintiff in the suit including medical attendance. Should the damages seem to the Jury to be *unjust*, then the company is not liable—but only the conductor individually.

Illinois and Michigan Canal.

The circular of the Trustees of the Illinois and Michigan canal, states that the several payments made to this period, on account of the principal of the loan, amount to 70 per cent of the same, the interest, meantime, having been paid semi annually, dated Oct. 20, 1848.

The following statement exhibits the entire quantity of canal lands sold, the valuation thereof, as determined by the appraisers of canal lands in 1848, the amount produced at the sales, etc.:

Quantity sold between Sept., 1848, and May, 1851, 82,897 acres; valuation of the same by the appraisers, \$391,578 92; proceeds of sale \$404,301 99.

Quantity sold in May, 1852, 10,835 acres; valuation thereof, \$63,968 66; proceeds of sale, \$94,477 38.

Quantity sold at private sale in Sept. and Oct., 1852, 22,038 acres; valuation thereof, \$140,391 80; proceeds of sale, \$195,131 43.

Whole number of acres granted....	232 004
Valuation of same by appraisers....	\$1,105 306 48
Whole number of acres sold.....	115 770
Valuation thereof.....	595 939 38
Sold for.....	691 213 86
Excess above valuation.....	93 271 48
Acres unsold Nov. 30, 1852.....	116 235
Valuation of same by appraisers....	502,567 10

TOWN LOTS.

Whole number, original division.....	5,934
Add for sub-divisions made in 1852.....	446

	6,385
Valuation thereof by appraisers....	\$971,369 00
Whole number sold.....	4 006
Valuation thereof.....	(uncertain.)
Sold for.....	1,015,797 00
Excess over the whole valuation....	41,428 00
Number of lots and sub-lots unsold Nov. 30, 1852.....	2,379
Valuation thereof.....	(uncertain.)
Total valuation of both canal lands and town lots by appraisers.....	\$2,079,055 00
Proceeds of sales of both to Nov. 30, 1852.....	1,710 010 00

Remaining unsold in the hands of the Trustees, Nov. 30, 1852, 116,231 acres canal lands and 2,379 town lots, 527 of the last of which are in Chicago and its immediate vicinity.

We annex a table exhibiting the quantities of some of the leading articles transported on the Illinois and Michigan canal, in each of the years 1849, 1850, 1851, and 1852:

	1849	1850.	1851.	1852.
Pork, bls	9 398	12 933	8 253	4 119
Salt blbs	58,853	24,609	37,261	27,203
Wheat, bush..	569 598	417,036	78 062	117 441
Corn, bu.	751 283	317 674	1 878 550	1 810 880
Sugar, lb	4 218 294	5,680 324	4 593 471	4 822 291
Meat....	9 170 943	10 372 627	14 175 924	15,390 346
Lumber, 20,882 000	36,767,528	56,845,627	52 510 051	

Tolls received \$118,375 \$125,504 \$173,300 \$168,577
The diminution of receipts in tolls, as compared with last year, is attributed by the Trustees entirely to low water in the Illinois river. The estimate of tolls for 1853, is \$190 000.

Pennsylvania.

EXHIBIT OF THE CATAWISSA WILLIAMSPORT AND ERIE RAILROAD.

We give below a portion of the recent exhibit of this company, setting out its object and condition, and the route of the proposed road.

This road as far as New York is concerned, may be said to have two objects; one of which is to open an outlet for the Susquehanna valley, and the Anthracite coal of Pennsylvania, and the other to form a part of a through route between this city and lakes Erie and Ontario, and to constitute it an additional avenue for western trade to tide water.

The country drained by the head waters of the Susquehanna is well known to be one of the most fertile and productive in the United States, embracing a large portion of northwestern New York and northern Pennsylvania. Till within a very short time, this great region has been almost entirely without suitable avenues to market, and is at the present time but poorly supplied. Before the construction either of railroads or canals, the produce of this vast region was floated down the Susquehanna to Baltimore. A portion of this trade is still taken to that market by the Penn. and Tide Water canals; a portion of it goes to Philadelphia over the same inconvenient route, while the trade of the northern portion of the valley has been diverted to New York over the Erie railroad.

All these are circuitous and inconvenient outlets for the heart of this great region. To supply the appropriate one is the object of this road. It will be seen by the subjoined, how trifling is the sum wanting to complete it to Williamsport, which is probably the most important point in northern Pennsylvania. This road therefore, when completed, will constitute the direct and convenient outlet to the great market of the country for one of its most productive inland districts.

In addition to the abundant agricultural products of this region, is its vast mineral wealth, in which it exceeds probably any other portion of the Union. It is from this region that our supplies of coal are now drawn. The demands for this indispensable article exceeds the capacity of all our works to supply, and there can be no doubt that all the proposed outlets from the coal fields will be taxed to their utmost capacity as soon as opened. The region traversed by this road produces a large amount of pig and bar iron which under the present high prices might be immensely increased.

The prospective through traffic on this road promises to be equally important with the local business. Williamsport is to be the converging point of roads extending from lakes Erie and Ontario seaward. From this point a road is now in progress to Elmira, there to connect with the net work of

railroads in western New York, and with all the important points on the lakes in that state. The Sunbury and Erie road, which is about to be commenced under the auspices of Philadelphia will connect the above road with the lake at Erie, and place it in favorable relations with the roads of Ohio.

Of the amount of western produce seeking tide water, it is enough to say, that all the routes now in use are taxed beyond their capacity, and that from the rapid progress of western roads, the trade between the east and west increases much faster than the avenues for its accommodation. The amount of western produce reaching tide water the present year through the New York canals, equals 2,234,822 tons valued at \$66,893 102. The tonnage of merchandise going west was 521,527 tons, valued at \$118,896,444. The over receipts the past year upon the three New York lines connecting the Hudson river with the lakes, the Erie and Central lines of road and the Erie canal, exceeded \$11,000,000 for tolls alone, offering the most conclusive proof of the immense magnitude of the trade.

We have considered the prospective business of the above road in its relations to New York. It bears an equally important one to Philadelphia.—Based as it is upon the two great cities of the continent, between each of which and the Lakes it must always constitute an important part of a leading line, we see nothing to prevent it taking rank in the amount of its receipts and business to any similar work now in progress or operation.

Below we give a portion of the report of the company.

The original Act incorporating this company, was passed as early as 1831; it was then styled the Little Schuylkill and Susquehanna railroad company.

The object was to connect Philadelphia, by railroad, with the North Branch Canal, at Catawissa, on the North branch of the Susquehanna, and thus form a communication between that city and western New York, by means of the above named canal this railroad, the Little Schuylkill and the Reading.

In 1836, in prospect of the construction of the New York and Erie railroad, the plan of this company was extended to a connection with that road at Elmira, through the Williamsport and Elmira railroad; and an act was passed in that year authorizing its extension to Williamsport, and changing the name of the corporation.

Both this and the Williamsport and Elmira, were put under contract, and prosecuted with vigor; about \$1,150,000 was expended in engineering, grading, and right of way, and the line was graded for a double track, from Tamaqua, near its connection with the Little Schuylkill to Catawissa; and at the same time about \$500,000 was expended by the Williamsport and Elmira company, and a tract was completed from Williamsport to Ralston, a distance of twenty-five miles. The embarrassments that followed this year, memorable in the financial history of this country, prostrated, for a time, as well the New York and Erie, as these roads by which Philadelphia sought to avail herself of this connection with the lakes, and the two works have remained ever since in an unfinished state.

The forty-eight miles, including the branch to Beaver Meadow, now graded on the Catawissa, Williamsport and Erie, is by far the most expensive portion of the line, containing three tunnels, several expensive bridges, and a large amount of retaining wall. The material forming the road bed is of a character that has undergone no material change since the work was suspended, and the trackmen, cuts, tunnels, and masonry are all in a good state of preservation.

The benefits claimed for this road as a Philadelphia enterprise, in which light alone it was not taken, and prosecuted thus far, are summed up in a report of the company, of an early day, as follows:

Routes of railroad from Philadelphia to reach the Northern and Western Lakes, and the trade and travel of the far West.

1st. From Philadelphia by Reading railroad to Port Clinton.....	78 miles
2d. From Port Clinton to Little Schuylkill railroad to Tamaqua.....	20 "
3d. From Tamaqua to Tamaqua road, surveyed by Edw. Miller.....	12 "
4th. From Tamaqua to the Susquehanna, at Catawissa, by the Little Schuylkill and Susquehanna railroad, commonly called the Catawissa, graded and ready for the superstructure.....	35 miles. 35 "
A branch from Tamaqua to the Beaver Meadow road.....	13 "
	48 miles.

(On which 48 miles there has been expended, and within the estimate of engineer, over \$1,150,000.)

5th. From Catawissa to Williamsport, 45 miles surveyed by Edward Miller, and estimated to cost, by him, \$1,490,000.....	45 miles.
6th. From Williamsport to Ralston, through the bituminous coal field, finished and in operation.....	26 "
7th. From Ralston to Elmira, surveyed; the estimate of cost not exhibited..	49 "
8th. From Elmira to Dunkirk, surveyed and located by the New York and Erie railroad company, and can be finished by the time the other portion of the line is ready.....	192 "
	457 miles.

"From this it would appear that 106 miles only of road are required to be made, and 35 completed at a moderate expense, with Pennsylvania capital, to connect Philadelphia with the Far West, and upon the contingency of the New York and Erie railroad company failing to finish its road, we have still the power of reaching the west by a route from Boston to Buffalo, by a connection at Elmira, by means of a communication through Seneca Lake to Geneva, the citizens of which place are much engaged and interested in making that connection. The lake never freezes, and the distance from Elmira to the lake, where a road would be necessary, is only 21 miles.

"By this route Lake Ontario and the trade of the Canadas, can also be reached, as the following table of distances shows:"

The Williamsport and Elmira Route.

Distance from Ralston to Elmira.....	49 miles.
" " Elmira to Jefferson.....	21 "
" " Jefferson to Geneva, by the Seneca lake, which is navigable the whole year.....	37 "
" " Geneva to head of Sodus Bay on Lake Ontario.....	23 miles

Thus we see on what the projectors of this road relied, and we doubt not that, had the scheme been carried forward, and the connections made precisely as contemplated, it would have been a remunerating investment to the stockholders, and would have had an important influence upon the destiny of Philadelphia. For what but the superior advantages of New York for reaching the trade of the west, has contributed to her superiority over the other Atlantic cities?

Great changes have, however, taken place since 1836; the extension of railroads has revolutionized the trade of the country. The contemplated line of railroad from Albany to Buffalo has been completed along the margin of the Erie canal; notwithstanding which the canal has gone on with an unparalleled increase of business; and both railroad and canal are found inadequate for the immense business poured upon them from the swelling West. The New York and Erie railroad has been completed, and has come in to aid in relieving the wants created by this vastly increasing trade, and with it, too, storehouses on the lakes are overflowing with produce, delayed for want of a transit to market. More than this, Pennsylvania has forced

ne barrier of the Alleghenies by railroad and canal, whose capacities are overtaxed, and yet the produce of the West is dammed up for want of sufficient channels. And now a new line of road is projected from the lakes to the Atlantic, of which the Catawissa, Williamsport and Erie is to form a link; and thus this road, that in its inception aimed to become only a branch to the New York and Erie railroad leading to Philadelphia, is destined to become, in connection with the other links in the chain, its most formidable rival, not only from the lakes to Philadelphia, but also to New York.

The arrangements are now all complete for opening this entire new line of communication from Erie on the lake to both these great cities, to wit, the Sunbury and Erie, from the lake to Williamsport, the Catawissa, Williamsport and Erie, from Williamsport to Tamaqua; the Little Schuylkill to Port Clinton; and the Reading and Philadelphia, to Philadelphia. Or from Tamaqua, the Lehigh Valley road, to Easton, thence over the New Jersey Central to New York. The only roads remaining to be completed to consummate these connections are, the Catawissa, Williamsport and Erie, and the Sunbury and Erie, both of which are in part under contract, and the parts not yet let only await the settlement of some questions as to choice of route, to be placed under contract.

It is claimed for this line that it will have the advantage over any of the present lines in distance, and over most, if not all of them, in grades.

That it has the advantage of the best harbor on the south shore of Lake Erie.

That it has the advantage in local trade. Not that the establishment of all or any of these propositions is necessary to prove the productiveness of this line of road; for we hold that another road, equal, or nearly equal, in advantages, to either of the existing routes, would pay fair dividends on a reasonable cost, at once, with a certain prospect of increase.

In making the comparison, we will take Cleveland as a starting point, this being the most southerly point on Lake Erie; all lines of roads coming from the West will touch this point or pass near it.

1st. The route by way of Buffalo, Albany and the Hudson river, is, or will be, when the line is straightened as contemplated, 627 miles from Cleveland, with maximum grades of 40 feet to the mile going East, and as high as 80 at one point going West.

2d. The New York and Erie. By this route the distance from Cleveland to New York is 602 miles, with maximum grades of 60 feet to the mile both ways.

3d. The Pennsylvania Central. By this route the distance from Cleveland to New York is 585 miles by way of the inclined planes, worked by stationary power. How much this distance will be increased by the contemplated road, avoiding the planes, is not known, but it is believed that the increased distance will be considerable, and that the grades will be about 95 feet to the mile.

These are the three roads now in use; all overtaxed with business and yielding large incomes as will be seen by reference to their reports of earnings.

By the proposed new line of roads the distance to New York is 532 miles, or 95 miles less than the Buffalo and Albany, 70 miles less than the New York and Erie, and 53 less than the Cleveland and Pittsburg, and Penna. Central, while the maximum grades going east will be kept below 40 feet to the mile, and not exceeding that going west, except at one point, when, for a short distance they will be 60 to the mile.

It is not claimed that this line will compare favorably with the Albany and Buffalo line for local travel, but it is believed it will compare well with either of the other lines in this particular.

For local freights, however, great superiority is claimed over any of the present lines. It passes through a broad extent of country, entirely locked in from communication with the seaboard. This region is rich in agricultural products, in timber and in minerals, while the Albany and Buffalo has for its local freights little besides the products of the farm, and the New York and Erie those of the forest. It is known that the produce of the farm affords less tonnage than that of the forest, and that

mineral often produces more than both combined. This line of road passes through the very heart of the vast deposits of both bituminous and anthracite coal, as well as inexhaustible beds of iron ore, the tonnage of which alone will far exceed that of any agricultural region, however fertile. This is of all others, the road to develop the vast resources of Pennsylvania. There is another consideration of great importance, so far as the productiveness of this road is concerned, which is, that it is not only the best route to New York city, but is a better route still to the next greatest city in the U. States. From Tamaqua to Philadelphia is but 97 miles, and that all the way by a descending grade; while from the same point to New York the distance is 130. None of the other lines communicate with more than one city.

There is still another most important item to be considered in estimating the value of the Catawissa, Williamsport, and Elmira railroad, not applicable to the other roads forming this connection. At Williamsport it connects with the Williamsport and Elmira road, now under contract to be completed by the first day of January next, and in connection with the Little Schuylkill and Reading, forms a link in a great Northern and Southern line of roads, little, it any, less in importance than its place in the Eastern and Western chain. From Elmira to Niagara Falls the connection is nearly completed by a direct line of roads now finished to Batavia, and the remaining distance of 45 miles to be completed by the first day of July next. Elmira is already in connection with Rochester and Buffalo, with a direct railroad communication, and is about to be connected with Lake Ontario by the Sodus Point road. It is also connected by canal and the Seneca Lake with the Erie canal, and a canal is now being constructed to Sodus bay direct thus opening a direct trade between Philadelphia and the cities south, with Lake Ontario and the Canadas.

The advantages of this line will be seen when it is stated that from Niagara Falls to Philadelphia, is but 414 miles, whereas by Albany and N. York it is 558, saving 144 of travel by this route. From Elmira, by the New York and Erie railroad, the distance to New York is 274 miles, add to this the distance to Philadelphia, 90 miles, makes it 364 from Elmira to Philadelphia, whereas by this route it will be but 255, saving 109 miles, and bringing Elmira 19 miles nearer Philadelphia, by this route than via New York by the New York and Erie. When it is borne in mind that the whole tide of pleasure travel during the warm season is from South to North, that the interchange of products between a warmer and colder climate must always be great, the importance of this communication can hardly be overrated.

In anticipation of this, as an important route of Northern and Southern travel, an understanding has been had between the Reading, the Little Schuylkill, the Catawissa, the Williamsport and Elmira, for ticketing passengers through from Philadelphia to the Falls, so that passengers may leave Philadelphia, and without any stops, arrive at Niagara Falls in 14 hours. It is intended to have this arrangement in operation within 18 months, thus securing to the route the benefit of the travel season of 1854.

But as a connection between the Atlantic cities and the west, without any regard to this northern and southern connection, we are willing to risk the merits of this road, or those of any of the roads forming a link in this connection. Looking upon the map it will be seen that the average distance between the Buffalo and Albany, and the N. York and Erie, is about seventy miles; between the Pennsylvania Central and Baltimore and Ohio, about the same; while a space is left between the New York and Erie, and Pennsylvania Central, of about 150 miles. The proposed new line occupies about the centre of this space. Thus, when this line is completed, there will be five great thoroughfares from the Atlantic to the Lakes, in nearly parallel lines, with a space between each of about 70 miles, a distance quite sufficient to afford an ample local business, while they are all competitors for the through business.

Having said this much for the business prospects of the Catawissa, Williamsport, and Erie railroad, let us refer to its present position.

This road extends from what is called the base of the Broad mountain, where it connects with the Little Schuylkill to Williamsport, a distance of 80 miles, with a branch from Tamanend, near the Little Schuylkill connection, to the Beaver Meadow railroad, a distance of 13 miles, with the right to construct branches to coal mines on either side of the line not exceeding five miles in length.

The portion of the line from Tamanend to Catawissa, 35 miles, is graded for a double track, also the branch of thirteen miles to Beaver Meadows.

To lay down the track and furnish the graded road is estimated to cost..... \$600,000
To construct from Tamanend to the connection with the Little Schuylkill..... 400,000
The extension from Catawissa to Williamsport..... 1,000,000

\$2,000,000

To produce this sum the company have issued \$1,000,000 in bonds secured by a mortgage, (a copy of which bond is shown in schedule A,) with the right to issue \$500,000 more, under the same mortgage, after the road is in operation to Catawissa.

This gives—

To lay the track, etc., on the graded road..600,000
To connect with the Little Schuylkill.....400,000
And leaves the 500,000 applicable to the extension to Williamsport. For this sum, with the balance in stock of the company, they have offers from responsible contractors to grade and do all the work, and furnish all the materials.

The iron is contracted for at the Montour Works near the line of the road, at sixty dollars the ton, to be delivered during the coming season; and it is the determination of the company to have the entire road in operation, so as to make the connection complete between the Little Schuylkill and the Williamsport and Elmira, early in the spring of 1854.

The whole cost of the road will stand thus:

Present stock.....\$1,400,000
Bonds.....1,500,000
Stock to complete to Williamsport..... 500,000
\$3,400,000
Deduct from this the value of the coal lands..... 100,000
\$3,300,000

Or for the whole distance, ninety-three miles, \$33,483 per mile.

The coal lands are probably very much underrated, but as it is desirable to avoid speculative prices at a time when there is a good deal of excitement in this kind of property, this low estimate has been put upon this portion of the company's assets.

Massachusetts.

Boston and Worcester Railroad.—The twenty-third annual report of the directors of the Boston and Worcester railroad corporation has been issued. From this report it appears that the income from business on the main road and branches, and for transportation jointly with other roads, for the year ending Nov. 30, 1852, was \$758,819 47. The expenses of working the road have been \$409,740 23, leaving as the net income, \$349,079 19. \$332,782 42 has been appropriated to the payment of interest, leaving a balance to the reserved income of \$16,206 77. Total income reserved, \$100,626 76. The funded debt of the company is \$125,000, and the floating debt \$115,916 23. Total, \$240,916 23. Excess of means over the debt, \$50,628 92. Besides which it has fuel and materials for working the road, \$102,955 85. 750 shares of stock authorized to be issued with convertible bonds, \$75,000. Land account, \$252,979 81, making the total assets, besides the road and equipments, including land not used for railroad purposes, and deducting debts, \$511,564 58. The directors say that the statement they present, show that the receipts of the last year have exceeded those of the preceding year by a small sum, but the tonnage and passengers have increased in a larger ratio. The reduction of the rates of fare and freight by the competing roads the directors have endeavored to arrest, and to maintain and establish such just rates as will give the capital under their charge a fair remuneration.

Fall River Railroad.—At the annual meeting of the stockholders of this company, on the 21st, the old board was unanimously re-elected directors for the ensuing year.

A committee, consisting of Messrs. Hathaway, Borden, Alden, Gilbert, and Shaw, upon the extension of the road into Boston, reported three resolutions, which, as finally amended, were passed as follows:—

Resolved, That the directors of the Fall River railroad company be authorized to go into a negotiation with the directors of the Old Colony railroad for a new contract for running their cars over the Old Colony track from South Braintree to Boston, depot and other accommodations, for a term of years, after the expiration of the present contract, and if such contract can be effected on equitable terms that they be authorized to close the same.

Resolved, That the directors, if they deem it expedient, shall make or cause to be made, a detailed survey and careful estimates for the location of an independent track into Boston, with depot accommodations included.

Resolved, That when such survey and estimate shall be completed, if they shall appear to the directors feasible, if the required outlay be not disproportionate to the income, and if a contract shall not have been negotiated, they, the directors shall, at an early day, apply to the legislature for authority to locate the same, and for the completion of the enterprise.

Worcester and Nashua Railroad.—The stockholders of the above named corporation met at Worcester on Thursday. The following directors were chosen for the ensuing year:

Alexander De Witt, Oxford; Stephen Salisbury, Worcester; Abijah E. Hildreth, Groton; Jacob Fisher, Lancaster; George T. Rice, Worcester; Francis H. Dewey, Worcester; Seth W. Fowle, Boston; Geo. Bowen, Worcester, and Thos. Chase, of Nashua.

Voted, That all holders of the 365 shares of unpreferred stock, on their surrender of five shares of the old stock, and the payment of \$100 with interest on the same from the 1st of December last, shall receive a certificate of six shares of preferred stock, entitled to dividends, after such surrender shall have been made.

The road is stated by the report of the directors to be in a flourishing condition. The income for the past year was \$162,109 20; expenditures \$95,209 20; two dividends \$66,325 50; leaving \$547 50—to which add balance of reserved earnings \$12,780 22, and the total reserved earnings are \$13,354 72.

Finances of New York.

Debts of the several Funds.—The following is a statement of the debts of the several funds of the State as per the Comptroller's report:

Increase of general Fund debt from
1835 to 1852.....\$5,520,714 30
Total of canal debt in 1835..... 6,328,056 19
In 1852.....15,501,269 16
Besides this there are the canal certificates..... 1,500,000 00
Included in the above increase of the general fund debt are the following:
New York and Erie railroad.....\$3,000,000
Canajoharie and Catskill..... 200,000
Ithaca and Owego..... 315,700
The total debt of the State is:—
General fund debt.....\$6,389,693 32
Canal debt.....15,501,269 16
Canal revenue certificates..... 1,500,000 00
Contingent fund debt..... 933,036 16
\$24,323,998 64

The Hudson and Berkshire railroad company have ceased to pay the interest on the \$150,000 5½ per cent. loan; and the New York and Erie railroad ceased to pay interest on their \$3,000,000 loan in 1842.

Louisville Cotton Market.

The Louisville Courier of the 13th inst., claims that the completion of the Baltimore railroad to Wheeling, and the connection of Wheeling and Louisville by means of the Union line of steamboats, will undoubtedly make Louisville the great cotton mart of the west. The Courier publishes the following comparative statement of the rates of freight and other charges by the route through Louisville and that by New Orleans, showing that the former is both the cheapest and most expeditious:

Table showing the present expenses on shipping 100 bales cotton from the Tennessee river to New York, via New Orleans, valuing at \$40 per bale:

Freights to New Orleans.....\$175 00
Charges at New Orleans, 50 cts. per bale.. 50 00
Insurance from Tennessee river to New York, 2½ per ct. on \$1,500..... 101 22
Freights from New Orleans to New York 1 cent per lb. averaging 50,000..... 500 00

\$826 22

Table showing the present expenses on one hundred cotton, from Tennessee river to New York, via the Louisville and Baltimore route:

Freight to Louisville.....\$100 00
Charges at Louisville..... 20 00
Insurance from Tennessee river to New York at 1½ per cent. on \$4,500..... 66 50
Freights from Louisville to New York, all charges included, say 50,000 lbs., at 86 cts..... 425 00

\$611 50

Difference in favor of Louisville route..... \$214 72

The average rate of freight from New Orleans is 50 cents per 100 lbs., making the present extra rate of freight..... 250 00

After the 1st of March the rates will be reduced by the Louisville route 10 cents per hundred on 50,000 lbs..... 50 00

Difference in time in favor of Louisville route forty-five days equal to one and a half months interest on \$4,500..... 33 75

\$83 75

Difference still in favor of Louisville, after deducting the extra rate of freights from New Orleans 576 22..... \$48 47
Louisville 527 75

New Railroad Project.—The Greensburgh Argus contains the proceedings of a large and spirited meeting of the citizens of Mount Pleasant and vicinity, on Saturday, the 8th of January, of which Maj. John Lloyd was President, convened for the purpose of adopting measures to secure the construction of a railroad through Westmoreland, to connect with the Pennsylvania railroad.

A meeting of the citizens at Waynesburg and vicinity, was held at the "Hamilton House," in Waynesburg, on the 5th instant, upon the subject of the construction of a railroad from Waynesburg, connecting with the Hempfield road.

Union and Fort Wayne Railway.

We understand that Judge Smith, of Indiana, has been in the city for several days, organizing a Company to construct a railway from Union above Greenville to Fort Wayne. This road will be about 66 miles in length, and will connect this city with Fort Wayne by the construction of much the shortest line of new road, of any which can be made. This work is important to Cincinnati, as much of the Fort Wayne trade has been already diverted to the East, and an effort is now making to open a new line of railway direct to Louisville, to

give another portion of the trade of that rich portion of Indiana to that city. If our merchants and business men would retain that profitable trade, they will advance that object by aiding this company in organizing, and with the "material aid" for pushing their work on vigorously. The line is where a road can be easily made ready for the iron at not exceeding \$3,000 a mile. The citizens along the line will take hold themselves. They want encouragement and assistance.—*Cincinnati Gazette*.

American Railroad Journal.

Saturday, January 29, 1853.

Railroads in Illinois.

The present time affords increasing facilities for transportation, compared with those previously available, not only certain and cheap, but at all seasons of the year.

Formerly, those sections lying remote from rivers were compelled, by the great cost of transportation, to forego the advantages of a foreign market, and only produced what could be safely consumed at home or in the immediate vicinity.

The introduction of railroads into this region has entirely changed the currents of trade and the mode of business in those sections, where railroad conveyance can be relied upon, the whole year.

The farmer now retains his corn, hay and pork, until the state of the market warrants the sale at the most remunerative prices, and often the purchaser proceeds to the farmer, for the purpose of contracting the delivery at certain times, thus relieving him from the loss of time and the expense of a tedious journey to market, while his valuable time is most desirable at home to gather his harvest or oversee his domestic concerns.

These improvements not only benefit the agriculturist, but the mechanic and merchant in his vocation. The great amount of mechanical work and skill required in the construction and apparatus of railroads is now so fully known, that it is superfluous to refer to it in detail; yet stations, shops, engines, cars, etc., must be constructed and kept in constant repair. The operation of railroads also requires a great increase of other kinds of conveyance, to connect with them, and aid in transportation to adjacent towns, which with the natural growth of places, by those increased facilities, thus occupying buildings, churches, stores and other structures, afford much employment for all kinds of mechanics.

The merchant is not the less a gainer, by these enterprises, as it all tends to increase trade and those employed in the construction and apparatus, must be supplied with food, clothing and other articles which they cannot produce, and hence must purchase of the nearest and most available market that can be had.

All these advantages are now being presented to the residents of the western states in the construction and completion of these new and beneficial means of connection by railroads. The large proportion of those now to be constructed, are relying upon foreign aid from capitalists to put them in operation, and it therefore becomes an important question to those who invest as to what lines are, and what are not, to return a reasonable dividend on the capital employed.

It is quite certain that all cannot be remunerative at present, therefore there must be some discrimination in selecting such as hold forth upon investigation, a fair prospect of securing and retaining the traffic, not only of the region through which

they are constructed, but hope to obtain some proportion of the through business of the routes in its direction. There are now many competing lines in the eastern states for the same travel, and it is found from practical experience it requires a large amount of freight and passengers to support the ordinary expenses of a well managed road, yet there are many main lines in the West that will be great routes, and profitable to all interested. "C."

Panama Railroad.

We would inform our correspondents as well as anonymous scribblers, that they entirely mistake the character and objects of our articles upon this road. Because it is their business to operate upon the market, they attribute every thing that other people do to a similar motive. They very naturally judge other people by themselves.

We neither said nor thought anything about the value of the stock of this road in writing the articles referred to. For aught we know, it may be worth \$500 per share.

The only issues we made were upon the question of earning a dividend, and the propriety of making an exhibit upon declaring one. We very properly reasoned that such omission was of itself presumptive evidence that it was improperly declared.

We are fully satisfied that we are not only right, but that every disinterested person will sustain us. Concealment is not what the public want, however much it may serve personal aims and interest. How will it strike a foreigner, to learn that this company refuse all knowledge of their affairs to the public. Should he be a stockholder he cannot examine into the affairs of the company, and he takes the public journals for the purpose of obtaining information which he can get in no other manner. All will agree with us in demanding of all companies full and explicit statements of their affairs upon making a dividend. The directors are not infallible, and the public have a right to the evidence upon which their opinions were based, to see whether they have been mistaken or not. Show your hands, gentlemen.

Baltimore and Ohio Railroad.

The directors of the Philadelphia, Wilmington and Baltimore Railroad Company have just submitted their fifteenth annual report, from which we give the following details: The receipts of the road for the year ending Nov. 30, 1852, have been \$667,785 75; expenses \$284,254 22; interest \$134,000—leaving net earnings of \$249,501 53. Adding to this the surplus of 1851, \$55,198 16, and we have a balance of \$304,699 69 on the main road. The New-Castle line shows receipts of \$92,077 71, against expenses and interest of \$126,766 48, which reduces the amount of surplus to \$270,010 92. From this, two dividends of 2 per cent. each have been paid, and the surplus remaining is \$114,624 92—increased to \$129,624 92 by sale of steamboat George Washington for \$15,000. Amount carried to reserved fund, \$74,874 25. The revenue of both lines as compared with that of last year, shows an increase of \$11,553 04 in the aggregate. In our next issue we shall give the report more in detail.

Lawrenceburg and Upper Mississippi R. R.

At the annual election held at Greensburgh recently, the following persons were elected directors of this company: Geo. H. Dunn, Levin B. Lewis, David Nevitt, James B. Foley, Joseph G. Monfort, James E. Hamilton, James M. Ray, Harvey Bates, and William Robson.

Orders Forwarded for Railroad Iron, etc.

THE undersigned will receive and forward orders for the purchase of Railroad Iron, and Metals generally, through the medium of his friends in London. JOHN H. HICKS, 90 Beaver st. Jan. 27, 1851.

3,000 Tons Railroad Iron.

THE undersigned is prepared to contract on behalf of the manufacturers in England, for the above quantity of T Rails, to be delivered at a port in Wales. For terms, apply to JOHN H. HICKS, Jan. 27, 1853. 90 Beaver st.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders for Brass Tubes of all diameters for Marine and Locomotive Engines, which will be supplied on the most favorable terms, and from the established reputation of the above Firm for superior quality and workmanship, he has no doubt entire satisfaction will be given. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize fully half the amount for old metal. For further particulars and inspection of patterns, please apply to JOHN H. HICKS, 90 Beaver st. Jan. 27, 1853.

Railroads in Louisiana.

We extract from the New Orleans Commercial Bulletin the present state of the two great roads on which, as that paper justly remarks hangs the destiny of New Orleans. Of the New Orleans, Jackson and Northern railroad, eighty-seven miles are under contract, seven hundred laborers are now employed on it, and the number daily increasing. From this place to Pass Manchac there are about three hundred employed, and beyond that point there will be by the 1st of next month about a thousand hands at work. Fifty miles of the distance is taken by one contractor, an energetic go-ahead man, who will be sure to fulfil his engagements. Contracts are made to have the road finished to the State line within the current year. Three parties of engineers are engaged in locating the route from the State line to Jackson, which will probably be ready for contract by the first of March. The iron that is required for present use is purchased, and the whole work is in as progressive a state as its friends could desire.

Of the Opelousas road 55 miles have been put under contract, of which the grading of 30 miles has been completed, and the remainder is being finished at the rate of three miles per week.

The laying of the track will be begun as soon as a portion of the iron is received, which is expected will arrive in the course of a month. The line as far as Washington, a distance of 178 miles, will all be ready for contract by the 1st of March. It is expected to get the road in operation to Berwick's Bay, 82 miles, by January, 1854.

The line located, is a remarkably favorable one, and its cost will not exceed \$15,000 per mile, even at the present high prices of iron. It will be built in the most thorough and substantial manner, using a heavy T rail of 67 lbs. per yard.

The finances of the road are in good condition: all contracts have been paid up to the 1st of January; a balance of \$70,000 is now on deposit; all of the facts, however, will be fully detailed in the forthcoming report, which will be a document of remarkable interest.

According to this data the Opelousas road is in a most flourishing condition, and the work on it has been pushed forward with most commendable energy and diligence. The private subscriptions amount

to \$760,000, which, when added to the \$1,500,000 voted by the city of New Orleans, and the sums voted by the various Parishes, will swell the sum total to about the amount limited by the charter—three millions of dollars.

RAILROAD CONTRACTS.

THE MOBILE AND OHIO RAILROAD CO.

HEREBY OFFER FOR CONTRACT THE GRADUATION, MASONRY AND BRIDGING OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obeon, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York. January 28, 1853.

To Contractors.

SEALED Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1853, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,

THOMAS B. STEVENSON, President.

CHAS. B. CHILDE, Chief Engineer.

JAMES A. LEE, Secretary.

January 20, 1853.

Alleghany Valley Railroad.

Messrs. Tilden and Young, of Boston, have taken the contract for building the Alleghany Valley railroad, from Attica to Olean, 70 miles for the sum of \$1,500,000.—They are to receive \$800,000 in stock, \$500,000 in bonds, and \$200,000 in cash.

New York.

Sale of the Troy and Schenectady Railroad.—We learn from the Troy papers that the following were the terms of this purchase:—Hon. E. D. Morgan, president of the Hudson River railroad, buys it for \$200,000, the sum of \$50,000 having been paid down—the other \$150,000 to remain without interest for five years—then to draw interest at six per cent., payable semi-annually, until 1867, when the principal is to be paid—the purchasing party to pay sooner if desired, on giving three months notice. It is secured in the agreement that four passenger trains shall be run over the road daily, (Sundays excepted,) so as to keep up a connection with the western roads—such connection to be maintained as perfectly as it is now in all respects. The sale was ratified by the Common Council at a special meeting, by a vote of 14 to 3.

Stock and Money Market.

There is a good state of feeling in the money market, with an increased activity among fancy stocks, and an active demand for good securities for investment. The market is by no means overstocked with what may be termed first class securities, and we want these, much attention is now being turned toward stocks, particularly those in new projects, which can now be purchased at comparatively low rates, and which promise a rapid advance, as soon as the roads begin to develop their resources.

In reference to the value of the stock of our railroads, as well as their securities, we beg to call attention to the article upon the first page of the Journal.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, JANUARY 29, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	100½
U. S. 6's, 1856	108½
U. S. 6's, 1857	114½
U. S. 6's, 1857—coupon	115
U. S. 6's, 1867	119½
U. S. 6's, 1868	120
U. S. 6's, 1868—coupon	120
Indiana 5's	102
Indiana 2½	59
" Canal loan 6's	97
" Canal preferred 5's	41
Alabama 5's	98
Illinois 6's, 1847	88
Illinois 6's—interest	60
Kentucky 6's, 1871	110½
Maryland 6's	109½
New York 6's, 1854-5	108
New York 6's, 1854-61-62	116
New York 6's, 1864-65	119½
New York 6's, 1 y. 1866	119½
New York 5½'s, 1860-61	111
New York 5½'s, 1865	112
New York 5's, 1854-55	108
New York 5's, 1858-60-62	110
New York 5's, 1866	114
New York 4½'s, 1858-59-64	101
Canal certificates, 6's, 1861	—
Ohio 6's, 1856	105½
Ohio 6's, 1860	109½
Ohio 6's, 1870	116
Ohio 6's, 1875	116
Ohio 5's, 1865	106
Ohio 7's, 1851	105½
Pennsylvania 5's	97½
Pennsylvania 6's, 1847-53	101
Pennsylvania 6's, 1879	99½
Tennessee 5's	94
Tennessee 6's, 1880	108
Virginia 6's, 1886	110

CITY SECURITIES—BONDS.

Brooklyn 6's	106
Albany 6's, 1871-1881	107½
Cincinnati 6's	103½
St. Louis	99½
Louisville 6's 1880	98½
Pittsburg 6's, 1869-1871	102½
New York 7's, 1857	108
New York 5's, 1858-60	102
New York 5's, 1870-75	102½
New York 5's, 1890	104
Fire loan 5's, 1886	107
Philadelphia 6's, 1876-90	106½
Baltimore 1870-90	102
Boston 5's	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867	116
Erie 2d mortgage, 7's, 1859	111½
Erie income 7's, 1855	103
Erie convertible bonds, 7's, 1871	103
Hudson River 1st mort., 7's, 1869	109½
Hudson River 2d mort., 7's, 1860	101
New York and New Haven 7's, 1861	105½
Reading 6's, 1870	91½
Reading mortgage, 6's, 1860	95
Michigan Central, convertible, 8's, 1860	110½
Michigan Southern, 7's, 1860	101½
Cleveland, Col. and Cin. 7's, 1859	123
Cleveland and Pittsburg 7's, 1860	102
Ohio and Pennsylvania 7's, 1865	109½
Ohio Central 7's, 1861	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Jan. 20.	Jan. 27.
Albany and Schenectady	117½	113½
Boston and Maine	105½	105
Boston and Lowell	106	106
Boston and Worcester	103½	103½
Boston and Providence	99½	90½
Baltimore and Ohio	98	98
Baltimore and Susquehanna	34	34
Cleveland and Columbus	130	130
Columbus and Xenia	—	—
Camden and Amboy	150	—
Delaware and Hudson (canal)	130	130
Eastern	98	98½
Erie	90½	92½
Fall River	—	104½
Fitchburg	103½	104
Georgia	—	—
Georgia Central	—	72½
Harlem	—	70½
" preferred	115	110
Hartford and New Haven	129	129
Housatonic (preferred)	35	35
Hudson River	75	75½
Little Miami	119	120
Long Island	37½	39½
Mad River	99	99
Madison and Indianapolis	111	111
Michigan Central	106	106½
Michigan Southern	126½	126
New York and New Haven	115½	114½
New Jersey	134	129
Nashua and Lowell	—	—
New Bedford and Taunton	117	117
Norwich and Worcester	53½	52½
Ogdensburg	31	29½
Pennsylvania	49½	49
Philadelphia, Wilm'gton & Balt.	40	38½
Petersburg	—	—
Richmond and Fredericksburg	165	105
Richmond and Petersburg	35	35
Reading	86	87½
Rochester and Syracuse	133	128
Stonington	57½	57½
South Carolina	122½	122½
Syracuse and Utica	143	146
Taunton Branch	115	115
Utica and Schenectady	158	153
Vermont Central	21½	20½
Vermont and Massachusetts	21	22½
Virginia Central	40	40
Western	101½	101½
Wilmington and Raleigh	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

State Policy of Illinois.

The Alton Telegraph has a long article in reference to a recent one in the *Journal*, upon the Illinois State Policy, and the bonds of the Terre Haute and Alton railroad. It cannot be called a reply—only a mere mess of verbiage, without point or meaning; a sort of repetition of our arguments, without an attempt at refutation.

In reference to the "State policy," our position is simply this:—A portion of the people of Illinois wish to construct a railroad from Terre Haute to St. Louis. This road is required to meet the wants of the people upon its route. It is also indispensable to at least 10,000 miles of road in operation, and as many more in progress in the central and northern States. Nine-tenths of our subscribers are directly interested in its construction. So pressing is the necessity for this road, that parties out of the State stand ready to build and equip it without calling upon the people of Illinois for a penny.

But the authority to build this road is refused, on the ground that its tendency would be to carry the trade of the central portions of the State to St. Louis; in other words, it would help people to the very market to which they wish to go! But this city is *outside* of the State of Illinois; and as railroads are supposed to build large cities, and as large cities are supposed to be advantageous to the community in which they are situated, the State of Illinois some years since devised a "State policy," by which it was proposed to make all its railroads subservient to the building up of *domestic* cities, instead of foreign. A number of sites for such future cities were selected, and a system of improvements so framed as to terminate at them, with the expectation that the routes of commerce, and the growth of cities, could be made dependent upon State legislation!

All are familiar with the result. The whole scheme proved a most signal and disastrous failure, involving the State in bankruptcy and disgrace. The people of the State became so disgusted with their ill-success, and so convinced of their incapacity, and in fact of their inability to construct railroads on State account, that almost their first act after recovering from the stunning effect of their disasters, was to re-model their constitution, and place it beyond their power to commit a similar folly.

The State policy failed, as must all similar attempts that seek to control the laws of trade by legislation. So must the attempt to constitute the Terre Haute and Alton railroad the only avenue for travel and commerce, fail. The absurdity of the thing will be certain to effect its own cure. The idea that every body wishing to go from Terre Haute to St. Louis, must first go to Alton, to scatter a few coppers there, to hotels, potters, etc., etc., is an absurdity which a large portion of the State must see and acknowledge. The rank injustice of refusing to the people of a large and important section of the State, the advantages of railroads, is too outrageous to be tolerated for an instant after it is fully understood. Only give sufficient time for the convictions of the people of Illinois to be reached, and they will give rights of way to a dozen companies, if wanted.

If the Telegraph supposed that we are going to subscribe to the doctrine of the "State policy," to which ninety-nine hundredths of our readers are opposed, which if carried out in all the State would put an end at once to railroad construction throughout the country, it is greatly mistaken, and its abuse only confirms us in our opposition to such

nonsense. Ever since we have been connected with the *Journal*, have we uniformly advocated the passage of free railroad laws by all the States, as the only mode by which monopolies could be avoided, the public good, instead of personal and private advantage be promoted, and as the certain means of preventing the construction of these works being carried to excess. When people are left free to act according to their convictions, they seldom err; and where every road is liable to a competing line, it will not be undertaken without a reasonable expectation of profit, and the line selected will be the best possible one between the termini.

But upon which ever side of the controversy justice may incline, one fact is certain, that the public take our view of the matter. The public say that "we do not want to go to St. Louis by way of Alton, and we do not believe that the State of Illinois will compel us to do so." The public, believing that the straight line will be built, will not help build the Terre Haute and Alton with a view of accomplishing a similar object; and the Alton interest might as well know, first as last, that they cannot expect to borrow money of capitalists abroad, at the same time they are sustaining a policy directly hostile to the interests of such capitalists. The entire railroad investment in the northern, eastern and middle States have a direct and immediate interest in having the straight line built at once; and our monied men cannot be expected to aid an interest which is in direct conflict with their own. If, therefore, Illinois will not allow the straight line between Terre Haute and the Mississippi, to be built, she must content herself with none at all. No line but the straight line can be built at present, and until the people of Illinois are rich enough to construct their own roads without coming to this market for money.

Alton can have a railroad outlet east, if she chooses. The straight line interest offered, by way of compromise, to construct a main stem from Terre Haute to a point midway between Alton and St. Louis, and then run a branch to each, without calling upon the former for a cent. Such, we are informed are the facts. Such a road would give Alton a fair chance with St. Louis for the trade of the State. The refusal of this proposition shows the true character of the opposition.

The Telegraph charges our opposition to the State policy as being influenced by *interested* motives. This charge is so utterly unfounded, that we should not have taken the trouble to contradict it, but for its constant repetition. We expected better things from its venerable editor. He certainly is poorly employed in fabricating untruths of his brethren of the press. So far from having any direct interest in the matter, or being in any way connected with, or under obligations to, Messrs. Winslow, Lanier & Co., or Mr. Brough, who are supposed to be the leading parties in the straight line project, we have good reason for believing that they are even less friendly to us than are the friends of the Terre Haute and Alton project, which to the latter must be a sufficient disclaimer of *interested* motives.

We can say more. We defy any and all to adduce one *particle* of testimony to show that we have ever spoken well or ill of any project, or have placed ourselves under the slightest obligations to remain silent in reference to any project whatever. We have had sufficient experience to see and feel the advantage of being entirely independent, and we are fully satisfied that it is for our interest to re-

main so, to say nothing of the principle of the thing.

Baltimore and Ohio Railroad.

The closing of the last gap of railroad uniting the waters of the Ohio with tide water at Baltimore is no unimportant event in the history of the railroads of the country. The progress of the work has been identified with that of similar ones in the United States, commenced at the dawn of such enterprise here, its completion is contemporaneous with the growth of the system to a period of such advancement, as is attested by over twenty-five thousand miles of railroad track, in which it forms no mean connecting trunk. The city of Baltimore has pushed steadily along this great work and the triumphant congratulations of her citizens and all locally interested are not only natural but even praiseworthy at the accomplishment of this grand monument of usefulness, and triumph of art and unwearied labor over what not many years ago seemed insuperable physical barriers.

The corner stone was laid on the 4th of July, 1828, by the hand of Charles Carroll Esq., of Carrollton, and the inscription on it gives a brief history of the organization and incorporation of the Company.

"This stone is deposited in commemoration of the commencement of the Baltimore and Ohio railroad, a work of deep and vital interest to the American people. Its accomplishment will confer the most important benefits upon this nation, by facilitating, diffusing and extending its social intercourse, and perpetuating the happy union of these Confederate States. The first general meeting of the citizens of Baltimore to confer upon the adoption of proper means for undertaking this magnificent work, was on the second day of February, 1827. An act of incorporation, by the State of Maryland, was granted February 28th, 1827, and was confirmed by the State of Virginia March 8th, 1829. Stock was subscribed to provide funds for its execution April 1st, 1827. The first Board of Directors was elected April 23d, 1827. The company was organized 24th April, 1827. An examination of the country was commenced, under the direction of Lieut. Col. Stephen H. Long and Capt. Wm. G. McNeil, U. S. Topographical Engineers, and Wm. Howard, U. S. Civil Engineer, assisted by Lieuts. Barney, Trimble and Dillehunt, U. S. Artillery, and Mr. Harrison, July 2d, 1827. The actual surveys to determine the route were begun by the same officers, with the additional assistance of Lieuts. Cook, Gwynn, Hazard, Fessender and Thompson, and Mr. Gwynn, November 20th, 1827.

"The charter of the Company was confirmed by the State of Pennsylvania Feb. 22, 1828. The State of Maryland became a stockholder in the Company, by subscribing for half a million dollars of its stock, March 6th, 1828; and the construction of the road was commenced July 4th, 1828, under the management of the following named Board of Directors: Philip E. Thomas, President; Charles Carroll, of Carrollton, William Patterson, Robert Oliver, Alexander Brown, Isaac McKim, William Lorman, George Hoffman, John B. Morris, Talbot Jones, William Stewart, Solomon Ewing, Patrick McCauley; George Brown, Treasurer."

Of the first board, only three are yet living.

The road was opened to the places mentioned, at the times named:

Ellicott's Mills, May 22, 1830.
Frederick, December 1, 1831.
Point of Rocks, April 1, 1832.
Harper's Ferry, December 1, 1834.
Bladensburg, July 20, 1834.
Washington City, August 25, 1834.
Opposite Hancock, June 1, 1842.
Cumberland, November 5, 1842.
Piedmont, July 21, 1851.
Fairmont, June 22, 1852.
Wheeling, January 10, 1853.

On the last named date the first through train set out from Baltimore destined for the Ohio, convey-

ing the directors and officers of the Company and their invited guests, and arrived at Wheeling early on the morning of the 12th of January. At Wheeling the celebration of the event was connected with a banquet and speeches from the distinguished men present many of them connected officially with the road and its management.

One of the early friends of the project, George Brown, named as its treasurer on the corner stone, gave a summary of its progress. After the anticipations of the citizens of Baltimore in reference to the proposed Chesapeake and Ohio canal, began to be dissipated, on the report of Gen. Bernard, who examined the route, and about the latter part of the month of July, 1825, Mr. Brown states, that Phillip E. Thomas and Evan Thomas, of Baltimore, together with Wm. Brown, of Liverpool, and himself, collected much information as to the operation of the railroad in England. It was finally concluded to invite 25 of the most influential merchants, together with some other citizens of Baltimore, to meet for the purpose of considering this information. The meeting took place on the 12th February, 1827, and Philip E. Thomas, Benjamin C. Howard, Geo. Brown, Talbot Jones, Joseph W. Patterson, Evan Thomas and John V. L. McMahon were appointed a committee, to make still further investigations, and report on the subject. This report afterwards appeared in a pamphlet, embracing the proceedings of the meeting and its committee. The conclusion arrived at was, that a charter should be obtained, and a company organized to construct a railroad with a double track, from the city of Baltimore to some suitable point on the Ohio river, by the most eligible route. An application for a charter was made to the Legislature of Maryland, and through the exertion of J. V. L. McMahon secured. The company was organized and Engineers engaged to examine the country over which the road was to pass. A memorial was also addressed to Congress, praying for aid in the form of a subscription to the stock of the company by the United States. The scheme was considered visionary by many of the members of Congress, and no assistance was granted. The company, thus thrown on their own resources, sent a committee to examine two short railroads—one in Massachusetts and the other in Pennsylvania—used for the transportation of coal and iron. On the return of this committee, they reported that they had no doubt an efficient railroad could be constructed from Baltimore to the Ohio river; and they were confident that sufficient science and skill could be found in our country for its successful location and construction, in the American Engineer, Mr. Benjamin H. Latrobe, a native of Baltimore, under whose superintendence these anticipations have been realized. On completing the necessary surveys, the road was located to the Point of Rocks, on the Potomac river, at which place they were stopped for several years, by an injunction obtained by the Chesapeake and Ohio canal company.

After its graduation was commenced, the work was prosecuted with great energy. Within four miles from the city of Baltimore, a high dividing ridge was met, which required to be cut down fifty-four feet through a hard indurated clay, and involved an unexpected expenditure. The progress of the road was about to be suspended here, when 10 of the directors offered to advance \$20,000 each, making in all \$200,000, to remove the difficulties, and the road was completed to the Point of Rocks.

At this point an injunction arrested the work; and in order to prevent the discouragements that

might follow, the directors saw the necessity of opening a branch road to the city of Washington, which might serve as a link in the great line of travel, and afford a practical demonstration of the railroad system. A charter was obtained for this work, and it was early put under construction.—The funds were obtained by an advance of stock by the State, to the amount of \$500,000, and by authorizing the company to borrow one million of dollars. The State stock was readily disposed of at par, but when it was attempted to negotiate the million loan it was not found practicable to do so except at a discount. In this emergency the President and some of the directors came forward, and took the whole amount at par without further publicity; \$500,000 were afterwards sent to Brown, Shipley & Co., of Liverpool, and were the first R. R. securities sent from this side of the water. Mr. Brown concluded his address by bearing testimony to the faithfulness of the first advocates of the enterprise, and especially of Mr. Thomas, the first President of the road.

Mr. B. also presented a flag which had been sent with a note from Mr. Evan Thomas, explaining that this flag had been displayed on the car, run on the Baltimore and Ohio road soon after it was opened.

The speech of Mr. Swann, the present President of the road, was devoted in the main to the prosecution of the work west of Cumberland. He alluded, however, to the impressive scene of the commencement of the work and said:

"There are those present who witnessed the enthusiasm which attended the laying of the first stone by the illustrious Charles Carroll, of Carrollton. *clarum et venerabile nomen.* Mr. Swann here produced the trowel which had been used by Mr. Carroll, and preserved by the company, with this memorandum: "This trowel was used by Charles Carroll, of Carrollton, to lay the first stone of the Baltimore and Ohio railroad, July 4, 1828." Mr. John B. Morris, who delivered the address of the President and directors of the company, took occasion to remark upon this interesting event:

"In the full possession of his power, with his feelings and affections still buoyant and warm, he now declared that the proudest act of his life, and the most important in its consequences to his country, was the signature of Independence; the next the laying of the first stone of the work which is to perpetuate the union of the American State, and make the East and the West as one household in the facilities of intercourse and the feelings of mutual affection."

In 1842, the road was carried to Cumberland, under the auspices of the Hon. Louis McLane, the immediate predecessor of Mr. S., and in 1847, in company with Mr. McL. and a committee of the board, Mr. Swann states that he visited Wheeling to make arrangements for re-commencing the work. In 1849 it was actually put in progress west of Cumberland, and the impressions of the President on his first visit to the line of the road, almost shook his faith in the feasibility of the work.

Another reminiscence of President Swann is the following:

The next most important epoch in the progress of this road was the working of the high grade of 116 feet. We were told the story of a man who had built a mill without first ascertaining where he was to get the water to put it in motion. A road was being constructed at a cost of millions, and we were yet to satisfy the public that we could make it available for locomotive power.

This road was opened to Piedmont in July, 1851, when it was thought expedient to test this great problem. There are those present who will not forget that interesting occasion. We left Baltimore with a large company of our municipal authorities, and the leading dignitaries of our city. Both the

Chief Engineer and myself thought it advisable if we were doomed to fall in this last effort that it should be in good company.

The train having reached the foot of the heavy grade, it was agreed that the Chief Engineer should take his stand upon the engine, where in the event of discomfiture, he might conceal his shame in the smoke in which he would soon be enveloped. I, on the other hand, who was most likely to be held responsible, from the position which I occupied, deemed it convenient to take my stand at an open door of the car, with a view to a more ready access to the woods.

In this situation we commenced the ascent of the heavy grade. It was a moment of intense anxiety—not as to the result, for we knew full well what that result would be; but as to the effect of any casual mishap, from whatever cause, upon those who were so anxiously awaiting the issue. As good luck would have it, however, the iron horse did his duty without faltering—the summit was reached, and the hurrahs of the multitude proclaimed that this last triumph was complete.

As to the power of overcoming high grades, we claim to have taught a lesson to the world. During the whole of the past summer, this company carried the United States Mail over a grade of 530 feet to the mile, without the aid of assistant power, and every bar of iron which was laid upon the track, between the Kingswood Tunnel and Fairmont, was passed over the same.

The speech concluded with a tribute to the energy of the board of directors with which the speaker had been associated, and to the genius and skill of the Chief Engineer Benjamin H. Latrobe Esq.

We copy a portion of the remarks of Mr. Latrobe in reply to a complimentary toast. If any one has a right to speak on such occasions it is the successful engineer.

The Baltimore and Ohio Railroad is at length finished, and what has been the *hope* of my life for the 22 years I have spent in its service, has become a substantial *reality*, and its results will soon be an actual fruition. It is enough for me to have been partly instrumental in bringing this great event to pass; and if my professional life were now to end, I should have accomplished a career in my association with this one mighty work. I have been commended for the success of the grades, and for the tunnels and the bridges of this road; but there is a source of pride more grateful to me just now, in that I have been enabled to complete the line at the precise time I had promised. No days of grace, such as men grant each other in the commercial transactions of life, were allowed me, and none happily were wanted. The last rail was laid on Christmas eve—the tired men who laid it had their Christmas holiday unbroken, (and it was to them a day of rest as well as of enjoyment,) and on the first day of January, 1853, true to the time appointed two years before, the first passenger train from Baltimore arrived upon the bank of Wheeling Creek, in your city. There was no contrivance of mine in this; it was but the final consequence of a series of exertions with few parallels, perhaps, in the history of such works. Wedd our best to accomplish it a month earlier—a week earlier—a day earlier—all would not do—the Baltimore and Ohio Railroad was, it seems, to be finished on the first of January, 1853, as promised; and it was so finished in fact. I have not, however, a right to call it finished. No railroad, indeed, is finished while the trade for which it was constructed continues to grow; and progress is the genius of our people. But this road is unfinished in a stricter sense. You have witnessed the experiments by which its incomplete parts have been made temporarily to perform their intended purposes; and I am consoled for the necessity of their use by the development of the valuable principles of engineering science which they have been the means of illustrating, not only in the road which has been built, but in the noble machines which gave it life. It only remains for me to replace them by the permanent works which are to succeed them; and then I shall feel that I have manfully performed my duty, and entitled myself to an honorable dismissal from a service which will need me no longer.

We have already described that portion of the work which extends from Cumberland to Fairmont in the copy of the Railroad Journal for 3d July 1852, and shall confine ourselves for the most part to giving a rapid sketch of the whole road, more especially the western section just opened. The Baltimore and Ohio railroad is about 379 miles in length and although considerable heavy work exists on the 179 miles up to Cumberland, especially in the immediate neighborhood of the city of Baltimore no formidable difficulties are met with on the ascent to the base of the Allegheny ridges. The remaining two hundred miles from Cumberland to the Ohio involves the crossing of the numerous parallel ranges of the Allegheny system of mountains. From Cumberland the road follows the valley occupied by the north branch of the Potomac between the Knolly Mountain and the Front range, its general direction is about south west for about 20 miles as far as Paddy town, one terminus of the Manassas Gap railroad—here the road still following the course of the stream bends almost at right angles toward the north-west till it reaches the town of Piedmont. Two miles beyond the Potomac is crossed by a stone bridge and the grades that were before at the steepest 1 in 200 begin to be more abrupt. Ascending through the gorges of Savage river and Crab-tree Creek the grade is about 1 to 45. In 15 miles the ascent is about 1625 feet along the side of the Great Backbone Mountain until the water shed is reached of the streams falling into the Chesapeake and those of the Ohio at Allamont. Along the valleys of the Great and Little Youghiogheny rivers and Snowy Creek the grade is moderate varying from 1 to 100 and 1 to 200. From Crabbury summit along the ravine of Salt Lick Creek the line descends with slopes of 1 in 45½ taking in its course two tunnels, one of 500 and the other of 400 feet in length. Through the valley of Cheat river the grade is ascending and about 1 in 50. Near the summit of one of the offshoots of the Laurel Hill range the mountain is pierced by Kingwood Tunnel 4100 feet in length and the longest on the line of the road. From this point the road descends the valley of Racoon Creek first at grades of 1 to 50, and then of 1 to 153 till it reaches Tygers' Valley river, along the course of which it runs, the steepest grades being 1 to 200 until it arrives at the town of Fairmont.

A short distance below this town the road enters the ravine of Buffalo Creek which is crossed three times within a distance of 15 miles from Fairmont by bridges constructed with timber string pieces and cast iron posts and wrought bars. About 17 miles beyond Fairmont, the flourishing village of Mannington is met, and still ascending at grades of one in 200, it is carried through the gorge of Piles' Fork, crossing the stream five times in its course. On reaching the head of this stream at Glover's Gap, about 28 miles beyond Fairmont the road passes the ridge dividing the waters flowing into the Ohio from those of the Monongahela by deep cuts and a tunnel 350 feet long. After passing through this, the road descends by Church's Fork of Fish Creek at grades of one to one hundred. In passing through this valley the road crosses the stream eight times within four miles, and traverses 3 tunnels, Soles' 112, Eaton's 370, and Martins 180 feet long. The general direction of the road from Fairmont to the Littleton station on Fish Creek, is north westerly. Pursuing this direction, the road soon encounters the Broad tree ridge. The line leaving abruptly the margin of Fish Creek,

turns up the ravine of Broad Tree, running along the side of a precipitous hill until it reaches the mouth of the tunnel, here a temporary road is used for the purpose of climbing the mountains until the completion of the tunnel which is to pierce it. The ascent by this temporary road is not only extremely picturesque, but is almost as interesting a work of engineering art as the tunnel beneath. It is laid in the form of a succession of zig-zags terminating at each angular point by a straight line of road, so that each zig zag and its continuation form a figure resembling the letter Y. At the angular points are switches so that the process of ascent is accompanied by a change of the relative position of the engine and its load. Thus the train, headed by the locomotive, after passing the switch at the angle, runs out at the tail of the Y, it is then stopped and the switch changed so as to correspond with the other branch of the Y; the engine is then reversed and pushes the train before it until the next angle is reached, when after running out on the straight line beyond the switch, the engine is again reversed and pulls the train up the next reach. On the eastern fall of the hill, above Broad Tree or Pettibone tunnel, there are two zig zags, on the western side which is much more precipitous, there are five, the length of these latter tracks being shorter than on the eastern slope. The summit of the hill is about three hundred feet above the level of the permanent track at the tunnel, and the grade varies from 293 to 340 feet to the mile, permitting each engine to carry up two loaded cars or 25 tons. At Kingwood tunnel the temporary road ascended a grade of 500 feet to the mile, and only one car or 12½ tons was the load of the engine. The total ascent in perpendicular height at Kingwood by the temporary track over the summit was 220 feet, the trains were exposed, however, to the risk of sliding down hill with the wheels locked, an event which could not happen on the lower grades of the ascent on the zig zags over the Broad Tree summit.

The following description of the ascent by one of the guests of the company during the recent excursion, gives a lively picture of the scene:

We entered at Broad Tree creek a wide mountain gap, extending for nearly a mile, which suddenly closed before us with an immense bluff, through which there was no outlet, over 300 feet to its summit above the level on which the track below is laid, and under which Pettibone tunnel is being constructed. At the foot of this mountain the mouth of the tunnel was discerned, with the lamps of the miners glaring within. Our entire train consisted of twenty-six cars, and thirteen of Ross Winans' most powerful locomotives were in waiting, puffing and panting like war horses, ready to take us across the summit of the rugged mountain before us. After some delay, during which darkness closed in upon us, two cars were harnessed to each of the iron horses, and all being in readiness, the ascent was commenced, the first locomotive turning out of the first Y, as it is called, before the second one is started, and so on until the whole side of the mountain was dotted with those fiery monsters, which, in the darkness presented a scene that was perhaps never before witnessed in the world, and probably may never be again. The ascent of the mountain is by tacking to and fro on its side, up to its summit, and then down in a similar manner on the other side, the track being laid in deep and broad cuts on the side of the mountain. These tracks run so closely parallel with each other, but at different elevations, that at times the trains were so near together that the passengers could call up or down to each other, and be distinctly heard, as they passed.

On reaching the summit, those in the seventh of the thirteen trains had a full view of the six locomotives following after them on the one side, and the six descending on the other, each belching forth

fire and smoke, whilst the miners going to their work in the shafts, and at either end of the tunnel, bearing hundreds of lamps and moving to and fro in the distance at the base of the mountain, gave the finishing attraction to this grand spectacle.—The western slope of the mountain is more precipitous and difficult than the eastern, and it was truly a grand sight to look up and see, "rank above rank," the various trains tacking like ships on the ocean's wave, down the terraced mountain side.

On leaving the tunnel the line descends along the hill skirting the north fork of Fish creek, by a series of deep cuts and heavy embankments. After passing Bell's Mill the creek is crossed by a bridge of similar construction to those already described, and after ascending Hart's and Four mile runs, it reaches the Welling tunnel at the 50th mile beyond Fairmont. This tunnel pierces the ridge between Fish creek and Grave creek, and is 1,250 feet in length. From the tunnel the road pursues the ravine of Grave creek for 17 miles to its mouth on the Ohio, crossing the stream eight times in its course. At this spot near the pleasant village of Moundsville, the road passes one of the ancient mounds a relic of the race which formerly inhabited the banks of the Ohio. This remarkable object is 80 feet in height and 200 feet broad at its base.—For the remaining distance, as far as Wheeling, the road skirts the Ohio, and for the greater part of the distance, runs over a beautiful stretch of bottom land. At 2½ miles below Wheeling creek, the only station is situated where the grounds are prepared for the erection of engine houses, shops, etc.—About two miles below the creek, the line strikes the bank of the Ohio, and follows along Water-st. to the inner station in the city of Wheeling.

We have thus given a rapid review of the history and physical characteristics of this important work, belonging to a company, the stock of which including the bonds of the State of Maryland is over twelve million of dollars, all paid up and to represent when complete in equipment, a capital of about twenty millions. The total number of locomotives in use and contracted for at the time of the last report was 140—and the number of burden cars appropriated for general traffic 2,290. The cost of the road between Baltimore and Cumberland was stated in the last report of the Treasurer, 1st Oct., 1852, at \$3,774,544 76, that of the portion west of Cumberland, at \$727,732 57.

To this must be added the 2½ millions recently authorized for a second track and extra equipment to accommodate the coal trade of the Cumberland basin. The financial interests involved in the road will then be represented, by stock \$9,188,300, State of Maryland bonds \$3,250,000, and various loans including the 2½ million for the coal trade, amounting to about \$5,627,123. Of course in the detailed account other items of necessary expenditures and expenses are introduced, but the above sums exhibit the main features of the cost and the manner in which the various proprietary interests are held.

Iron in Tennessee.

The Nashville Whig gives a tabular statement of the capital and product of the iron interest on the Cumberland river, together with the number of hands employed, and the amount of pork and corn consumed per annum at the 21 furnaces, 9 forges, and 2 rolling mills therein enumerated. The following is the recapitulation: 19 furnaces, 29,300 tons metal; 9 forges, 10,600 tons blooms; 2 rolling mills, 4,700 tons of iron. Total, 44,500 tons; 1,400 kettles. Capital, \$1,216,000. Value of products, \$1,678,000. They employ 1,395 white men, and 1,810 negroes.

Wisconsin.

Gov. Farwell, of Wisconsin, in his message says, in relation to railroads, that from the construction of the Milwaukee and Mississippi road, and the surveys and estimates for the construction of other roads, it is apparent that railroads can be constructed in Wisconsin at an average cost of ten to eighteen thousand dollars per mile. From this cheapness, as compared with Eastern roads, the Governor assumes that the railroads of the State will yield a higher per cent. of profit upon the capital invested, and for that reason, that the means will not long be wanting to build the roads now projected within the boundaries of the State.

The general banking law passed by the Legislature at its last session, and adopted by the people at the late election the Governor considers, though not entirely free from imperfections, as in the main a good and safe law, and likely if properly carried into effect, to answer the purposes designed. He suggests that:

A general law should be passed, at as early a day as practicable, prohibiting under severe penalties, the receiving, paying out, or passing as money, in this State, circulating paper, of any form whatever, in the similitude of bank paper, by any person or body corporate that is not, at the time of such receiving, paying out or passing, authorized by some express law of the United States, or of Canada; and declaring all contracts, the consideration of which, in whole or in part, consists of such circulating paper, absolutely null and void, for any purpose whatever.

The Executive authority has been exerted to its fullest extent, during the past year, to suppress the practice of illegal banking in the State, by causing the same to be brought before the proper judicial tribunal, but so far without effect. This shows the necessity of some more stringent legislation upon this subject, than now exists to protect the people of the State from an unlimited, unsecured, and wholly irresponsible currency, which, if longer permitted to continue or increase, will utterly defeat the purposes of the general banking law, and work a lasting injury to the finances, business, and credit of our State.

Hamilton and Eaton Railroad.

We wish to call public attention to the report of the very efficient President of the Hamilton and Eaton railway, which appeared in our paper of yesterday. By great exertions and untiring perseverance he has succeeded in making such arrangements as will mutually promote the prosperity of his own road and of all the other roads which are linked together in a community of interests, and such also as must necessarily promote the public convenience and particularly that of the city of Cincinnati.

Whatever arrangements can be made by different railway corporations to reduce the cost of travel and to avoid the delay incident to frequent changes, is a public benefit and is also of pecuniary advantage to the companies themselves. The benefit arising from this arrangement is seen in the diminished expenses of running from Cincinnati to Cleveland—fully one third less than it was when the three companies were without any such agreement—and also in the largely increased amount of travel.

To John Wood, Esq., the President of the Hamilton and Dayton Railway, the credit of this improvement is due; an improvement which is of equal advantage to the stockholders and to the public, and is deserving of the gratitude of both.

Few men could have devised and carried out such a change with the thoroughness and promptness of Mr. W. His acquaintance with business men and with public interests, together with his industry, have enabled him to effect the following objects. He has secured an exclusive connection and joint interest with the Richmond and Miami and the New Castle and Richmond railways. He has also contracted with the Cincinnati, Hamilton, and Dayton railway for running the road jointly for five years, from Cincinnati to Richmond, the expenses to be divided between them according to the respective lengths of the two roads. The contract with the Richmond and Miami and the New Castle and Richmond roads consolidates them with

the Hamilton and Eaton road, and secures a single gauge from Hamilton to Logansport. When the road is completed to this latter place, a second track of the same gauge is to be laid by the Cincinnati, Hamilton and Dayton road from Hamilton to Cincinnati. This arrangement looks to a single continuous line to Chicago of the different roads—a distance of 290 miles—combined together as a common interest.—*Cincinnati Atlas.*

Lake Superior Copper Region.

Pursuant to public notice, a meeting of parties particularly connected with the mineral region of Lake Superior, and others interested in that section of the country, assembled at No. 35 Wall-st., New York, on Wednesday, the 19th instant, for the purpose of organization, with a view to concert such measures as would best promote the establishment of a railroad to connect Lake Superior with the seaboard, by means of an extension of the present line from Chicago, and thereby secure a daily open communication by land in place of that by water, which, owing to the interruption caused to navigation during cold weather, creates a periculis embargo upon the transportation of all freight and supplies, for a period of seven months out of 12 months in the year.

The meeting was well attended, and organized by the choice of Mr. J. Elmhurst Smith as Chairman, and Mr. Henry Acker as Secretary.

The object of the meeting was stated at length by the Chairman who urged the importance and advantages of the project, and the urgent necessity which existed for the speedy accomplishment of the undertaking.

The subject was further discussed by the gentlemen present, and particularly by those representing the mining interest, and the following resolutions were offered and unanimously adopted, as expressing the views of the assembly:

Resolved, That the best interests of the people of the States of Wisconsin and Michigan demand that a line of railway be immediately constructed from Fond-du-Lac to certain points within the limits of the said States, that within the limits of Michigan to run to some point to be selected upon Kewanaw Point, at or near the shore of Lake Superior, with a branch to the westward to some point between Ontonagon and Montreal rivers, and also a branch to the eastward to some point at or near Iron Bay.

Resolved, That in view of the progress already made by the Rock River Valley Union Railroad Company of Wisconsin, who have located their line upon the route indicated, and now have the same under contract from Chicago to a point as far north as Fond-du-Lac, with the ability by their charter to continue the same to the Lake. This meeting recommended to all interested the adoption of that line as the best calculated to promote the early accomplishment of the work, while it insures to the people inhabiting the shore of Lake Superior the best points of communication when completed.

Resolved, That inasmuch as the various artisans of the Union, who work in copper, iron and lead, seek with avidity the product of the Lake Superior Mines, and the citizens of Massachusetts, Connecticut, New York, Pennsylvania and Ohio, as well as other sections of the country, by the capital they have so liberally invested in the development of these, are equally interested with Wisconsin and Michigan, in the advancement of this enterprise. Therefore,

Resolved, That Congress be urged to grant to the States of Wisconsin and Michigan respectively, for the purpose of aiding in making the proposed railroad, every alternate section of the public land through which said railway passed, equivalent to seven sections in width on each side of said road and its branches.

Resolved, That a Committee of seven be appointed by this meeting to act as an Executive Committee, with power to add to their number, whose duty it shall be to co-operate with the friends of the enterprise generally, and at their discretion to call another meeting, whenever they may deem it advisable.

The following gentlemen constitute the Committee, viz: William H. Stevens, Horatio Bigelow, Sherman J. Badon, Wm. Hickock, H. E. Phelps, S. W. Hill and Clement March.

The Newcastle, Richmond and Logansport Railway.

We are gratified to learn of the progress, and now undoubted success, of this important road. Its constructors have heretofore moved along very quietly; so much so indeed, as to prevent many at a distance from knowing anything of their progress, and unlike some other of their cotemporaries, have, it seems, relied but little on the power of "wind." It now appears, that they have more than a half million of stock, quite a large amount of which is held by wealthy men in Cincinnati, and have most of their road graded to Newcastle—much of it beyond—and near 22 miles nearly ready for the track at the Logansport end. They have also 45 miles of their iron purchased in good times, when iron was cheap, and are now purchasing 22 miles more. The 45 purchased, is to lay the eastern end from Richmond toward the Wabash; the 22 miles now ordered to be bought, is to connect Logansport and the Wabash, with the Peru railway, and thus with Indianapolis. Both of these parts will be completed the coming summer, and the contracts for their completion are all made and the workmen ready. Thus the people of Indianapolis may go to Cincinnati by Andersonstown and Newcastle, and may go to Logansport by Noblesville and Kokomo, all by railway.

The remaining part of the line, between Kokomo and Anderson, is all under contract, and in the course of speedy completion; indeed we believe every contract for the full completion of the road has been made, and with persons who will rapidly complete them, and much of the machinery for the road is already constructed.

The company has also consolidated its operative interests with the Eaton, Hamilton and Cincinnati roads, to make a through line from Logansport to Cincinnati upon equal and fair terms.

This will be one of our most important and profitable roads, pointing as it does strait towards Chicago, and sure to be completed to that point, and with the interests now united in its construction, the country it drains for support, and its freedom from all competition, warrant for it and will bring to it much of public attention, and insure success and profit to the projectors and stockholders.—*Indiana State Journal.*

Railroad Business.

A statement derived from the books, at the freight office in this city, of the Rochester and Syracuse railroad, is full of interest, as showing the movement of freight by rail since the removal of tolls from the Central line of railroads, compared with the similar movement when tolls were imposed.

It will be remembered that tolls were removed Dec. 1, 1851. We give the two tables:—

First. Statement of the freight business of the Rochester and Syracuse railroad for the year ending Oct. 1, 1852:

	Tons.	Lbs.
No. of tons of 2,000 lbs. each.....	207,644	44
Total amount of freight one mile....	12,458	640
Products of the forest.....	6,780	1,379
Animals.....	72,331	1,358
Vegetable food.....	67,393	1,610
Other agricultural products.....	3,217	1,268
Manufactures.....	14,327	464
Merchandise.....	26,467	1,134
Other articles.....	17,325	831
Total.....	207,644	44

Second.—Statement of the same, for the year ending Oct. 1, 1851:—

	Tons.
No. of tons of 2,000 lbs. each.....	83,569
Total movement of freight one mile....	5,416,084
Products of the forest.....	2,146
Animals.....	21,275
Vegetable food.....	12,604
Other agricultural products.....	2,954
Manufactures.....	9,590
Merchandise.....	23,042
Other articles.....	11,958
Total.....	83,569

The foregoing statements show that the freight business of this railroad has been in 1852, 40,000 tons, more than double the business of 1851, a fact that speaks volumes for the capacity of the road.

and the stimulus given to its business by the removal of tolls.

It is fair to presume that other companies on the Central line have enjoyed an increase of business in the like proportion. This being the case, it might be apprehended that the receipts of tolls from the State canals and particularly from the Erie, would be largely diminished. How far this effect has been produced, may be seen from the last official statement, which is as follows:

State receipts of tolls 1851 to Nov. 7....\$3,061 869
" " " " 1852 "..... 2,829 236

Decrease..... \$232,633

This decrease, it appears, occurs in the face of a largely increased carrying business of the canals, and is doubtless owing mainly to the reduction of tolls made by the canal board last winter.—*Rock-ester American.*

Ohio.

Akron Branch Road.—The Summit Beacon of the 12th says:—"The annual meeting of the stockholders for the election of directors, &c., will be held in this place to-day. The annual report will be an interesting one; and the occasion is one which should call up a full meeting."

Col. Perkins, the President of this road, has just returned from the East, where, in connection with Mr. McMillen, the Treasurer, he has been for several days, completing contracts for iron, for that portion of the road not already provided for. The directors, engineers, contractors and friends of the road generally, with one voice attest the signal fidelity of Col. P. to the highest interests of the road. The whole road commands confidence and merits praise.

As an indication of the prosperity of the road, we mention with pleasure that a semi-annual dividend of 5 per cent was declared at a meeting of the directors yesterday."

PATENT Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be rebored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
61 Courtland St. New York.

January 20, 1853.

To Contractors.

CLEVELAND AND MAHONING RAILROAD
LETTING.

SEALED PROPOSALS will be received at the Office of the Company, on Superior street, Cleveland, until the first day of March, 1853, for the Grading, Masonry and Bridging of the portion of said road from Cleveland to Warren, a distance of 53 miles.

Plans, Profiles, and Specifications, may be seen at the Company's Office, in Cleveland, and the line will be ready for inspection by Contractors, 2 days previous to the letting.

The line is divided into sections of about one mile each, and bids will be received for each section separately, or for the whole line.

Estimates will be made monthly, and the payments made in cash.

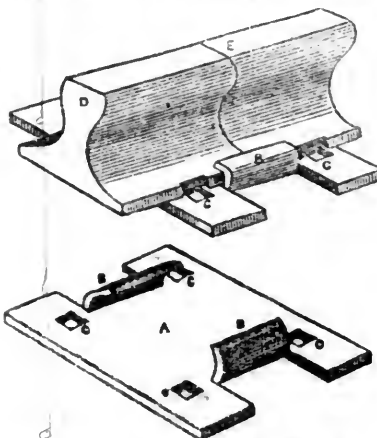
Further information may be obtained on application to Jacob Perkins, Esq., President of the Company, George C. Beckham, Esq., resident Engineer, Cleveland, or to the undersigned.

The remainder of the line from Warren will be let as soon as the location can be completed.

By order of the Board.

EDWARD WARNER, Chief Engineer.

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make **WROUGHT IRON RAIL ROAD CHAIRS**, of various sizes, at short notice.

By use of the **WROUGHT IRON CHAIR**, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of **CAST IRON CHAIRS**.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga, "
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennecott and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.

HENDERSON AND NASHVILLE R. R.
SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure.

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

By a compact between the Henderson and Nashville Railroad Co., and the Edgefield and Kentucky Railroad Co., their roads are to be united at the Tennessee and Kentucky State line, and then form a continuous line of Railroad from Henderson on the Ohio, to Edgefield, on the Cumberland river immediately opposite to Nashville, a distance of only about one hundred and forty miles. When it is considered that at Nashville, through the Nashville and Chattanooga Railroad, this road connects with the whole system of Railroads and rivers leading to Charleston, Savannah, and the South Atlantic seaboard, and from thence by a Southern route of Railroads to all the Eastern and Northern cities, and that at Evansville, Indiana, only ten miles of perpetual navigation on the Ohio river distant from Henderson, it connects with the systems of Canals, Railroads and Rivers which penetrate and drain the valleys of the Mississippi and the Lakes, and extend by a Northern route to the Eastern and North-eastern cities, it cannot be doubted that this is a most important road. But if it be taken into the account that it presents much the shortest, and owing to the remarkably favorable profile of the country, for the cheapest route for a railroad designed to connect these Northern and Southern Systems, that it penetrates the richest beds both of bituminous coal and iron ore heretofore valueless because land-locked—that it passes through an agricultural region of great fertility and remarkable beauty, and opens in the South Atlantic States by the shortest, speediest, cheapest and best route, a market comparatively new, for the teeming products, especially provisions of the valley of the Mississippi and the Lakes, its value and importance cannot be over-estimated—that it will pay and pay richly, both in dividends to the stockholders and in indirect profits to those whose residence gives them an interest in the means of transportation and travel which it will afford cannot be doubted.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.
Henderson and Nashville R. R. Co.

Wilkinson's EXPLOSIVE RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

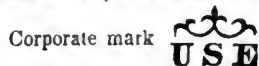
This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring heavy blow to explode them.

January 20, 1853.

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
 Iron, Chairs and Spikes
 Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.
 Office next door to the Custom House, Main st.
 January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF
WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Blister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, especially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.



CHAS. CONGREVE, Agent,
 58 Maidenlane, New York.

Stocks of the above goods constantly on hand.
 January 12, 1853.

SISCOE BLAST FURNACE For Sale.

THIS FURNACE, situated in Westport, Essex Co., N. Y., on Lake Champlain, is capable of producing 3000 tons Pig Iron per annum. It is blown by a powerful steam engine, and another engine raises the stock, etc., etc. There are eight Kilns, which can make 500,000 bushels Charcoal per annum, connecting by Railroad with the Furnace, and nearly an acre of sheds for seasoning wood. One large Brick Mansion House, with excellent Farm, one Brick Cottage, seventeen Houses for workmen, commodious Blacksmiths' and Carpenters' Shops, etc., etc., and about 1500 Acres of Land. The Furnace is situated on a large and convenient Dock; Wood for making Charcoal can be obtained cheaply in the neighborhood, and Anthracite coal from Rondout can be delivered at low rates. By the proposed Ship Canal from Lake Champlain to River St. Lawrence, coal could also be brought with great facility from Erie. The rich Magnetic Ore of Essex County, particularly that from the famous Port Henry Bed, can always be procured cheaply and in great abundance. The property will be sold on reasonable terms. Inquire of Messrs J. & L. TUCKERMAN, 69 West street, New York, or of F. H. JACKSON, No. 5 Liberty Square, Boston. 1m2

LOW MOOR IRON.

WM. BAILEY LANG, 91 Liberty Square, Boston, and 24 Broadway, New York, Sole Agent in the United States and Canada for the Lowmoor Iron Co., is prepared to receive orders for this justly celebrated Iron, and offers for sale an assortment of the Round sizes which he now has in store, and which for strength, soundness and uniform quality, stands without a rival.

Superior Cast Iron Gas and Water Pipes.

THE Subscriber is prepared to contract for the supply of CAST IRON PIPES required by Gas or Water Companies, Corporations, etc., delivered in any Seaport in the Union, on reasonable terms. These Pipes are cast on the most improved principle by the best Founders in Scotland, from a superior quality of Pig Iron re-melted, are guaranteed to resist a pressure of 300 lbs. to the square inch, or greater if necessary, and to be soft enough to drill easily and freely. Full information regarding price, and references to parties in the United States now using the Pipes, can be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
 21 Kenfield st., Glasgow,
 Scotland.

J. M. EADIE, Agent,
 26 Front st., New York 1y50

Railroad Iron.

5000 TONS Railroad Iron, weighing about 59 lbs. per yard, "Erie" pattern of G. L. and "Crawshaw" manufacture, now on the way from the shipping ports in Great Britain to this port, for sale by **P. CHOUTEAU, Jr., SANFORD & CO.,**
 No. 51 New street.
 December 4, 1852. 4t

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible—
 7 per ct. bonds of Canandaigua and Corning R.R., payable in.....New York, 1860
 Do. Buffalo, Corning and New York do.....1867
 Do. Western Vermont Railroad.....do.1861-71
 Do. Evansville and Illinois.....do.....1862
 8 do. Michigan Central.....do.....Boston, 1860
 Do. Peoria and Oquawka,.....New York, 1862
1st Mortgage—
 7 per ct. bonds, Corning & Blossburg do.....1871
 Do. Mansfield and Sandusky.....do.....1860
 7 per ct. Vermont Valley.....do.....1860
 Do. Troy and Bennington.....Troy, N. Y.1861
 Do. New Jersey Central.....New York, 1860-70
 Do. Dauphin and Susq. Coal Co. do.....1871
 Do. Brunswick Canal Co.....do.....1857

Also, second mortgage bonds of many of the above companies, and—

7 per ct. bonds Saratoga and Wash. N. York, 1862
 Do. Troy and Boston.....do.....1864
 Do. Muscogee Railroad.....Savannah, 1862
 Do. Huron and Oxford.....N. York, 1862
 Also, Georgia 7 per ct. State stocks,
 interest payable semi-annually.....do.....1872
 City of Savannah 7 per cent. bonds,
 interest payable semi-annually.....do.....1870-76
 7 per ct. bonds of the Town of Huron,
 Erie county, Ohio.....do.....1861

10 per ct. City of Keokuk, Iowa, Keokuk, 1863
 6 per cent, City of Memphis..Philadelphia, 1880
 10 per cent. City of San Francisco, San Fran. 1870
 12 " " Benicia, California, N. Y. 1855
 12 " " Sacramento, do. Sacramento.
 7 per cent. Atlantic Steamship Co..N. York, 1855
 12 per cent. Improvement Scrip of the
 State of Wisconsin for improvement
 of Fox River.....do.....1862

Troy and Rutland railroad Stock, with guarantee of 4 per cent. dividend and one half surplus profits of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of 4 per ct. div'd by Saratoga and Washington R. R.

Also, Stock of the Cambria Iron Company.
 Stock in the Western Vermont R. R. Co.
 Stock in the Mad River R. R. Co.
 Stock in the Buffalo, Corning and New York R. R. Co.

Stock in the Mansfield and Sandusky R.R. Co.
 Stock in the Southern Bank of Kentucky.
 Stock in the Mechanic's Bank of N. Y.
 Stock in the East River Insurance Co.

The Cold Spring Iron Works, INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.
A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder.

Address **HENRY MELLUS, Agent,**
 Boston, Mass.
 or, **GEO. W. PRESCOTT, Sup't.**
 Otis, Mass.

November, 12, 1852. 1y

Railroad Iron.

5000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by **P. CHOUTEAU, Jr., SANFORD & CO.,**
 No. 51 New street.
 December 4, 1852. 4t

The Cambria Iron Company,

ORGANIZED under the laws of Pennsylvania, with a capital of \$1,000,000, propose embarking in the manufacture of Railroad Iron, at *Johnstown, Pennsylvania*. The location they have secured offers advantages superior, it is confidently believed, to any other in this country. Iron Ores, semi-bituminous Coal, Limestone, and nearly every article required for the manufacture of Iron, exist in inexhaustible quantities, on the spot; and these deposits are now worked, and the minerals delivered, cheaper than at any other known point now occupied for the manufacture of iron. The Pennsylvania Canal and Central Railroad pass through the property, and cross each other at the spot where the mineral veins are most thoroughly opened out; and which location, for its other advantages for facility of manufacturing, and vicinity to a populous borough, has been selected for the establishment of Railroad Iron Works, and for the erection of other Blast Furnaces, in addition to those now in operation.

The attention of capitalists disposed to embark in an enterprise which offers a remunerating profit, even on the low prices of iron current before the rise of the last six months, and which promises to be very lucrative while anything like present rates prevail, and also of Railroad Companies desirous of making arrangements for Iron Rails to be delivered in 1853, is called to this enterprise.

Out of the capital named above, the sum of \$360,000 has been devoted to the purchase of about 30,000 acres of land, upon which there are six blast furnaces, which cost, including the personal property accompany them, \$350,000. Three of these furnaces are now in successful operation, and by next spring, with an outlay of about \$6,000, the other three can go into blast; and at the present price of pig iron, these six charcoal furnaces would realise a net profit of six per cent on \$1,000,000 capital.

The company contemplate erecting four more blast furnaces, for smelting with coke the iron ores at Johnstown, and also works for manufacturing railroad iron. To do this, they will require subscriptions in all to the amount of \$600,000, and to carry on most profitably the manufacture and disposal of rails, the whole chartered capital should be raised. Subscription lists, providing that no subscription shall be binding unless *bona fide* subscribers for the amount of \$600,000 are obtained by the 1st January next, and pamphlets descriptive of the advantages of the locality and estimates of costs, can be had of the undersigned.

D. M. WILSON, Newark,
EDWARD F. GRANT, New York,
SAMUEL H. JONES, Philadelphia,
JOHN HARTSHORN, Boston,
T. F. SECOR, New York,
G. S. KING, Johnstown,
P. SHOENBUEGER, Pittsburg,
RHEY, MATHEWS & CO., Pittsburg,
 or at the office of the Provisional Committee, at
SIMEON DRAPER'S, 46 Pine st.

The subscriber is prepared to enter into contracts to deliver RAILROAD IRON to Companies requiring it in 1853. **SIMEON DRAPER.**

Iron.

200 Tons Fishkill Charcoal Iron for sale on reasonable terms, also from 1000 to 5000 tons Fishkill Hematite Ore—delivered at Poughkeepsie or New York. Samples of the ore may be seen at the store of Messrs. Hoffman, Bailey & Co., No. 62 Water st., New York. Enquire by letter to **NORMAN M. FINLAY,**
 Poughkeepsie, Dutchess county, N. Y.
 July 10, 1851.

A. Whitney & Son, PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31ft

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by **G. O. ROBERTSON,**
 135 Water street, corner of Pine,
 November 19, 1852. New York.

Volcano Quartz Mining Co.VOLCANOVILLE, EL DORADO COUNTY,
CALIFORNIA.

BOOKS for subscription to \$75,000 of the stock of this company are now open at the office of the company, 78 BROADWAY, New York.

The uncommonly rich claims of this company hold out inducements, to those who are disposed to invest capital in quartz mining in California, not surpassed, if, indeed, equaled, by those of any other company in that state.

The extraordinary richness of our quartz, as was witnessed by thousands at the late *Fair of the American Institute*, and the extent of our claims, together with the peculiarly favorable location for economical working upon a large scale, will ensure the most ample and satisfactory returns upon the investment.

It is well understood by practical men that, with machinery working twenty tons of quartz, paying two cents per lb., large profits will be realized upon each day's work. It is the intention of the company to obtain machinery sufficient to work fifty tons per day, and to work it in the most economical manner, by which they feel confident of being able:

1. Their stock which will yield from two cents to twenty cents to the lb., to make returns to their shareholders which will not only satisfy, but surpass expectations.

It will be seen, by reading the pamphlet, containing the *charter*, the laws of California, and the details of our plans of operation, that our estimates are based upon two cents per lb., and the expenses of working the mill are but, at present high prices for labor, while it is well known to all who reflect upon the matter that, as the cost of labor shall be reduced, the income will be materially enhanced.

If we work 40 tons per day, and yet two cents per lb., it will yield \$16, while three, four, or five cents per lb., would give a proportionate increase of receipts, the expenses of working the mill would not be increased a dollar, and will be less than \$470 a day.

Subscriptions can be made by mail, enclosing, ten per cent on the amount, of the balance, twenty per cent to be paid on the 20th of Nov. inst., and seventy per cent on the 20th day of December next, when certificates of stock will be issued.

Pamphlets, containing the statute of California in relation to corporations, the rules and regulations of our locality, the charter and by-laws of the Co., together with much other interesting and useful matter, including a map of a portion of the northern mining regions may be had gratis at the office of the company, No. 78 Broadway, or by mail on application, (postage paid.)

TRUSTEES OR DIRECTORS.

NICHOLAS DEAN,
ROBERT M. STRATTON,
NATHANIEL CONKLING,
D. K. MINOR,
JOSEPH S. HEARN,
SUMNER WHITNEY,
BENJAMIN C. DONNELLAN,
JAMES CLOUDSLEY
JAMES ALLEN,

} of New York.

} of California.

D. K. MINOR, President,
JAMES CLOUDSLEY, Vice President.NICHOLAS DEAN, Treasurer.
NATHANIEL CONKLING, Secretary.
New York, Oct. 25, 1852.**To Railroad Co's, Locomotive Builders and Engineers.**

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Aug. 28, 1851. 6m*

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

To Railroad Contractors.

SEALD PROPOSALS, addressed to either of the undersigned, will be received at Hillsborough, Highland county, Ohio, until the 1st day of February next, at noon.

For the Graduation and Masonry of the Middle Division of the Cincinnati, Hillsborough and Parkersburg Railway, extending from Hillsborough, Highland county, to a point near Jackson, Jackson county, Ohio, about 56 miles.

The line will be ready for examination early in January, and Profiles and Specifications of the work will be exhibited at the Engineer's office, in Hillsborough, for one week prior to the 1st day of February.

This Railway forms the recognized continuation across Ohio, of the Baltimore and Ohio, and North Western Virginia Railways, and being located as a link, in the great through line between Baltimore and St. Louis, will be found in every way worthy of the attention of able and enterprising contractors.

The remainder of the line to the Ohio river will be ready for contract about the 1st day of May next.

JAMES M. TRIMBLE, President.

ELWOOD MORRIS, Chief Engineer.

Notice to Contractors.*Alleghany Valley Railroad Lettings.*

SEALD Proposals will be received at the Company's Office, in Fourth street, Pittsburg, until the 22nd day of February, 1853, for doing the Grading, Masonry and Bridging on the portion of said road, between Pittsburg and Kittanning, Armstrong County, a distance of 42 miles. The line will be divided into Sections of about one mile in length, and bids may be made for one or more or all of said sections.

Plans, Profiles and Specifications will be ready for inspection on and after the fifth day of February.

Proposals will be received for the Grading, Masonry and bridging, and also for the superstructure, and finishing said 42 miles, complete, (except furnishing iron.)

Bids will be received and considered, for the entire work, (except furnishing iron,) from Pittsburg to the New York State line.

Satisfactory references will be required from bidders not personally known to the Company.

For further information, application may be made personally, or by letter, to Hon. William F. Johnston, President of the Company, or to George R. Eichbaum, Esq., Associate Engineer, or to the subscriber,

W. MILNOR ROBERTS, Chief Engineer.

By order of the Board of Managers.

Office of the Alleghany Valley Railroad Company, Pittsburg, December 20th, 1852.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally, are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

E. DEWOLF, Jr.

Oct. 2, 1852. 1y*

To Civil Engineers and Surveyors.

A CIVIL ENGINEER and Surveyor of very great experience in every detail of locating, designing and constructing Public Works, especially Railroads, is desirous of a situation, he has been engaged practically for the past sixteen years, and can produce the most satisfactory testimonials.

Address D. F. care of Geo. Gilchrist.

1 m-52

432 Washington-st. N. Y.

\$200,000 SEVEN PER CENT. CONVERTIBLE BONDS OF

the NEW-CASTLE and RICHMOND RAILROAD.—The undersigned offer for sale TWO HUNDRED SEVEN PER CENT CONVERTIBLE BONDS for \$1,000 each, of the NEW-CASTLE and RICHMOND RAILROAD COMPANY, with Interest Coupons attached, payable semi-annually at the office of the Ohio Life Insurance and Trust Company, in New York. The Bonds are payable at the same place in fifteen years and are convertible into the stock of the company within five years.

These Bonds are secured by a mortgage executed by the Company to George Carlisle, of Cincinnati, and Joseph B. Varnum of New York, Trustees of the road from Richmond in Wayne County, to New-Castle in Henry County, including the superstructure, iron rails, depots, tolls, privileges and franchises of the Company. This mortgage is the FIRST AND ONLY LIEN upon this section of the Road, which is a part of the great Trunk Railroad from Cincinnati to Chicago.

The New-Castle and Richmond Railroad extends from Richmond to Logansport, 103 miles, the whole of which is under contract, and about one thousand hands are now employed on the road.

The total amount of stock subscribed upon the whole road is \$509,400. The stock applicable to the construction of the road from Richmond to New Castle is \$250,900.

This railroad passes through the most fertile, populous and highly improved part of Ohio and Indiana, and it must become the great route for freight and travel between Cincinnati and Chicago and the Northwest.

The local business alone would be sufficient to make the road profitable. The counties of Indiana through which it runs produce annually more than two millions of bushels of wheat, five millions of bushels of corn, one hundred and fifty thousand hogs, and fifteen thousand cattle, a large part of which must be transported to market on this road.

The iron rails for more than fifty miles of the road have been purchased. Ten miles of the road, from Richmond to Washington, will be completed and in operation in November next, which will make a continuous railroad of about 70 miles from Cincinnati, by way of Hamilton, Eaton and Richmond.

The holders of the bonds will have for their security the obligations of the company, with subscriptions of stock to the amount of more than half a million of dollars, and a mortgage upon the road from Richmond to New Castle, with the iron rails, superstructure, tolls and franchises of the company.

CARPENTER & VERMILYE, 44 Wall-st.

CAMMANN WHITEHOUSE & Co. 56 Wall-st.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Sole Manufacturers, 41

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3 1849.

1y

Gerard Raiston,21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE**PURCHASE AND SALE OF
AMERICAN SECURITIES,**

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co., London.

" Curtis, Bouve & Co., Boston.

Richard Irvin, Esq., New York.

Robert Raiston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

3y

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

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SATURDAY, FEBRUARY 5, 1853.

[WHOLE No. 877 VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, February 5, 1853.

Accidents on Railroads.

Report of the committee appointed by the Legislature of New York to examine and report the causes of railroad accidents, the means of preventing their recurrence, &c.

STATE ENGINEER'S OFFICE }
Albany, Jan. 10, 1853. }

The select committee appointed by resolution of the Senate, on the 15th of April last, by which they are required to examine and report to the Legislature, at the commencement of its next session, the causes of railroad accidents in this State, the means of preventing their recurrence, and their opinion whether any, and, if so, what legislation is required on the subject, respectfully

REPORT:

That they have deemed it necessary, in order to comply fully with the requirements of the resolution, to examine, personally, the principal railroads in the State, as the best means of obtaining information from the various agents and officers of the companies, of making themselves acquainted with the characteristics, workings, and management of the roads, and as most likely to lead to suggestions calculated to prevent the recurrence of accidents.

They were aided in their examinations by the professional skill and experience of several gentlemen connected with the management of railroads in this State, and were also accompanied by Senators Smith and Monroe, of the standing committee on railroads in the Senate, who had been invited by the officers of several companies to examine their roads, with the committee.

The following companies have failed to reply to the interrogatories:—The Albany and Schenectady, Albany and West Stockbridge, Buffalo and Niagara Falls, Buffalo and Rochester, Hudson River, Long-Island, New York and Erie, New York and Harlem, New York and New Haven, Rensselaer and Saratoga, Saratoga and Washington, Schenectady and Troy, Troy and Greenbush, Buffalo and State Line, Chemung, Plattsburgh and Montreal, Rochester, Lockport and Niagara Falls, Saratoga and Schenectady.

The resolution enjoins upon your committee three distinct duties:

1st. To examine into the causes of railroad accidents.

2d. To state the means of preventing them; and

3d. To suggest the necessary legislation, if, in their opinion, any is required.

The general causes of railroad accidents are:

1st. Defective construction.

2d. Improper management.

3d. Impediments in the roadway.

Under the first head, are embraced defects in the construction of roadways; of superstructure, and of rolling stock.

Under the second head are included, the running of engines and trains of too great weight, and at too high a rate of speed for the grades, strength and capacity of the road; the employment of incompetent or improper agents and workmen; the want of proper and vigilant supervision; an insufficient system of signals, and want of due attention thereto; the failure of conductors to make their running time; the running of trains too closely following each other; the running of engines and cars too great a distance, without thorough inspection; an insufficiency of brake power, and insufficient examination and inspection of the condition of the superstructure and rolling stock.

Under the third head are included, slides from the cuttings; persons and domestic animals upon the track; cars, hand cars, gravel and wood trains, &c., left standing in improper situations; vehicles crossing the track; obstructions designedly placed upon the track.

I. Defective Construction.

Many serious accidents arise from the practice which prevails of opening roads for public travel before the work upon them is completed, and also from the haste in which much of it is performed.

High embankments are built in a short space of time, and frequently during freezing weather, the subsidence of which disturbs the alignment of the track.

The ballasting is frequently omitted, or only partially done, before the trains commence running. The gravel trains are run up close to the time of the passenger trains, and must be switched off in haste by the common hands, who, having other duties to perform, do this one carelessly.

The work is frequently left incomplete after it

has been once brought into use, until after some serious accident has occurred.

Culverts and bridges are frequently constructed of insufficient strength, or of an improper quality of materials, or are continued in use after they have become weakened by decay.

The great number of road crossings at the level of the grade of the railroads, are prolific causes of accidents.

The material used for ballast, is often such that the frost disturbs the level of the track, and the ballast in some cases is not filled up sufficiently to retain the ties in their position.

The cross-ties are frequently of a quality of wood which is insufficient to retain the spikes driven to secure the rails; and they are sometimes of insufficient size, and placed at intervals too distant to afford a suitable support to the weight brought upon the rails.

The iron rails are sometimes of an inferior quality of metal, and too light to support the weight and resist the shocks of the engines and cars.

When heavy trains are run over steep grades and sharp curves, at high speed, the superstructure is required to be stronger than when less objectionable grades and curves occur.

The momentum with which the wheels strike the exterior rails in passing curves, must be resisted by the strength of the iron rails; by the tenacity of the spike in the wooden cross-ties; by the adhesion and weight of the ballasting, and by the strength of the chair at the joints.

If these are insufficient to resist the blow, the roadway is disturbed, or the train is thrown off the track.

High speed, on heavy descending grades, places the train out of the control of the engine and brakes, so that if unexpected impediments are discovered on the track, or if the machinery becomes deranged, it is almost impossible to avoid an accident.

When the rails are wet or frosty, this danger is increased. Engines of greater weight are required to ascend such grades, especially where freight has to be transported, in which case, engines of enormous size are sometimes used.

The effect of such engines on the superstructure, was graphically described by one of the engineers of a road where they were used, by saying "that they rooted up the track."

There are still in use many portions of road constructed at a time when the usual weight of locomotives and trains was much less than at present, and when the urgent demand of the traveling community for a high rate of speed did not so much influence the management of railroad companies.

If the present heavy trains and high rates of speed are to be maintained, it is imperative, for the safety of the public, that the superstructure on many portions of roads now in use, should be increased in strength.

Our passenger cars, as at present constructed,

are in many respects eminently calculated to protect passengers from personal injury, in case of serious accident, and to this may be attributed the small loss of life that has, in many instances, attended frightful collisions and derailment of trains on high and precipitous embankments. In case of accidents occurring from the failure of axles, the thin flooring is no protection against the fractured axle forcing its way into the body of the car.

Much discussion has been had on the asserted change which takes place in wrought iron when subjected to repeated blows.

With the common rail, the wheel receives a shock at every joint, caused by the settling and wear of the rail in the chair. Similar shocks are received at the curves, and they are communicated with increased force to the axle in consequence of the leverage of the wheel causing constant vibration, which, it is alleged, changes the texture of the iron from fibrous to crystalline, greatly diminishing its tenacity.

Upon some of the roads we have observed that the size of the axles and journals has been greatly enlarged beyond those in common use, and it is believed that, in this State, they are generally all made of the best material, and forged in the best manner.

To guard more effectually against the accidents arising from the alleged deterioration of the iron from the causes above mentioned, it has been the practice, on some roads, to run the wheels and axles one year only under passenger cars, and then transfer them to freight cars.

The safety beams have been introduced on the bars of many of our roads, by means of which the axle is upheld when broken. This has undoubtedly been the means of safety, by keeping the fractured ends of the axle suspended until the motion of the train could be arrested; but, in many cases, it is not calculated to hold them with sufficient steadiness to prevent the wheels from leaving the rail.

The cast iron wheel is now generally in use.

The manner of constructing chilled cast iron wheels, necessarily involves imperfect work and inherent defects.

During the severe frosts of this climate, when the roadway has become very rigid, large numbers of cast iron wheels fail.

Wrought iron wheels have been frequently tried. An objection is made to their use in consequence of the flanges wearing sharp, and thus rendering them very liable to ride upon the rails.

Wheels, with cast iron tires and wrought iron arms or plates, have been suggested.

It is believed that if wrought iron wheels could be constructed, free from the objections to these heretofore tried, it would be found to result in greater safety to the passengers, and greater economy in their use.

The manner of attaching brakes is sometimes insecure, or they become so by use, and frequently cause serious accidents by falling upon the track while the cars are in motion.

Under the head of the defective construction of the superstructure, the danger of running engines and trains of too great weight, and at too high a rate of speed for the grades and curves, and for the strength of the road, has been already alluded to.

It is undoubtedly true, as alleged, that the public demand a very high rate of speed, but it is also equally true that there are rates of speed at which the locomotives and trains cannot be run over the steep grades and sharp curves of roads of imperfect construction, without a certainty of accident, and it would seem that if the community requires higher rates of speed, public safety as imperatively demands increased strength of superstructure, and the improvement of grades and curves.

The employment of incompetent or improper agents and workmen is, at this time, one great cause of accidents. The rapidly increased demand for services of this kind is, perhaps, the main reason for this. Companies, in opening their newly constructed roads to comply with the demands of stock holders and the public, are obliged to supply their various departments with agents, for whose competency and fitness they have no guaranty, and who are entirely untrained to those peculiar habits of implicit obedience to the minute rules and regulations, upon the prompt and unconditional observance of

which depends the security of persons and property. By existing enactments, the officers of corporations seem to have little or no power of remedying the difficulty. It is a fact worthy of notice, in connection with this subject, that this class of persons, entrusted with the personal safety of almost the entire travelling community, are not held by any of those legal restraints and penalties which are applied to those having in their charge the most trifling pecuniary trust.

If a system of signals is not perfectly arranged, and carried out with the most minute accuracy, and strictly observed, it leads to accidents which would sometimes have been avoided by the entire absence of such signals, because, relying upon and giving their whole attention to them, the conductors of the train do not observe any irregularity in the road.

The usefulness of signals as a means of preventing accidents, depends upon their timely exhibition, and their being so placed that they can, under all circumstances, be seen at a sufficient distance to enable the engineer to arrest the motion of his train, before reaching the point of danger. For instance, if a train cannot be stopped by a prompt application of all the means at hand, until it has passed over a space of 600 yards, a signal which could be seen only 400 yards from the point of danger would be of little use. The committee believe that many accidents have occurred, either from want of due regard to instructions in this respect, or from a want of accurate knowledge of the distances required for arresting trains under the various conditions of the track, the different gradients of the road, the weight and velocity of the train, and consequently so placing signals, as to render it impossible to avoid the danger pointed out by them.—Under any circumstances, signals are liable to the objection, that they are rather an inducement for conductors and engineers to neglect a strict observance of their running time, or to pass over unsafe portions of road at objectionable rates of speed, feeling that any danger incurred thereby will be averted by their exhibition. In fogs or thick hazy weather, or during heavy snow storms, the flag or light signal are of course useless. The fog signal, composed of detonating powder, which, being attached to the railroad explodes when the engine passes over it, should always be used under such circumstances. It has quite recently been introduced upon one of our roads, and should at once be adopted by all. Several serious accidents that have come under the observation of the committee, would have been prevented had it been used.

The failure of conductors to make their time as laid down in their time tables is a frequent cause of serious accidents, particularly on roads where numerous trains are run at different rates of speed and at short intervals.

This great fault is attributable to the incompetency of engineers, to disregard or want of attention of conductors to their time tables, to attaching trains of too great weight to locomotives deficient in capacity, thereby rendering it impossible for the engineer to make his time when the grades are heavy, or the curves objectionable, and compelling him to gain it by running at too high a speed over those portions of the road where less power is required, and thus passing switches and turnouts where trains of an inferior class are expected to get out of the way, stations at which they do not stop, or portions of the road undergoing repairs, at uncertain times and at objectionable velocity, or it may be attributed in some cases to the time being, so arranged by the tables as to render it extremely difficult, if not impossible with the utmost care and attention on the part of the conductor or engineer, to make the exact time under all conditions of the track, weather, etc. Most of the accidents that occur, are, in some way or other, due to this cause. Trains approach each other from the fact of one or both being out of time, and consequently out of their proper position. When signalled, or seen even, the intervening space may be too short for stopping, and collisions are the consequence.

Employers engaged in repairing defective portions of the road before or after trains are due, may be so intent upon their work as to render them heedless or forgetful; may be remiss in fixing signals, or, in their hurry to escape, may leave implements or other obstructions on the track, or the track may be left in a condition dangerous for the trains to

pass. Injuries to the men, or derailment of the trains are the consequence.

At stations, in the haste to gain time, passengers are hurried to or from the cars, or, in the confusion, remain in dangerous positions on the platform or steps, fall or are drawn under the wheels. Servants discharging their duties about the train, have not time to remove from exposed situations, and are often killed or injured.

When trains are not punctual as to time, the agents of stations not having, perhaps, any definite rules to act upon, are left more or less, to rely upon their own judgment, and much consideration is required at every station as to how the safety of other trains will be affected by their action. Embarrassments are produced, and accidents occur, from a want of foresight, in not thinking, in the hurry of their occupation, of all the circumstances bearing upon the trains in consequence of their being out of time.

INSUFFICIENCY OF BRAKE POWER.

One of the most effectual means of preventing the occurrence of a numerous class of accidents, is the power of promptly arresting the progress of trains. Its adequacy depends upon the number of brakes, and of the men appointed to apply them, and on the promptitude with which they discharge their duty. The extent of the necessary means varies with the weight and speed of trains, with the grades and curves of the road, and the condition of the rails and weather. There is no defect in the working of trains so reprehensible, and an insufficient provision of the necessary means for this purpose; and it is incumbent upon those having the management of trains, to ascertain with great accuracy, within what intervals of time and distance their trains can be stopped under all the various circumstances above mentioned, and to see that the brake power is always amply adequate to meet all possible contingencies arising from the nature of their road, and the character and extent of its business.

It may be well to state, that the interval of space required to arrest a train, increases in the ratio of the square of the speed; that is, with the same brake power applied, a train running at the rate of 50 miles an hour, will pass over four times the space before it can be arrested, that it would, if running only 25 miles per hour.

The safety of trains, and the prevention of accidents, being so directly dependent upon the adequacy of this power, the committee feel it a part of their duty to state, that it is one of the most apparent defects in railroad management which has come under their observation; and several of the most disastrous accidents which have occurred, may be attributed to this cause.

It is true that an increase of brake power can only be obtained by an increase in the expenses of running trains, but its importance to the safety of passengers is too great to allow it to be neglected for any considerations of economy.

RUNNING TRAINS TOO CLOSELY FOLLOWING EACH OTHER.

The dangers arising from this cause grow out of the neglect of the several trains occupying the same track to maintain their proper running time, or by accidents causing delays, or by insufficient brake power, as has been already stated.

RUNNING ENGINES AND CARS TOO GREAT A DISTANCE WITHOUT THOROUGH INSPECTION

The complexity of the machinery, and its liability to injury from the imperfections of the roadways and the high speed, make a frequent inspection necessary, to lessen the danger of accidents, resulting from this cause.

The liability to accidents originating in this manner, must necessarily be in proportion to the distance run without such thorough inspection as is necessary to discover and remedy injuries which the engines and cars receive, for it cannot be supposed that such an inspection can be made, and the remedy applied, during the short intervals of the stoppage of the trains at the several stations.

INSPECTION.

The decay of the materials which are used in the superstructure, and the severe use to which it and the rolling stock are constantly put, make a constant and vigilant inspection necessary. When

this is neglected, accidents of a serious nature must ensue.

PERSONS AND DOMESTIC ANIMALS UPON THE TRACK.

It is perhaps a just complaint on the part of the railroad corporations, that, with the existing enactments and the prejudices of the public, they have not the power to guard against the frequent casualties that arise from these causes. Cattle or other domestic animals are left by their owners upon the track, at crossings, or get upon them through gates, or bars, carelessly or perhaps designedly left open; and although it is unlawful for the public to ride, drive, or walk upon it, except at crossings it is nevertheless, constantly occurring and it is a very frequent cause of serious accidents. It is quite evident that it is impossible for companies to fulfil their engagements to the public unless they can run their trains without delays or hindrances of this kind, and that the safety of passengers requires that efficient means should be afforded for preventing them.

The right to occupy road crossings at the time when the trains are passing would imply the right of delaying all trains, and consequently causing serious inconvenience to the public. It would be unjust to exact regularity in the running of trains, and at the same time allow of obstructions which would render it impossible.

The accidents occasioned by the intrusion of cattle and other domestic animals upon the track, may, however, be attributed in some degree to a want of due care on the part of companies to see that the fences are kept in good repair.

IMPRUDENCE OF PASSENGERS AND WORKMEN.

A large proportion of the injuries received by passengers and employees, is the result of carelessness, ignorance and insubordination.

To passengers these accidents occur by attempting to get upon and off from trains; by standing upon the platform and passing from one car to another while in motion, and by exposing their persons beyond the side, of the car.

The employees must necessarily be exposed to the dangers incident to railroad management.—Many injuries are received by them while performing their duties at stations, and in coupling cars, and by exposure of their persons while the trains are in motion.

II. The Means of Preventing Accidents.

From the above enumeration of the various causes of accidents, it will readily appear how much their prevention depends upon the faithful and prompt discharge of the duties devolving upon the agents entrusted with, or in charge of the numerous departments of railroad management.

Few casualties occur, which cannot, in their first causes, be traced to some neglect or omission in these respects.

A switch may be improperly adjusted by the remissness of the person having it in charge. The signal of danger may be omitted or neglected to be observed, when made. Trains may be placed in dangerous proximity to each other, from disregard to time tables. Defects in machinery may be undiscovered for the want of careful inspection. There may be a want of sufficient brake-power, or neglect of its prompt application; and the results are the derailment of the trains, collisions or other casualties, causing serious injuries, and the destruction of life and property.

It would appear, therefore, as a general rule, that the remedy must be found in some means that will induce a more rigid enforcement of the regulations made for the management of railroads, a more prompt and implicit compliance with them by the subordinates acting under their guidance, and in a controlling influence that will induce railroad corporations, at all times, to bear in mind that the safety and accommodation of the public are the first and important considerations for which they have received their corporate rights and privileges.

It may be true that the managers of railroads, who are well aware how much the interests of their associations are involved in the prevention of accidents, do all in their power for the public safety, and that, under many circumstances, the causes which mainly endanger it, are, in a great measure, beyond their control. If so, additional legislation is required, and railroad management should be

placed under such supervision as will enable the State to obtain a thorough knowledge of the causes of casualties, to ascertain where the difficulty lies; and then, if found necessary, give to the officers of companies, such additional powers of control as may be required for the greater safety of the community.

III. To suggest the necessary Legislation, if, in their opinion, any is required.

The subject of legislation, with a view to prevent the recurrence of casualties, is, necessarily, so connected with that of State supervision over all the departments of railroad management, and involves so many important considerations in reference to the greatest benefit and safety to the public, that the committee have deemed it their duty to give to it a somewhat detailed consideration.

The right of a people to have free access to each other for the various purposes required by the conditions of society, is an inherent right, and the power of improving, or in any way altering the means adopted for these ends, cannot be taken from the public, except with their consent. The roads or means of intercommunication of a country, are, therefore, a part of the general interest, and, from the earliest periods, the sovereign power, under whatever form it may have existed, has ever held the right of controlling them for the general good. The practice, which grew up of intrusting their construction and management to associations formed for that purpose, was only a delegation of its powers, in order to secure in a greater degree, the welfare of the community. An irrevocable transfer of its powers was never designed.

In retracing the legislation of our State in reference to such associations, it will be seen that the inherent powers of the State have been distinctly asserted and carefully guarded.

The Legislature, acting for the general welfare, in granting to them such privileges as might best meet the public wants, has invariably reserved the right of modifying and controlling their privileges in any way or manner best calculated to secure these objects.

When the projectors of railroad enterprises first began to ask the necessary privileges and immunities from the State, it will be seen that these have been granted with well defined limits and conditions, reserving the right of altering or modifying them, from time to time, and of limiting the periods of their corporate existence.

The last general enactment, (the Railroad Law of 1850,) in addition to reserving the right of annulling or dissolving any corporation formed under it, and of reducing the rates of fare under certain conditions, has compelled all companies to make, annually, a detailed statement under oath, of all their operations, both with regard to finance and management, for the purpose of furnishing the State with reliable statistical information for its guidance, whenever the public welfare and safety should require additional legislation with regard to them. In no sense can railroad corporations be considered as placed beyond the control and supervision of the State. In granting them their corporate privileges, it was intended and designed that they should be used with a view to the welfare and greatest possible benefit to the community, and the sovereign power neglects its duty, if it does not guard against their being made subservient to other purposes, or if it fails so to modify and control them, as to secure to the public the greatest possible amount of benefit compatible with the full development of so great an element of industrial progress.

It is also worthy of remark, that independently of the right expressly reserved by the Legislature to modify, alter or repeal the railroad charters, their proprietors, as the grantees of a public franchise, to be exercised for the public benefit, are liable to a liberal control when necessary to the public interest, by any future Legislature, whose power over them is not to be limited by implication.

It is expedient to place railroads under the supervision of the State, to insure greater safety to the travelling community, as well as to secure the greatest amount of public benefit from them?

A long and persistent course of legislative interference with the various pursuits of commercial and industrial enterprise, and with the complex relations of supply and demand, for the purpose of

protecting the public interest, has abundantly proved the fallacy of the principle upon which it was based. Enlightened public sentiment now justly condemns any restrictions, by legal enactments, upon the free operations of traffic, and in all that relates to cheapness, facility or accommodation, the best security for the public welfare will, as a general rule, be found in the untrammelled and free competition of individual enterprise and capital.

It therefore, only remains to inquire whether this general rule of competition, when applied to railroads, will secure to the greatest possible extent, the safety of the travelling public and the general welfare, and whether, with these objects in view, the State has done its whole duty in granting to them the exclusive rights and privileges required for their successful operation.

As regards intercommunication by railroads, as compared with any other mode at present known, it requires no argument to show that there can be no competition, and that, until human ingenuity shall have developed some new element applicable to such purposes, they are in possession of an unapproachable monopoly, exclusive just in proportion to their superiority. The same may be said with regard to competition upon any single road or series of roads under one control or management. At one time it was supposed that the traffic upon them would be open to competition, and that by this means the greatest possible benefit to the public would ultimately be secured; but it has long since become apparent that their indiscriminate use by the community is impossible. The accidents that now so often occur from want of due regard to time and minute regulations, clearly demonstrate how impracticable it would be to allow the running of trains by rival parties at various rates of speed on the same road, like competing stage coaches on a public highway. The safe working of a railroad requires unity of action and perfect combination of arrangement, which cannot be obtained without confining the management of its carrying traffic within the limits of its general control. Hence, all companies have now the exclusive management of the entire business upon their roads; and this arrangement seems an absolute necessity, without which the whole railroad system would soon become impracticable; showing conclusively that the principle of competition is inapplicable and can never be calculated upon as a means of securing any additional safety or benefit to the community.

May not these advantages be secured from the competition between rival lines running in similar directions, or having the same termination?

The principal lines of road in this State passing as most of them do, through portions of country sparsely populated, the resources of which are as yet but partially developed, cannot be expected, at this time to furnish in their operations any statistics or reliable facts from which to estimate the probable advantages the public are likely to derive from their competition. It would seem, however, at present, in reference to reduced rates of traffic or accommodation along their route, or regard for the safety of passengers, that little, if any increased amount of public benefit has been attained; and it seems doubtful even when these shall have received their full capacity for business, (many of them being yet unfinished,) and perfected in all their various departments whether the principle of competition will apply to them. It undoubtedly will not, except in very populous districts, where the business is likely to be enough to afford adequate incomes to rival lines; but even in such a case, it may be questioned whether the public interest is enhanced by competition. Our large cities which may be the common termini of a great number of roads may perhaps derive additional benefit from competition for the traffic that passes over the whole extent of their routes, but the community along the intermediate portions, where there is no competition for the way business, receive none of its benefits, but are, on the contrary, often disproportionately taxed, and deprived of many of the facilities which are their due. To enable the companies to secure the through traffic.

Take it for granted, that a large portion of the cost of transportation consists of the amount of capital expended, it is evident that an equal amount of business could be done much cheaper, with

the same profit, on one line, than if the same were divided between two, with an outlay of twice the amount of capital; consequently, the general welfare would be more effectually promoted by a single road properly restricted, than by competition between rival companies.

The ultimate effects of competition would be diminution of revenue, embarrassments in meeting current expenses inability to maintain the roadway and material in an efficient and safe condition, and a proportionate diminution of the facilities of traffic and of the adequate means of safety to the traveling public.*

But, admitting the benefits of competition—there can be no guarantee to the public that it will be continued. The advantages to be derived from combination between rival companies, having no competition to fear from any other known mode of intercommunication, are so obvious as to leave little doubt that an amalgamation of their interests in some manner would be the ultimate result. In England, where the great number of railroads running through a comparatively limited space of territory, would sooner test the question of competition than here, experience has abundantly proved the correctness of these views. Close competition has been maintained in reducing rates of traffic, and furnishing additional means of preventing casualties, and the community have, for a time, enjoyed the consequent benefits. These contests, however, have always ended, as they inevitably must, by combination, or some other arrangement which has deprived the community of all the advantages to be expected from competition.

As early as 1846, a select committee appointed by Parliament "to inquire whether conditions might not be embodied in railway acts, better fitted than those hitherto in them, to promote and secure the interests of the public," expressed their opinion, very decidedly, as to the hopelessness of looking to competition for the means of securing the interests of the public—stating the fact "that the more powerful companies had not only obtained the control of railway lines from which competition might be apprehended, but had also succeeded, by various means, in obtaining a control over the canals, which, for a time, maintained competition with them in the carriage of heavy freight, and had thus deprived the public of all the protection at one time anticipated from this source." Nearly all the witnesses that appeared before the committee, comprising gentlemen of the highest character, connected with railroads, gave it as their opinion "that the public can never be benefited by the competition of companies." Mr. Robert Stephenson was of the opinion that the power of supervision should extend to vetoing the construction of competing lines to protect the public against the increased rates of traffic that would be necessary to remunerate the additional capital employed for that purpose.

It would appear, therefore, that the principle of competition cannot, as a general rule, apply to railroad corporations, and that the interests of the community should not be left to its operation as in ordinary business enterprises; that they must, from their peculiar elements be, in a greater or less degree monopolies, and necessarily liable to the evils of monopoly. These evils are not probably, as great at this time as they may be hereafter, when the system becomes more perfectly developed, and placed under the management of persons less disposed to show deference to public sentiment; nor are they as yet very perceptible to the public, from the fact that they are not apparent in any direct loss to the community; for railroads under any system must be a great benefit, but consist rather in depriving it of the additional advantages it would otherwise obtain. It is nevertheless due to the community that the tendency of these evils should be

checked, and if the above views are correct, it is incumbent upon the State to place the whole system under such control and supervision as may be deemed necessary to secure the greatest amount of public benefit compatible with a due regard to the pecuniary interests involved in the operations of railroads.

It may be urged that it would be unjust to subject railroad corporations, which have done so much for social advancement, to any interference which is not applied to other industrial associations.

It must be replied to this, that companies formed for mercantile, mechanical or commercial purposes, are generally private in their character, and their operations have but little effect upon the community beyond their individual stockholders. On the other hand, railroad corporations, by means of the great powers granted to them, are building up a system of intercommunication so superior to all others, as to compel its exclusive use by the community. There were 2,500,000 tons of freight and 10,000,000 passengers carried upon our railroads the past year, and there is already invested in them the enormous sum of \$100,000,000. This amount must be greatly augmented for some years to come, in laying down double tracks, in completing roads already commenced, and in constructing others that now are or may be hereafter projected. They will soon monopolize the entire passenger and a portion of the freight transportation of the State. They must move our troops and munitions in time of war, and perform the mail service. "Their management, therefore, involves public and social interests of vast magnitude," and, although much praise is due to the individual enterprise that has so rapidly developed this great element of social progress, it must be borne in mind that these associations owe their origin to the legislative will, and the great public interests affected by their operations, making it the duty of the State to exercise a careful supervision over them; and, if required, to modify their powers from time to time.

If these views show the necessity of supervision, we are next to inquire in what manner it should be exercised. Should authority be given to interfere with the details of railroad management, to regulate the running of trains, to arrange time tables, to appoint and remove, or otherwise punish employees for neglect or violation of duty, &c. It is possible that instances may occur where interference of this kind might be necessary, but the committee can see many reasons why recourse should not be had to it, at least until it shall become apparent that the object in view cannot be attained by other means. The working of a railroad requires the accurate arrangement of a great variety of details, and a prompt discharge of all the duties assigned to the several departments of its management. To divide the authority from which the regulations necessary to effect these objects must emanate, would give rise to confusion and embarrassments; engender bad feelings and hostility on the part of companies, take from the officers their responsibility, and might result disastrously for the safety of the public.

The committee therefore, entertain doubts as to the beneficial results of any legislation at this time, having for its object direct interference. They are, however, of the opinion that the public safety and welfare would be enhanced by placing railroads under the rigid supervision of the State, giving to the authority created for that purpose such powers as will enable it to obtain full information in regard to the management of all corporations formed for such purposes; to see that their corporate powers are not exceeded, to the injury of the public, and that the legal requirements in relation to them are fully complied with; to call for the most accurate returns and statistics and to give the most ample and unreserved publicity to all the details of their operations for the purpose of enabling the community to judge from the representation of responsible and disinterested authority, of the skill and fidelity of their management. Power should also be given to investigate and ascertain all the facts and circumstances in relation to casualties, with a view to suggest the best means of preventing their recurrence, as well as to protect companies upon whose lines they occur against false statements and misrepresentations in relation thereto. Such authority, properly constituted with am-

ple powers of supervision, would, in the opinion of the committee, be enabled to correct many of the abuses of railroad management, merely by investigating them thoroughly and bringing them before the community. Their publicity would, of itself, suggest the remedy, and public sentiment would soon compel its application.

Should this, however, prove insufficient, the information and facts thus carefully obtained and reported annually to the Legislature, would form a reliable basis for any further enactments that might from time to time be deemed necessary for the public safety and welfare, care being taken to impose no unjust restraints upon the individual energy and enterprise to which so much is due for the rapid growth of our railroad system,—to lay no obstructions in the way of this mighty engine of industrial progress, but rather to guide it in such a manner that the whole people may enjoy to the fullest possible extent the countless benefits developed in its onward career.

All of which is respectfully submitted.

WM. J. McALPINE,

State Engineer and Surveyor.

HENRY E. BARTLETT,

Chairman of Committee on Railroads, in Senate.

Little Miami Railroad.

ANNUAL REPORT FOR THE YEAR 1852.

The reports of this Company, for former years, have explained so minutely its affairs, that it is not necessary to add much to the accompanying statements of the Superintendent and Treasurer. During the past year, a favorable season for business, and a highly prosperous condition of the country, have fairly tested the capacity of our road, by throwing upon it a large amount of business, which has been transacted with facility and promptness, and in a manner, as we have reason to believe, in every way satisfactory to the public. Although several rival communications have been opened, there has been a steady increase both of passengers and freight, and nothing has occurred to diminish our confidence in the favorable location and attractiveness of our route.

We may congratulate ourselves upon the degree of comfort and safety which has attended the transportation of passengers over our route. Under a full sense of the responsibility imposed upon carriers entrusted with transportation of passengers, and desirous to establish for our road a high character for care and punctuality, we have given to the subject the attention which its importance demands, and we believe in no instance has the comfort of our passengers been intentionally neglected, or their lives wantonly exposed to danger. During the ten years that our road has been in operation, the number of passengers have increased from 6,400 carried in 1843, when a part only of track was in use, to 212,687 for the year just finished, the whole number carried in the ten years being nearly One Million of persons, or an average of one hundred thousand per year, or two hundred and seventy-four per day. It appears, then, that the present number of passengers is about five hundred and sixty-three per day; and that the number carried in the last year is double the average number for the entire ten years. These facts are shown in a table annexed, and it is worthy of remark, that while the increase during the first four years was due principally to the annual extension of the road, yet that the ratio of increase has been equally great since its completion, and that it has been greater in the last than in any previous year. There has been a vast increase of travel throughout the whole country, from causes of a permanent nature, inseparable from the growth and extension of its business and population, and so long as the same sources of prosperity continue, we may reasonably expect a steady advance of our income, even though rival roads and new channels of commerce may be opened. The State of Ohio occupies a position so central, in respect to the other States, and so peculiarly connected with the great arteries of trade and travel, that in any general system of communication, a liberal share must flow through her territory: and the experience of every day satisfies us that our road is so happily situated, that it must always command a fair proportion of the general business.

* Mr. William Reed, who was at the time extensively connected with railroads in France, stated in his testimony before a committee of the British Parliament, that the lamentable disaster that occurred between Paris and Versailles, by which upwards of one hundred lives were sacrificed, might be traced, in its first causes, to the competition between the two rival roads then in operation, the company being so crippled in its resources thereby, that it was unable to keep its machinery and other material in a proper condition.

During the ten years of the operation of our road, but two occasions have occurred resulting in loss of life by passengers; on one of which a passenger was killed by attempting to get upon the train while it was in motion; on the other, a passenger persisted in mounting to the roof of a car, after being repeatedly warned by the conductor not to do so, and without the knowledge of the conductor at the time, and was swept off in passing under a bridge. In ten years, and in carrying near a million of persons, not a life has been lost by accident to the trains, or neglect of persons in our employ.

Since the last report, a decided change has been produced in the character, as well as in the amount of our business, by the opening of new communications with the Atlantic cities. By the Lake Shore railroad, we now have access to New York, and the other Eastern cities, by an uninterrupted railroad communication; and by the Cleveland and Pittsburgh line, we are in like manner connected with Philadelphia and Baltimore. The reduction of time and expense, and the increased safety of transit thus introduced, has rendered apparent a result which has for some time been anticipated—that of changing the destination of large masses of our produce. Nearly three thousand head of horses and cattle, on their way to New York, have passed over our road, instead of being driven over the mountains; and this is but the beginning of a very important item, as it is now well understood that live stock, not only from Ohio, but from the rich pastures of Kentucky, can be carried in cars more advantageously than they can be driven, and will hereafter seek the Eastern markets by railroad transportation. It will be seen, too, that more than 5,000 hogsheads of tobacco have gone to the Atlantic cities over our road, instead of seeking a market at New Orleans. This fact, with others which might be mentioned, afford significant indications of a change about to be introduced by railroads, by means of which large masses of the produce of the West, and even the South-west, which heretofore found a market by way of the Mississippi river, will now reach the consumer by a more direct route, through the Atlantic cities.

The Baltimore and Ohio railroad, having nearly reached its terminus at Wheeling, and there being a prospect of the early completion of the branch to Parkersburgh, we look forward with satisfaction to a connection with that magnificent work, at no very distant day. Two routes are presented to our attention as proposing to effect that connection—the Cincinnati and Belpre, and the Cincinnati and Marietta railroads. The latter has been located from Marietta and Belpre to a point not far distant from the junction of the Little Miami railroad at Lovelands, leaving its western terminus unsettled; lettings have been made, and it is understood that a considerable amount of grading and bridging have been done along the portion located. The Cincinnati and Belpre road has been completed from Lovelands, where it connects with our track, to Hillsboro', a distance of nearly 40 miles, over which the cars are now running; it has been located to Jackson, in the iron region, 56 miles further east, and lettings have been advertised. These roads having nearly the same terminus, and traversing the same region by parallel lines diverging but little from each other, are necessarily rivals, and it would not become us, offering, as we do, connections with either or both of them, to make any remark as to their comparative advantages or their prospects.—Both roads traverse highly productive districts of country, and will be valuable adjuncts to the trade of Cincinnati, and to the business of the railroads with which they may connect. The Hillsboro' road has already proved a valuable tributary, having during the present season thrown large amounts of produce on our road, including more than forty thousand hogs. The other route, passing through the city of Chillicothe, and penetrating the best part of the extensive and fertile valley of the Scioto, presents a very desirable connection, if the connection shall be rendered possible by the adoption on her part of the Ohio gauge.

The Cincinnati, Wilmington and Zanesville railroad, uniting with our road at Morrow, is making a fair progress towards completion under favorable auspices. It passes, through its whole length, over one of the finest agricultural districts of Ohio, with but little curvature and light grading, and

will afford a most valuable channel for business, as well as an attractive route for travellers.

The railroad from Springfield to Delaware, thence by Mount Vernon, to connect with the Ohio and Pennsylvania railroad at Loudonville, is also in progress, and advancing prosperously; and when completed, will offer a direct line of communication from the eastern terminus of our road to Pittsburgh, and an attractive route for the general through-travel between Cincinnati and Philadelphia, besides affording access to a fine agricultural region.

Whether all the important lines of road above alluded to will pass over our road into Cincinnati, is not settled, and probably will not be until their completion; but seeing clearly, as we think we do, the importance to all concerned of avoiding unnecessary competition, it is our policy to offer every fair inducement to such companies as may find it convenient. To this end, as well as for the convenient dispatch of our own business, the efforts of the board have been steadily directed to the improvement of our road, the increase of the machinery and other facilities, and the enlarging of the capacity of our tracks and depots for the transaction of business. We have now a solid, well-settled road bed, which has been straightened, repaired, and strengthened; and an excellent superstructure, well laid and smooth. The greater part of the road has been fenced in, and the remainder of this important work will soon be completed, and the whole track protected from the intrusion of cattle. A double track has been commenced, and will be extended from year to year, as rapidly as the business of the road shall require, with an especial view to the accommodation of the additional trains and business from other roads which may become connected with us.

Our depot arrangements at Cincinnati will be of the most liberal character, and will afford convenient accommodation for any aggregate of business, however large, which may be concentrated here.—To this end, we have secured extensive grounds, binding upon the river and upon Front street, affording easy access from the streets of the city on one side, and from the river by our own landings on the other. Any extent of buildings which may be required for depot and warehouse purposes, with all the facilities for the transaction of every description of railroad business, may be accommodated upon our ground, which has been purchased for the purpose.

For the purpose of meeting the expenditures which may be necessary in laying the double track, building depots, etc., an addition to the cash resources of the company will be requisite, and it is thought that the present is a favorable time for making the provision for the entire amount that may be desirable. It is proposed, therefore, that an issue of the six per cent. bonds of the company be now authorized, to the extent of one million, or a million and a half of dollars, payable thirty years after date, to be secured by mortgages on the road, but which shall be thrown into market, in parcels, from time to time, as the funds may be required for use.

The financial condition of the company will be understood from the Treasurer's report, and the tables appended, to which I respectfully refer the stockholders.

The superintendent's report will be found to contain full information as to the condition of the road, and operations, and will, I trust, be satisfactory to the stockholders.

Having alluded particularly to the railroads whose completion will probably affect the interests of our road, by directly extending its connections, I shall not consider it necessary to repeat what has been said in former reports in regard to other roads whose relations with us have been sufficiently explained. Our intercourse with the Xenia and Columbus railroad, and with the Cleveland, Columbus and Cincinnati railroad with which we have been working in connection, has been entirely harmonious and satisfactory, conducive to the mutual prosperity of the parties concerned, and to the convenience of the public.

Of other railroads with which we are, or may become indirectly connected, as partakers of the general prosperity attendant upon the successful and harmonious working of a wide-spread system of railroad intercourse, we need only remark in gene-

ral terms, as their progress and statistics are well known. The State of Indiana is becoming rapidly chequered over by railroads, uniting her most distant parts with each other, and opening free intercourse between the Lakes and the Ohio river in one direction, and with Ohio and Illinois in the other. The railroads of Ohio will soon be connected with those of Indiana by means of the Ohio and Mississippi railroad, the Lawrenceburgh and Greensburgh, the Cincinnati, Hamilton and Dayton, and various others. Kentucky, which will soon be connected with our system by tracks leading from Covington, to Lexington, and to Louisville, is reaching her arms to the South. Through her borders, the connection with Nashville is not far distant; and the further connections with the Atlantic ocean at Charleston, and with the south-western States bordering on the Mississippi, are now within the range not only of probability, but of early expectation.

JACOB STRADER, *President.*

December 1, 1852.

The cost of the road and equipment up to the date of report was, \$2,631,157, or \$31,546 per mile. The receipts for the first year were \$526,746; running expenses, \$212,476; leaving \$314,270 as net earnings, out of which have been paid two semi-annual dividends of 5 per cent. each, and an additional one of 5 per cent in stock, out of the surplus fund.

The capital stock of the company is \$2,370,787 15. The balance of the cost of the road is represented by loans. The surplus earnings on hand Dec. 1, 1852, were \$43,256 36; amount credited to depreciation fund \$80,000.

As prosperous as this work has been for the past few years, it has the prospect of a very rapid increase of business for the future. The rapid progress of railroads in the West has a tendency to add largely to the business of those already in operation, and none will profit more by their construction than the Little Miami.

Statement showing the annual increase of passengers.

No. of passengers, 1843.....	6,400
" " 1844.....	21,286
" " 1845.....	44,760
" " 1846.....	54,265
" " 1847.....	78,342
" " 1848.....	87,555
" " 1849.....	100,970
" " 1850.....	144,486
" " 1851.....	174,089
" " 1852.....	212,687
	924,844
Add for commutation and free passengers..	56,460
	981,304

Canada.

St. Lawrence and Atlantic Railroad.—The annual meeting of this company was held at their office, in the city of Montreal, on the 19th of January last. Mr. Holmes, the Vice President, submitted the reports of the directors and officers, which were received and adopted.

The report of the directors states that during the last year the works of the company have been carried forward with the design of completing the road, to a junction with that of the sister company, (the Atlantic and St. Lawrence) early in the ensuing summer. The progress already made warrants the belief that the direct communication between Montreal and Portland will be opened in time to secure all the advantages of the passenger traffic the coming summer will offer, as well as the western produce which may be demanded in the course of the next season, by the eastern markets destined to be supplied hereafter by this route.

On the 11th of Sept. last the section from Richmond to Sherbrooke was opened to the public, and since that time an extent of 95 miles of road has

been in full operation, supported by a highly encouraging amount of local traffic, both in passengers and goods. The fourth section, extending from Sherbrooke to the Province line, at the intersection of the Coaticook river, a distance of 31 miles, was early in the season divided into sub-sections, and contracted for at reasonable prices.

At the present session of the legislature an amendment to the Acts of Incorporation of the company was applied for and obtained, to the effect of extending the company's powers, and permitting the application of its funds to the construction and working of the section extending from the Boundary line of the Province to Island Pond in the state of Vermont, the point to which the Atlantic and St. Lawrence railway is extended. The proprietors are aware, that looking to the plain advantages accompanying the adoption of the Island Pond route, both in respect to the future economical working of the road, and to the means which this route secures to the company, of hereafter participating in the traffic of the Connecticut Valley northward, it was considered advisable that this short section should be undertaken by the company. Accordingly, although the powers requisite to be obtained from the Legislature of Vermont have not yet been received, means were found for entering into a secure contract for the construction of this part of the line for account of the company, the work to be completed by the 1st of July next. The work of the Island Pond section is generally light, and the contractor evinces the fullest confidence that it will be duly completed within the time specified, and correspondingly with the remainder of the company's road on the northerly side of the Boundary line.

The sister corporation of Portland have evinced the greatest energy in the prosecution of their share of the undertaking. Their trains have been for some time running daily to the Connecticut river at Northumberland. Their road bed is nearly completed throughout the distance to Island Pond, and their contractors are now proceeding with the laying of the track to that point. There is no doubt of their having their entire line completed for the passage of locomotives within a very short period.

The resources of the company have been supplied largely by the provincial government. The sum received within the year, on account of the claim of the company under the Provincial Guarantee Act, was £310,524 9s 6d.

The first issue of the Provincial Guarantee bonds for account of the company, was £400,000 sterling; of this £100,000 sterling were received in 1851, and £225,000 sterling, as just stated, in 1852, the balance remaining in the hands of the government, on 30th November last, having been accordingly £45,000 sterling. This balance has been since paid to the company; and at the same time, the total amount of the claim for public aid has been extended from £400,000 sterling, to £467,500 sterling—being one-half an admitted total ultimate cost of the railway and its equipments, amounting to \$935,000 sterling, or £1,137,583 6s. 8. currency.

The Island Pond section has been provided for by means of a distinct loan raised in England, on Sterling bonds, at 7 per cent. interest, for the amount of £30,000 sterling. Of this amount £50,000 sterling has been realized on 30th November last, for which the disbursements for the section up to that time has been met. The balance of the loan has been since raised, and is now held to meet the cost of the remaining works. Since the close of the financial year, the president of the company has proceeded to London to negotiate for the company the sale of the balance of the provincial bonds to be received, amounting as before mentioned to £67,550 sterling; and he will probably be enabled at the same time to effect arrangements for the loan on favorable terms, of such further sum as it may appear requisite to provide for effectually completing and equipping the railway for the performance of the anticipated traffic.

The company have punctually met all liabilities for interest on their loans, having found in the receipts realized from the traffic for the year, resources nearly sufficient for this purpose.

The anticipation is confidently expressed that the through business of the road between Montreal and Portland will exceed its original estimate as much as the way traffic to Sherbrooke and the interme-

diate stations, which has exceeded all the expectations that could be formed of it.

The gross receipts for the year ending the 30th Nov. 1852, have been:

From passengers.....	£11,770 11 1
From freight.....	32,341 6 7
	£14,111 17 8

Of passengers the total number carried for all distances, has been:—

First class.....	16,952
Second do.....	34,673
making a daily average of	
First class.....	60 and
Second do.....	111 persons.
and furnishing an average daily receipt of	£34 17s.

The expenses of the year under all the heads of maintenance of way and works, motive power and carriages, fuel and oils, salaries and wages, ferriage across the St. Lawrence, and all incidental expenses—have amounted to \$19,996 1s. 6d., being a proportion of the gross receipts equal to a fraction only more than forty-five per cent., and leaving, as the net income of the road for the season, £24,115, 16s. 2d.

The following statement contains a view of the the company's affairs on the 30th Nov. last.

The total cost of the fixed property of the company, including site, road-bed, superstructure, rail bridges, buildings, wharves and fixed machinery has been.....	£925,060 10 7
The movable property, being the engines, carriages, snow ploughs, etc.....	69,603 16 10
Materials on hand.....	6,242 10 7
	1,003,942 18 1
Less certain incidental receipts as forfeited interests, etc.....	7,703 4 3
Total outlay.....	£996,239 13 10

The sources from which this amount has proceeded, are:—

1. Funded debt—bearing 6 per cent interest.....	£536,666 13 4
Bearing 7 per cent. do.....	56,955 15 11
	£593,622 9 3
2. Unfunded debt—amount bills, accounts, etc.....	165,852 2 11
Less funds in hand, or to be immediately received.....	98,243 12 4
	67,608 10 7
Shares—preferential.....	125,000 0 0
Original.....	210,008 14 6
	355,008 14 0
	£996,239 13 10

The net receipts of the railway for the year 1850, 1851 and 1852 have amounted to £41,577 6s. 9d. while the total amount of interest accrued and paid by the company on all the funded debt is £42,213 3s. 6d. A great part of this debt has been incurred for the construction of the part of the road still unproductive from being incomplete.

The cost of the 3rd Section, which, up to the 30th of November, had been in operation less than three months, is £170,000. The direct outlay on the 4th Section, over which the locomotive has not yet passed, amounts to the present time to upwards of £150,000. If the interest accruing on these sums for their respective periods of time were distinguished from that on the debt strictly borne by the portion of the road producing returns from its employment, the total charge against the income of the road would be less than £30,000, and there would remain a surplus of income applicable to the payment of a fair dividend on the shares paid up and constituting the net capital stock of the company.

While, however, the railway is still in the course of construction, and while it may be yet necessary to take up further monies for its final completion,

the directors have been unwilling to proceed in the recommendation of the payment of a dividend on the shares without a previous opportunity of submitting the circumstances to the proprietary. In an undertaking of this nature and extent, it is desirable that the income realised should be at all times strictly distinguished from the capital invested in the extension of the work; and the relations borne by the company towards the Provincial Government furnish, perhaps, an additional reason for attention to this point. The former half of the railway—the portion which has produced the income of the three past years—has borne the charge of all the interest accrued in the course of its construction, as well on the subscribed shares in the capital stock which supplied the first resources as on the debts next raised in addition. The latter half of the line might justly be made to support a similar charge, as a part of its cost; but it is perhaps most advisable to make no change in the application of the resources until after the opening of the entire line in the approaching summer. The company has the fairest prospect of being then finally relieved from the doubts and difficulties which attended the former parts of its course, and of obtaining a certain and immediate view of a fair return on the entire capital invested in its undertaking. The proprietary may then equally as now participate in all the advantages which shall have been realized—whether prior to or after the present period; and a forbearance evinced in the meantime must tell favorably on the credit of the Corporation, wherever its affairs may be inquired into.

The gross receipts arising from 9 months use of 72 miles of road extending to Richmond, and three months use of 96 miles extending to Sherbrooke furnish a gross return of £560 from each mile per annum. A return of £1,000 per mile on the completion of the road will afford to the stockholders a very liberal dividend. The way traffic was lightly considered in the original estimates, but it already amounts to more than half of that required to cover a larger expenditure than was at first contemplated.

The transportation of firewood for the city, and of sawn lumber of all kinds, is proceeding on an extensive scale. Squared pine timber, it is found, can be advantageously brought forward by the road for export to the United States, and a large quantity is being prepared with this object. Birch and other hard woods, with staves, oars, and hand-spikes, are being manufactured in the forests of the Eastern Townships, for conveyance to Quebec via the railway to Longueuil. In Kingsey, induced by the means of conveyance offered, extensive Slate Quarries have been opened, and are promised a large demand. These are only a few of the numerous cases in which the construction of the railway is itself the origin of a production, furnishing valuable traffic in return.

The unfunded debt existing on the 30th November last amounted to £165,000, and the estimate of the work remaining to be executed including a large equipment now in preparation, was about £225,000. On the other hand, £54,000 has been since received from the Government, and on the Island Pond loan has been received £49,000.

The balance of the company's claim for the provincial aid, as now extended, is £67,500 sterling, or about £85,000 currency. The directors have no doubt of their ability, through the assistance of the President of the company already mentioned as being about to proceed to London for the purpose, to negotiate the company's bonds for a sum corresponding to the bonds of the Provincial Government, which he is authorised to dispose of. Nor have they any ground to doubt that with the former provision in the form of loan, the remaining resources of the company will be quite sufficient to carry forward the works to their completion, so far at least as to permit the railway to show fairly, the result which is to attend its opening for the traffic between the St. Lawrence and the Atlantic ocean.

If the prospects of business are realized, a larger equipment and further accommodations for storage must be supplied. The early completion of the

Quebec and Richmond railway may now be considered certain, and the traffic of Quebec and the southern shore of the St. Lawrence will swell the future receipts of the lines of the company.

The European and North American railway promises to be early executed to the effect of securing the business of the Lower Provinces and the passenger travel between Europe and Western America to this company. It will be found to constitute a main connecting link in a chain of railway communication extending from one extremity of the Province to the other,—joining the St. Lawrence to the ocean at Portland, a city and Port offering the finest accommodations for an extensive trade,—and stretching along the front of New Brunswick, through Nova Scotia to Halifax, the port of the American Continent, the nearest to Europe, while on the West the same great line is already extended to Lake Michigan, and the Mississippi, with the full appearance of being destined to be limited in that direction, only by the limits of the Continent, the shore of the Pacific ocean.

The important scheme of bridging the St. Lawrence at Montreal is alluded to in the report. Its practicability is considered no longer doubtful, and it is recommended that it should be used in common by all the railways requiring an access to it. The directors however consider the future business of the St. Lawrence and Atlantic railway sufficient to justify the company undertaking the work, rather than to be excluded from the fairest competition for the transportation of the produce of the West towards the city of Montreal.

The meeting confirmed the election of Mr. Holmes, as director, in place of Mr. Morin who resigned on the 2d June last.

The following resolution was then moved by the Hon. John Young, seconded by A. M. Delisle, Esq., and carried:

That, whereas the construction of a bridge across the St. Lawrence, connecting its Southern bank with the Provincial canals by rail, has become a matter of imperative necessity to the best interests of this city and of the Provinces; this meeting is of opinion that no time should be lost by the directors of this corporation in appointing some of their number, especially to communicate with the directors of the Grand Trunk railroad, as well as with other corporations, and report, as speedily as possible, as to the best means of commencing and constructing this important public work.

New Jersey Railroads.

Below we give abstracts of the returns made by three of the New Jersey railroads to the legislature of the state, under date of January 1, 1853.

Camden and Amboy railroad, and Delaware and Raritan canal. These two works belong to the same company.

The statement of this company is as follows:

Capital stock paid in of the railroad....\$1,500 000
Dueto of the Canal..... 1,500,000

Total.....\$3,000,000

The funded debts of the companies are loans of \$800,000 at six per cent., \$200,000, 5 per cent., \$225,000, six per cent., \$367,000, five cent., \$800 000, six per cent. There has been issued a loan of \$185,500 for the stock of the Philadelphia and Trenton railroad, since converted into dollar bonds at 4 80 100 per £ sterling at five per cent.

Also, by authority of the legislature the subscription to the Belvidere railroad. Freehold and Jamesburgh & Flemington railroad \$1,175,000 at 6 per cent.

Cost of the Camden and Amboy rail-

road and equipment.....\$4,327,493 87
Cost of canals, etc..... 3,040,506 41

Total.....\$7,368,005 31

Receipts of the road for the year ending Dec. 31..... 1,388 385 53
Expenses..... 999 971 59

Total.....\$478,413 94
Cash dividends of 10 per cent. have been paid.
Receipts of the Delaware and Raritan canal.....\$376,605 11
Expenses, etc..... 132,048 48

The following is the statement made by the New Jersey railroad, showing its condition on the first Jan.:

Capital stock paid in..\$2,197,840 00
Funded debt..... 476,000 00
Floating debt..... 85,627 37
Profit and loss, being surplus earnings expended in construction, etc..... 376,361 46
Dividend payable Feb. 1, 1853..... 109 892 00
Total.....\$3,245,720 83

COST OF RAILROAD AND EQUIPMENTS.

Construction of road..\$2,535,607 30
Locomotives, tender & snow plows..... 76,247 34
Cars, passenger, freight and baggage..... 75,000 00
Property, viz: bridges, turnpike, and other stocks, real estate, ferry boats, and fixtures..... 413,049 72
Cash..... 145,756 41
Total.....\$3,245,720 83

\$558,806 19

This property, which with \$302,160 capital yet to be paid in, is applicable to the payment of the above debt.

The following table will show the number of passengers and of tons of merchandise, etc., conveyed on the road during the year 1852:

	Passengers.	Freight.
Whole line of the railroad.....	212 982½	692½ tons.
Jersey City and Newark.....	731,929½	20,661 "
Jersey City and Elizabeth-town.....	72,034	2,183 "
Jersey City and Rahway..	70,195	4,213 "
Jersey City, Uniontown and Metuchen.....	8,832 "
Jersey City and N. Brunswick.....	59,304½	4,341 "
Jersey city, all intermediate places.....	443,792½	2,516½ "
Total.....	1,592,070	34,656½

Number of miles run by passengers, freight and other trains.....270,480

The receipts and expenses for the year were:

From passengers.....\$530,695 51
From freights..... 52,122 84
From other sources..... 21,123 98

Total.....\$603,942 33

Disbursements..... 287,682 46

Interest on bonds..... \$32,436 33

Transit duty on passengers and freight..... 13,081 29

Tax on capital stock..... 10,490 60

Dividend in cash..... 209,892 00

Total.....\$50,359 63

The above are old and well established companies, and have paid large dividends for a series of years. They make up a portion of the two routes between New York and Philadelphia.

The following is the statement of the New Jersey Central Company.

Capital stock actually paid in.....\$986,100 00

Mortgage bonds..... 1,500 000 00

Other indebtedness..... 277,765 59

Balance net earnings.....\$87,759 08

Less interest..... 62,544 80

Total.....\$25,214 28

Cost of road, equipage, &c.....\$2,789,079 87

The receipts are as follows:

From passengers.....\$120,705 74
From freight..... 86 228 94
From other sources..... 6 807 32

Total.....\$213 742 00
Running expenses..... \$29,472 23
Repairs of cars and engines..... 17,243 07
Maintenance of way..... 9 334 49
Wood and coal consumed..... 26 787 05
Ferry expenses..... 31,559 96
Miscellaneous..... 11 542 12
Net earnings applied to construction..... 87,759 08

Total.....\$213,742 00

Two interest dividends of 3½ per cent. each paid to the stockholders in stock, fractional parts, less than a share being paid in cash, amounting to \$65,689 75.

This road is recently completed and is without railroad connections at its western terminus. These when completed will constitute the Central, a trunk line of very important roads penetrating Central and Northern Pennsylvania, and the most important coal fields of the State, and must render the above road a profitable work to its stockholders.

Canada.

Champlain and St. Lawrence Railroad.—At a meeting of stockholders of the Champlain and St. Lawrence railroad company, held on the 17th January, the Hon. Judge Gale, in the chair, the report of the directors was read, showing the following results:—

Gross receipts.....£35,247
Expenses..... 21,169

Profits.....£14,078

Passengers carried.....83 403

Tons freight.....25,576

Increase over 1851:—gross receipts £9000, 34½ per cent, and 59 per cent over 1850.

Increase in number of passengers, 23 152—38 per cent.
Do. in tonnage..... 9,260—56 "

The profits are equal to 12½ per cent. upon the paid up capital.

No. of miles run during the season.....110,000

Length of road.....miles..... 43

It was decided that as soon as the Southern interest should take up the road from Whitehall to Plattsburgh, it would be continued on to Rouse's Point, to join there with the Champlain and St. Lawrence road.

It was further resolved that the project for constructing a bridge over the river St. Lawrence between Point St. Charles at Montreal and St. Lambert, for railroad and other purposes, as designed by Thomas C. Keefer, Esq., Civil Engineer, is approved by this company, and is recommended to the favorable consideration of the Provincial government, of other railroad companies, and of the citizens of Montreal.

The following gentlemen were elected as directors: B. Brewster, John Carter, A. M. Delisle, Wm. Lyman, Hon. John Molson, Wm. Macdonald, Charles Phillips, Charles Paine, and Wm. Workman.

Maine.

Somerset and Kennebec Railroad.—We understand says the Skowhegan Clarion, that arrangements will be made during the present month, to put a portion or the whole of the railroad between this place and Augusta, under contract for building. The prospects of this road now being built is more cheering and certain than at any former period. All opposition having been withdrawn on the part of the Penobscot road, we may within a reasonable time expect to see the iron horse coursing up and down the valley of the Kennebec. The Kennebec and Portland railroad has contracted to lease the road, when built, for a term of twenty years, guaranteeing six per cent interest, they furnishing the road. Should the net earnings of the road be more than six per cent. the surplus to be equally divided between the two corporations.

We further understand that the books will be

opened in a few days along the whole line of the road, and it is to be hoped that every man will put his shoulder to the wheel and help along this great work.

American Railroad Journal.

Saturday, February 5, 1853.

Northern Pennsylvania.

The public mind has been so much engrossed by the progress of our railroads in the Western and Southern States, that an extensive section of country near at hand, and one of the richest, if not the richest, in soil and valuable minerals, and destined soon to be one of the most important fields of railroad enterprise in the United States, has been almost entirely overlooked; we mean Northern Pennsylvania. It must be regarded as a remarkable fact, that with the wonderful expansion of our railroad system, two-thirds of a great State like Pennsylvania, and containing an area of 47,000 square miles, should be entirely without railroads, save such short roads as have been constructed entirely for the transportation of coal.

This lack of roads in Pennsylvania, has been owing in part to the want of enterprise among her people, and partly to the fact that a portion of the country described has the advantages of canal transportation. When the canals were projected, they were supposed to be superior to all other artificial works for the transportation of freight. The configuration of the country confined these to the banks of the Susquehanna. The idea of diverting to other routes the travel and business of this country, watered by this magnificent river, never entered into the heads of the projectors of the Pennsylvania system of works. Having a practicable outlet by following down the river, custom begat the conviction that this was the appropriate route to market.

Railroads, however, have exploded all the ideas upon which the canals were constructed. Mountains no longer oppose any obstacle to the cheap and expeditious movement of the heaviest kinds of freight. It is now seen, that for the leading markets of the country at least, a route crossing the mountains at right angles to the Susquehanna, is the convenient one, not only for such markets, but the country dependent upon this river. It is now proposed to construct this new outlet. For this purpose it is only necessary to construct a comparatively short road, at a cost which is insignificant, compared with the advantages to be derived from such a work.

The most conspicuous point in Northern Pennsylvania is Williamsport, a town situated upon the northern bend of the west branch of the Susquehanna. At this point converge the great lines now in progress to Lake Erie on the one hand, and Lake Ontario on the other. From Williamsport to Lake Erie, at Erie, the distance is 240 miles; to Lake Ontario, at Sodus Bay, about 155 miles, and to Buffalo about 210 miles. From the same point to Philadelphia the distance is about 190, and to New York some 224. The former, therefore, is nearly at an equal distance between the cities of Philadelphia and N. York, and the lakes Erie and Ontario, and is at the convenient point of intersection of two great lines of railroad based upon these cities.

The great region of which Williamsport is the centre, and at which, of necessity, must concentrate the principal part of its productions, is not

only one of the most fertile in the United States, possessing a climate unsurpassed for excellence, but is certainly one of the richest, in coal and iron, in the United States. It is already the seat of a large number of establishments for manufacturing pig and bar iron, and nothing is wanting to make it the seat of a vast manufacturing interest, but to open suitable avenues for its products, in the direction of the demand. No portion of the United States has more abundant resources, or possesses greater capacities for a most rapid progress.

A road from Williamsport to Tamenend and there branching to New York and Philadelphia, would command the local business of a region embracing some 15,000 square miles and of the character described. A large portion of this country is already well settled, although little has thus far been accomplished for the development of its resources, on account of its isolated condition. It is a region of country greater than that the traffic of which the Erie R.R. can lay claim, while its agricultural and mineral wealth are vastly greater. There are no coal, nor iron depots upon the line of the latter. It is certainly remarkable, that that portion of central Pennsylvania traversed by the proposed road, and which, at a speed run by the Hudson River train, is only about 6 hours distant, is less known to our merchants, than any other portion of the United States. We know of none, with the people of which we so seldom come in contact.— This is owing to the fact that travel follows the direction of freight. The farmer wherever situated, follows the route of his produce, to market. Yet New York rather than Philadelphia, is destined to command the larger part of the trade of central Pennsylvania. We do not speak as a partisan; our opinion is grounded upon the fact, that Philadelphia is the exporting, and New York the consuming point of the products which this road will bring to market; and both being as far as cost of transportation is concerned, nearly equal distant, we see no reason why such products should take the long circuit by way of Philadelphia to the point of consumption. We may be mistaken, however, as to the extent which the superior attractions of New York will influence this trade, but there can be no doubt that this city will draw a large portion of it over the above route.

The routes of the proposed road both to New York and Philadelphia are favorable, the maximum grade in direction of the heavy traffic not exceeding 40 feet to the mile. The ability of a road having this grade to carry on a profitable traffic, is demonstrated by the fact that the Baltimore and Ohio are carrying on a profitable traffic in coal at the rate of $\frac{1}{4}$ of a cent per ton per mile, and against adverse grades of 80 feet to the mile. It is well known that the latter road encounters grades of about 110 feet to the mile, against 116 in favor of the heavy traffic, and which are claimed by the companies to be no serious obstacle to a profitable traffic.

In addition to the agricultural products of this portion of Pennsylvania, and for which this city is in fact the convenient, and from the fact of its greater population, the best, market, and the business to be derived from the transportation of coal, the demand for which, as is well known, threatens to exceed the capacity of our existing works to supply.

The relation that the proposed road bears to the commerce and travel between the great Eastern markets and the West, has already been alluded to. Such is the rapid progress of railroads in the great Valley, there can be no question that the business which they develop, and concentrate upon the great

avenues to the eastern cities, will far exceed the capacity of all we can construct for years. Up to the present time the Erie canal has been the great channel of communication between the East and the West. This work, however, is closed by ice for 4 or 5 months each year; yet the amount of business crowded upon during the season of navigation almost exceeds belief. The amount of tonnage reaching tide water through the New York canals, for the past year, and mostly through the Erie, equalled 2,234,822 tons, valued at \$66,896,102; and the tonnage going from tide water, 521,527 tons, and valued at \$118,896,444! It will be borne in mind, too, that both the tonnage values are given at the minimum amounts. These figures show the extent of the trade between the two great divisions of the country. As shown by one route, and one too, that is closed for a considerable portion of the year, when it is considered too, that for certain kinds of merchandize, the railroad is preferred to the canal at all seasons, there certainly can be no lack of business upon any of our railroads, constructed as outlets from the interior to tide water. As far as the road from Williamsport east, is concerned, it will have the advantage of being the trunk of two distinct lines, communicating with all the important points both on Lake Erie and Ontario.

To bring Williamsport in communication with Philadelphia requires the construction of only 93 miles of road, at an estimated cost of \$3,400,000, or about \$35,000 per mile. To reach New York requires a further outlay for the connecting link between Easton and Tamenend. Upon the former, the work of construction is already well advanced, and measures are in progress which promise to secure the completion of the latter at an equally early period. When both are completed, Philadelphia and New York will not only be brought into intimate relations with a most important section of country capable of sustaining a greater population than the whole State now contains, and only wanting in railroads to realize such a result.

We desire to see the above roads built for other than merely commercial, or business considerations. They will secure the construction of numerous other roads traversing the northwestern part of the State in every direction, which must of necessity extend from the New York to the Ohio state line and break down that barrier to trade and travel which a portion of the people of Pennsylvania are seeking to erect. The construction of the above will be followed by that of the Sunbury and Erie road. To the latter, the road from Erie to the Ohio state line will be indispensable. The opponents to this road are in fact only endeavoring to defeat a project which will constitute a legitimate extension of a work which is looked upon as of importance both to Philadelphia and to the State of Pennsylvania. The legislation of Pennsylvania must be liberalized by the construction of railroads, and none are better calculated to secure such a result than the roads proposed.

Massachusetts.

Fall River Road.—At the annual meeting of the stockholders of the Fall River railroad company, held recently, the following named gentlemen were unanimously re-elected directors for the ensuing year:

Nathaniel B. Borden, Richard Borden, Jefferson Borden, of Fall River; Joseph Tillinghast, of New Bedford; Nathum Steison, of Bridgewater, Peter H. Pierce of Middleborough; Royal Turner, of Randolph; C. C. Gilbert, Robert Waterson of Boston.

Hold Him!

We have received numerous communications in reference to our articles upon the proceedings of the Panama railroad, of which the following will do for a specimen:

EDITOR RAILROAD JOURNAL:

I am amused at the *writing* of the editor of the Railroad Journal, yet all won't do; "those monied fools will break their necks and purchase Panama." I took at such ruinous rates. I see sales made at \$139 on Saturday, and perhaps they will reach \$140 to-day. I think the Eliter's friends ought to get a straight waistcoat for him, in the event of this stock going higher.

Yours, A. G.

January, 24, 1853.

Since the date of the above, and the publication of our articles, the stock has fallen to \$134, the present price!! We submit that the *straight jacket* is not needed by us, yet A. G. has made a loss of 5 per cent.!!! We congratulate him on his bargain. In the meantime we commend to his attentive perusal, for his consolation, the following appropriate poem:

But soon the truth it came to light,
And showed the rogues they lied;
The man recovered from the bite,
The dog it was that died.

Ohio and Indiana Railroad.

We learn that this road is making the most satisfactory progress both in the work of construction and in securing the means for its completion.

The company have just disposed of their bonds to the amount of \$1,000,000, at a price much higher than has been usually attained for similar securities. The favorable sale it has made, is chiefly owing to the fact that the company did not come into market until they were prepared to offer a security having a sufficient basis to render it attractive to the most fastidious buyer. There is no way in which railroad companies can economize so effectually, as to provide such basis before attempting to sell their bonds. In the one case they are in the hands of the buyer; in the other they are entirely independent of him. An additional domestic stock subscription of \$100,000 will often save one-half or two-thirds of the amount in the increased price which the company's loan commands. The manner in which the affairs of the company have been conducted, has been creditable throughout.

The estimated cost of the above road is \$1,854,000, or \$14,050 per mile; to meet which the company has the following stock subscription:

County subscriptions.....	\$100,000
Individual ".....	375,000
Contractors ".....	150,000
Ohio and Penn. railroad subscription....	100,000
Pennsylvania railroad ".....	300,000

Total.....\$1,525,000

The subscriptions it will be seen are of the very best character, and must realize nearly their face.

The line of the road occupies the *cheapest* route probably in Ohio. It is destined to, and must soon form, a part of a great line of railroad connecting Central Ohio with Chicago. The important relation it holds to other roads is well attested by the aid extended to it by two such leading companies as the Ohio and Pennsylvania, and the Pennsylvania. It traverses an exceedingly fertile country, capable of supplying a lucrative local traffic, and we see no reason why it will not take rank among the best paying roads of the west. It must command the local business of a large district of country, and years will elapse before it can have a rival, and

then it will probably maintain the strongest of all monopolies in occupying the *best* route between its termini.

Ontario, Simcoe and Huron Union Railroad.

The directors of the Ontario Simcoe, and Huron railroad, accompanied by the chief engineer, made an excursion over the road on the 5th January. So much has been said disadvantageous to the character of this road, that we have much satisfaction in being enabled to state that the road is in excellent order, and that the distance of 30 miles now completed, going northward was run in one hour; and that on a portion of the road a speed of 45 miles per hour was attained.

In the vicinity of Newmarket the directors inspected some heavy works now in progress, and which have been undertaken with a view to the reduction of some objectionable curves made in the original location. When these works are completed,—as they will be early in April,—the grading and bridging will be completed to Barrie; and as the timber for the superstructure is distributed over the line, the laying of the track will then be rapidly proceeded with; and it is expected the road will be opened as far as Barrie early in June.—*Canadian Journal.*

Sale of Bonds.

Our readers are referred to the advertised sale of the bonds of the Williamsport, Catawissa and Lake Erie railroad in another column.

Stock and Money Market.

Stocks have been heavy during the past week, and most of the fancies show something of a decline. The causes at work, however, are chiefly *speculative* in their character, and may change at any moment. For sound securities prices are firm and steady, with an active demand for such for investment.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE

AMERICAN RAILROAD JOURNAL.

NEW YORK, FEBRUARY 5, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	100½
U. S. 6's, 1856	108½
U. S. 6's, 1862	115
U. S. 6's, 1862—coupon	115
U. S. 6's, 1867	119½
U. S. 6's, 1868	120
U. S. 6's, 1868—coupon	120
Indiana 5's	102
Indiana 2½	59
Canal loan 6's	97
Canal preferred 5's	41
Alabama 5's	98
Illinois 6's, 1847	88
Illinois 6's—interest	60
Kentucky 6's, 1871	111
Maryland 6's	109½
New York 6's, 1854-5	108
New York 6's, 1860-61-62	116
New York 6's, 1864-65	119½
New York 6's, ½ y., 1866	119½
New York 5½'s, 1860-61	111
New York 5½'s, 1865	112
New York 5's, 1854-55	108
New York 5's, 1858-60-62	110
New York 5's, 1866	113
New York 4½'s, 1858-59-64	101
Canal certificates, 6's, 1861	—
Ohio 6's, 1856	105½
Ohio 6's, 1860	110
Ohio 6's, 1870	116½
Ohio 6's, 1875	116½
Ohio 5's, 1865	106
Ohio 7's, 1851	105½
Pennsylvania 5's	98
Pennsylvania 6's, 1847-53	101
Pennsylvania 6's, 1879	99½
Tennessee 5's	94
Tennessee 6's, 1860	108
Virginia 6's, 1866	110½

CITY SECURITIES—BONDS.

Brooklyn 6's	106
Albany 6's, 1871-1881	107½
Cincinnati 6's	103½
St. Louis	101½
Louisville 6's 1860	98½
Pittsburg 6's, 1869-1871	102½
New York 7's, 1857	108
New York 5's, 1858-60	102
New York 5's, 1870-75	103½
New York 5's, 1890	104
Fire loan 5's, 1886	—
Philadelphia 6's, 1876-90	107
Baltimore 1870-90	107
Boston 5's	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867	115½
Erie 2d mortgage, 7's, 1859	111½
Erie income 7's, 1855	98
Erie convertible bonds, 7's, 1871	98
Hudson River 1st mort., 7's, 1869	108
Hudson River 2d mort., 7's, 1860	99½
New York and New Haven 7's, 1861	105½
Reading 6's, 1870	92½
Reading mortgage, 6's, 1860	95
Michigan Central, convertible, 6's, 1860	110½
Michigan Southern, 7's, 1860	101½
Cleveland, Col. and Cin. 7's, 1859	123
Cleveland and Pittsburg 7's, 1860	102
Ohio and Pennsylvania 7's, 1865	109
Ohio Central 7's, 1861	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Feb. 3.	Jan. 27.
Albany and Schenectady	113½	113½
Boston and Maine	105	105
Boston and Lowell	105½	106
Boston and Worcester	105	103½
Boston and Providence	90	90½
Baltimore and Ohio	90½	98
Baltimore and Susquehanna	33	34
Cleveland and Columbus	124½	130
Columbus and Xenia	—	—
Camden and Amboy	149	—
Delaware and Hudson (canal)	130	130
Eastern	98	98½
Erie	91	92½
Fall River	—	104½
Fitchburgh	102	104
Georgia	—	—
Georgia Central	—	—
Harlem	69½	70½
“ preferred	115	115
Hartford and New Haven	129	129
Housatonic (preferred)	35	35
Hudson River	70	73½
Little Miami	119½	120
Long Island	38½	39½
Mad River	99	99
Madison and Indianapolis	105	111
Michigan Central	106½	106½
Michigan Southern	125	125
New York and New Haven	115½	116½
New Jersey	129	129
Nashua and Lowell	—	—
New Bedford and Taunton	117	117
Norwich and Worcester	51½	52½
Ogdensburg	27½	29½
Pennsylvania	50	49½
Philadelphia, Wilm'gton & Balt.	40	38½
Petersburg	—	—
Richmond and Fredericksburg	105	105
Richmond and Petersburg	35	35
Reading	85½	87½
Rochester and Syracuse	127	128
Stonington	57½	57½
South Carolina	122½	122½
Syracuse and Utica	146½	146
Taunton Branch	115	115
Utica and Schenectady	153	153
Vermont Central	20½	20½
Vermont and Massachusetts	21	22
Virginia Central	40	40½
Western	101	100½
Wilmington and Raleigh	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Cincinnati, Wilmington and Zanesville Railroad.

The allotment of this road was made, we learn from the Lancaster Gazette, to Mr. De Graff, and to S. Chamberlain & Co. The former obtaining 23 miles, the western part of the line, and the latter the balance, about 20 miles, terminating in Zanesville. The construction of the bridge over the Muskingum at this place was awarded to Messrs. Thatcher, Burt & Co., of Cleveland. All of the persons named as contractors, are well known as experienced and energetic men, who will push forward the work to completion in the shortest possible time.

Philadelphia, Wilmington and Baltimore Railroad.

The fifteenth annual report of this company presents a very full and satisfactory exposition of the present condition and business of the road, and will prove gratifying to the stockholders.

The directors announce the completion of the passenger station in the city of Philadelphia, and the substitution of a new and substantial track in place of the old and light rail and the consequent increased speed and regularity of the trains. Nothing in the opinion of the direction is left to be decided by the public or stockholders, but a bridge at the Susquehanna and a better connection with the New York trains at Philadelphia. With the bridge in operation it is believed that the time between Philadelphia and Baltimore by express trains could be reduced to three hours.

The revenue account for 1852 is as follows:

Receipts from passengers.....	\$522,764 82
Freight and express.....	96,377 76
Rents.....	10,845 59
Mails.....	37,797 58

\$667,785 75

Expenses of transportation

including maintenance

of way.....\$257,531 35

Miscellaneous expenses... 26,752 87

\$284,284 22

Interest on debts..... 134,000 00

418,282 22

\$249,501 53

Surplus of 1851..... 55,198 16

\$304,699 69

Receipts of New Castle Co:

Passengers.....\$88,917 47

Freight..... 2,086 74

Rents..... 1,011 50

92,077 71

\$306,777 40

Expenses.....\$118,563 07

Interest..... 8,203 41

126,766 48

Joint surplus..... 270,010 92

Dividends..... 155,386 00

\$114,624 92

Surplus.....

Proceeds of sale of steamboat George

Washington..... 15,000 00

\$129,624 92

Renewal fund..... 74,874 25

Amount per Treasurer's statement.... \$54,750 67

The revenue on both lines show an increase over 1851, of \$41,853 04, while the earnings of the New Castle line have diminished \$45,209 03. The cause of this change is due to the quicker and more certain time made on the main line. The ice bridge over the Susquehanna during the last winter tended materially to expedite the trade over the road. This bridge was completed on the 15th day of Jan.

and continued in use till the 24th of February, during which time 1378 cars loaded with freight, express and mails, were passed over without the slightest loss. The material of the track were removed to the shore before the going out of the ice, without losing a bar of iron or a single cross tie. The reduction of the winter fare to \$3 is stated to be acceptable to the public and beneficial to the company.

The operations of the express trains going through from city to city in four hours have made them very popular. They leave Baltimore at 8½ A. M., and arrive at Philadelphia at twelve, giving time to passengers to dine and proceed to New York by the 2 P. M. train. The following are the statistics of the road and the New Castle Branch

The whole number of through first class passengers on the railroad, in 1851, was 107,824, paying \$306,500; of second class 15,142, paying \$27,500. Total from through passengers in 1851, \$334,000. The whole number of through first class passengers on the railroad in 1852 was 128,428½, paying \$376,223 22; of second class 8,409, paying \$16,122 87. Total from through passengers in 1852, \$392,346.09: showing a gain of \$58,316 09, on the through travel for the whole year. It will be seen hereafter what effect the through ticket had upon this gain in through travel.

The whole number of way passengers on the railroad, in 1851, was 237,629, paying \$117,768. In 1852 the number was 251,918½, paying \$136,620 39: showing a gain in the receipts of way travel of \$18,852 39, and a gain in numbers of 14,289½.

The receipts from freight and express in 1851, were \$83,259 93, in 1852, \$96,377 76, showing a gain of \$13,117 83. The receipts from the mail and other sources, in 1851, were \$45,695 19; in 1852, the receipts from the same sources were \$48,643 17; showing a gain of \$2,947 98. Total gain in receipts on railroad line in 1852, \$87,062 07.

The whole number of through first class passengers on the New Castle line in 1851 was 26,565, paying \$77,566 08; of second class, 5,582½, paying \$11,165 00. Total from through passengers in 1851 \$88,731 08. The whole number of through first class passengers in 1852 was 15,272, paying \$40,023 14; of second class 6,494, paying \$9,223 62. Total from through passengers in 1852, \$49,246 76, showing a loss in receipts, from through travel, of \$39,484 32, and in numbers, of 10,381½. The whole number of way passengers in 1851 was 43,255, and the receipts from way passengers, freight and other sources, were \$48,555 66. The whole number of way passengers in 1852 was 29,294½, and the receipts from way passengers, freight and other sources, were \$42,870 95, showing a falling off of \$5,684 71, and in numbers, of 13,260½. Total loss in receipts on New Castle line, \$45,209 03. This loss was partly owing to a reduction in through fare, but mostly to the causes before alluded to, resulting from the improvements on the main line, which turned a larger portion of the travel in that direction.

It is stated that there has been a large falling off in the western travel as indicated by the following figures:

In 1847 the revenue from western travel was \$62,412 50; in 1848, \$59,576 25; in 1849, \$37,388 75; in 1850, \$34,358 75; in 1851 \$21,834 30, and in 1852, only \$5,477 30.

The cause assigned is the opening of the New York and Erie and Pennsylvania railroads, and it is believed the western travel will resume its former channel on the opening of the Baltimore and Ohio railroad, and that the southern travel will also again take the land route on the completion of the Wilmington and Manchester road.

The new station at the corner of Prime and Broad streets, Philadelphia, is now completed. It is 400 feet long by 150 broad, having eight tracks, sufficient to store more than 50 cars. The front of the building contains baggage and reception rooms

and on the second story a large hall together with offices for the use of the company. The cost of the building was \$65,000.

An application has been made by the company to the legislature of Maryland, to obtain the right of crossing the Susquehanna by a bridge, and various reports have been made in its favor. The construction of the bridge is even more advantageous to the Baltimore and Ohio road, in which the state of Maryland is largely interested than to the Baltimore and Philadelphia. With this bridge and other works in course of construction, Baltimore will become not only a great commercial centre, but a great thoroughfare from east to west and from north to south. Without it, other rival routes will continue, as now, to attract business over their lines to New York, by insuring greater expedition and certainty.

The argument that the bridge will be injurious to the navigation interests of Port Deposit, is shown to be groundless, by the fact that numerous bridges provided with draws, in the vicinity of leading cities offer no impediment to much larger amounts of trade than now go up to Port Deposit. The construction of the bridge requiring an outlay of a half million of dollars within 3 or 4 miles of that place will add materially to its business and add more to the wealth of the town, than any thing likely to occur for many years to come.

The through ticket system has been found to work satisfactorily and add to the comfort of travellers. The total through tickets in August, Sept., October and November 1851, was 20,246, for the corresponding months of 1852, 38,499, being a gain of 18,253 through passengers. The total number for the year was 93,064.

The whole of the new track has been furnished with a rail of from 62 to 65 pounds per yard, making 46½ miles laid during the year. Two miles of this distance have been laid with the Winslow compound rail, as an experiment. Thus far it has been successful, being equivalent to a continuous rail without joints and imparting an ease of motion to the cars before unknown. Should this rail bear the test of time it will prove of great service, by adding to the comfort of passengers and diminishing the wear and tear of cars and engines. In addition to the new main track, there have also been three miles of new turn-outs laid during the last year.

The branch from Wilmington to New Castle has been completed and leased perpetually by the P. W. & B. Co., at 7 per cent. per annum with the option of purchase at cost after 15 years. The cost exclusive of motive power is \$89,000.

In reference to the projected air line between N. York and Washington, which must necessarily be along the line of this road the report considers it would be injurious to the public interest and states:

There can be no shorter line, and none of easier grades between Philadelphia and Baltimore than ours, and it is and has been the intention of your directors to make it as efficient and accommodating in every respect as any in the country, so that, travellers can find no reasonable fault either with the speed or the fare. This they have deemed the surest way to prevent ruinous competition, and to place the road on a permanent foundation of prosperity.

A new ferry boat of iron 220 feet long has been contracted for, and as the bridge could not be constructed in less than 2½ years after obtaining a charter for such purpose, the services of the new boat will be rendered absolutely essential.

We take the following from the statement of the treasurer.

Cost of railroad and all appurtenances up to 1852.....	\$5,192,590 19
Stock owned by company.....	861,325 09
Real estate.....	168,962 98
Advances on contracts.....	10,000 00
Assets, old rails, etc.....	135,072 78
Materials, etc.....	38,907 12
Treasurer N. C. Co., Treasurer N. C. & W. R. R. Co.....	16,206 25
Reconstruction account.....	352,050 86
Expended over appropriation from Renewal fund.....	38,724 04

Capital stock, outstanding.....	\$3,850,000 00
Mortgage loans.....	2,403,276 05
Due for real estate, iron, etc.....	505,812 50
Surplus over expenses after deduction for renewal fund.....	54,750 67

\$6,813,839 22

The items of the New Castle railroad Co are:

Railroad.....	\$699,514 34
Steamboats.....	185,576 26
Real Estate.....	23,836 44
Chesapeake and D. Canal stock.....	25,000 00
Assets in stocks, etc.....	88,383 35

\$1,022,310 36

Capital stock.....	\$861,420 00
Due state of Delaware for canal slide.....	25,000 00
Bills payable and various claims.....	135,890 36

\$1,022,310 36

The report of the engineer and general superintendent, Isaac R. Trimble, Esq., shows in detail the condition of the road and its rolling stock and its operations:

Two through passenger trains, stopping at way stations, and one express train, stopping only for wood and water, were run during the entire year of 1852. Three accommodation trains were run between Philadelphia and Wilmington for eight months of the year, one being continued during the whole year as usual. An accommodation train was started, for the first time last year between Baltimore and Havre de Grace, and run for seven months. Should the last named train be resumed in 1853, there is reason to believe it would do a fair business, which should annually increase.

Two daily freight trains were run over the road in January, February and March, and one of them continued throughout the year.

Freight now seeking the road is more than one train can transport. Two separate trains for local freight alone may be required this year, and one or more for the traffic which the opening of the Ohio road will produce.

The road bed and bridges are generally in good condition. The re-construction of culverts and embankments at a point carried away by the flood of August last, will cost probably \$10,000. All the bridges are in good repair. Especial attention has been given to those over Gunpowder and Bush rivers, which are now in the best possible state of repair. The total distance of new track laid in 1852 was 46½ miles, the cost of which, including labor and material has been about \$7,200 per mile.

No accidents have occurred during the past year on the road, involving serious injury or loss of life. The following are the statistics of the transportation of passengers on the road for each year since 1846:

	1847.	1848.	1849.
Through.....	98,250	100,642	95,756
Way.....	187,066	198,896	196,765
	285,325	291,538	292,521
(11 mo's)			
	1850.	1851.	1852.
Through.....	104,706	122,966	136,837½
Way.....	192,572	237,628	251,918½
	297,278	360,594	388,756

Number of Way passengers carried on the

Railroad one mile, in each of the following years, was as below:

1847.	1848.	1849.
14,776,559	14,891,535	13,607,011
(11 mo's)		
1850.	1851.	1852.
15,312,626	18,225,076	20,268,887

Journal of Railroad Law.

FARM FENCES.

In the late case of *Kenokmaker vs. the Cleveland and Columbus railroad company*, tried in the State of Ohio, it appeared that the plaintiff had six hogs killed by the defendants' engine, the animals having strayed upon the track of their railroad.

The plaintiff's Counsel, requested the Judge to charge the Jury, that unless they were satisfied that the defendants had used due diligence in order to avoid injuring the hogs, and had seasonably and suitably slackened their speed for the purpose of effecting this object, they were liable for all the damage which had occurred.

His Honor refused to charge the Jury as requested, but stated in substance that "the defendants had a right to the free and unobstructed use of their road, with the exception of the regular crossings whether public or private, which had been established by law. If the destruction of the hogs did not occur at a regular crossing, then the animals must be regarded in the light of trespassers. The negligence of the plaintiff in that case, in suffering them to encroach upon the premises of another, would effectually preclude him from recovering in the present action, for he who claims damages from another, must himself be free from wrong, and must not have contributed to the injury complained of. The owners of cattle must duly fence their lands."

The Jury rendered a verdict for defendants.

The doctrine of the foregoing case is in accordance not only with the Pennsylvania decision, which has recently been reported in this paper, but with several others, including one of our own Supreme Court in relation to the Tonawanda railroad in 5 Denio's reports p. 255.

The following points were in that case settled.—Cattle straying upon the lands of others, and upon highways, except when under charge of some one who is driving them from one place to another are trespassers.

Although a town may in the supposed exercise of its rights, pass an ordinance permitting animals to stray in the highways, such legislation is unconstitutional and void, for it is an infringement of private right, as highways are, in part, private property.

The object of the law in requiring land-owners to maintain fences, is that farmers may keep their own cattle in, and not that they may keep the cattle of others out, and the legal requirements in respect to maintaining fences, cannot without absurdity be so construed as to be deemed applicable to railroads, although some special legislation on this subject, applying to railroads may be both necessary and proper.

Heavy Damages.—In the case of *Roswell Hood vs. the New York and New Haven railroad company*, on trial in the Superior Court, the jury yesterday brought in a verdict for the plaintiff to recover \$6,000 damages and costs.

It will be remembered that the plaintiff's leg was broken by the overturn of a sleigh, running from Unionville to Collinsville, in connection with the Canal road, which latter road was at the time leased to the N. Y. and N. H. company. Plaintiff bought a through ticket to Collinsville, and claimed the defendants were responsible for his safe conveyance to the end of his journey. The defendants denied any connection with, or responsibility for, the portion of the journey performed by stage.

The case has been three times tried. In the first instance the plaintiff recovered about \$3,000, but the Supreme Court set it aside. On the second

trial the jury brought in a verdict for a larger amount, which the Judge would not receive, and they afterwards disagreed. They now find \$6,000, and their verdict is received by the Court.—*N. H. Journal*, 29th.

A LOST TICKET.

The late case of *Alexander vs. the Cincinnati, Hamilton and Dayton railroad company*, related to the consequences of a mishap, which sometimes overtakes travellers—the loss of a ticket.

The plaintiff having lost his ticket, and being called upon to produce it, was ejected from the car at night, and compelled to walk over a mile for shelter. The weather being cold, he froze his feet, and brought an action to recover damages for the alleged injury.

The Judge charged the jury, that the ticket was merely evidence of a party's having paid for the privilege of riding in the cars; and that if the ticket were lost, it was competent for him to substitute other evidence in its place.

In regard to the suggestion, that a lost ticket might be found and used by one who had not paid for it, the Court remarked that a company need not expose themselves to any such imposition as this. It is not necessary that the tickets should be issued in such a manner that they would be good in the hands of a stranger, who may happen to have obtained possession of it.

A verdict was rendered for the plaintiff in the sum of \$500.

In the case of the Miami railroad company, reported last week, the jury did not agree and were discharged.

County Railroad Subscriptions.

The Hon. Henry Dickinson, Vice Chancellor of the state of Mississippi, has recently decided a case involving the constitutionality of county subscriptions to the Mississippi Central railroad. By the charter of the company, the several counties through which the road passes are permitted to subscribe a sum not exceeding \$200,000 for any one county, provided an election be first held by order of the Board of Police, and a majority of those voting shall be in favor of the subscription proposed, then the board may make it. The calls on the stock are to be met by direct taxation, and the tax payer is to receive a certificate from the sheriff, which constitutes him a stockholder whenever he shall present to the treasurer of the company certificates equal in amount to one share of stock. In August last the Board of Police of LaFayette county ordered an election to ascertain the willingness of the voters to make a county subscription of \$100,000 to the stock of the road. The election was held in the Sept. following, when 550 votes were cast in favor of the subscription, and about 100 against it. In December the Board subscribed the \$100,000 and levied a tax sufficient to raise \$20,000 to meet the calls. The sheriff was proceeding to collect the tax thus authorised, when the plaintiff in the suit, Geo. W. Strickland, believing the tax to be unconstitutional, filed his bill in the Court of Chancery, and obtained an injunction restraining the sheriff from collecting the tax. In addition to the above facts, the bill contains the additional averments that the complainant voted himself against the subscription and that not half of the citizens of the county voted at all, there being 1,400 voters living in the county, and further that at two of the precincts the vote was taken not by ballot, but *viva voce*. The bill charges that the subscription is unconstitutional, and void, and prays for a perpetual injunction.

The railroad company, the board of Police and

the Sheriff of La Fayette county were made parties defendant and interposed demurrers to the bill.

On the 7th inst. the Vice Chancellor delivered an opinion overruling all objections to the constitutionality of the subscription, dissolving the injunction and dismissing the bill. The opinion is sustained by the unanimous approval of the bar of the State. In order to settle the point definitively the case has been carried up by consent of parties to the Supreme Court. The decision is important as over \$700,000 have been subscribed to the company by the counties on the line of the road under similar circumstances to those attending the subscription of La Fayette. The Mobile and Ohio railroad and the New Orleans, Jackson and Great Northern are also deeply interested in the decision.

The opinion of Vice Chancellor Dickenson is sustained by the following cases:

In Virginia, by the case of Gliddon vs. Crump, 8 Leigh; in Ohio by the case of the Cincinnati, Wilmington, and Zanesville Railroad Company vs. Clinton county, (not yet reported;) and in Kentucky by the case of Slack and others against the Maysville and Lexington Railroad Company, (not yet reported.) There is, so far as we can learn, no case in which county subscriptions have been declared unconstitutional.

Massachusetts.

Annual Report of the Fitchburg Railroad Company.—The eleventh annual report of the Fitchburg railroad has been made public. It is but for eleven months, in consequence of a late law of the legislature altering the time for making returns for the state. The period embraced in the report is from Jan. 1, 1852, to November 30, 1852. During that period the gross earnings of the road have been \$549,277 07; of which \$217,475 87 was from passengers; \$292,375 87 from freight; and \$9,425 33 from mails, etc. The actual expense of operating the road for the same period has been \$261,729 72; the largest items of which are, fuel \$59,454 62; repairs of road and renewal of iron \$37,529 17; repairs of locomotives \$26,102 56.

In addition to the actual expenses \$36,209 31 has been paid for matters not directly belonging to the cost of operating the road, but charged under that head, making a grand total of \$300,939 03. Among the sums charged to extraordinary expenses is \$4,353 96, which the directors allude to as "gratuities and damages paid mostly on verdicts against the company for injuries to claimants, caused, we say, by their own carelessness."

Of the income, \$27,626 86 was paid to the Peterboro' and Shirley road, and Lexington and West Cambridge road. Two dividends of 3 per ct. each have been paid during the 11 months, amounting in all to \$212,400.

There remains a surplus of the 11 months earnings of \$8,311 18, which has been carried to the credit of the contingent fund; the total amount of which fund was, on the 30th of Nov. last, \$50,985.56. The construction account has been increased during the year \$9,380 90—making a total of that account of \$3,623,073 57.

The total debt of the company is \$112,305, and the assets \$203,835 53.

The gross income for the eleven months of 1852, as compared with 1851, shows a gain in 1852 of \$33,264 31. The number of passengers carried in 1852 has been 1,165,635, in 1851, 1,261,159. This shows a decrease of passengers in 1852 of 95,506. This decrease is in part owing to the running of a less number of excursion trains, and passing a large number free over the road at the time of the railroad jubilee. Notwithstanding the decrease in numbers, the receipts from passengers in 1852 has been \$5,377 21 more than in 1851, the travel averaging longer. The number of tons of freight carried in 1852 has been 399,752, an increase of 66,039 tons over 1851; of the freight, 116,080 tons was ice and 37,515 brick. Of the increase of freight 34,148 tons came from roads above Fitchburg; 2,784 from roads connecting at Groton Junction and 29,107 from main road and branches.

Central Ohio Railroad.

On the 20th inst the Western Division of this road was finally completed, and the trains are now running daily between Zanesville and Columbus. The Zanesville Courier says: This early opening of the road has been effected by the most untiring perseverance and industry, and the President and directors, together with those who performed the manual labor, deserve praise for their exertions, which have thus early proved successful, notwithstanding the heavy rains and high waters of the few weeks past.

This is an event fraught with interest to Zanesville. It is the completion of her outlet by railroad west, a progressive step which is only second to the completion of the road to Wheeling, by which we shall be connected with the east. There is a good day upon us, and "a better day is coming."

Virginia.

Air Line Railroad.—A bill is pending in the Virginia Legislature to incorporate a company with this title. The road is to run from a point at Cape Charles or any other point in the county of Northampton, eligible for a steamboat ferry, to the city of Norfolk, to connect, at the northern line of Accomack county, with any railroad which may be constructed from any point or points north of the line. This railroad is designed to be part of a great railroad through the Eastern shores of Virginia, Maryland, Delaware, and New Jersey; to incorporate which application has been made to the legislatures of those States. A committee has already been appointed in the Maryland House of Delegates to report the necessary bill.

Railroad from Baltimore to St. Louis.

The great straight line railroad from Baltimore through Cincinnati to St. Louis, says the Baltimore American, is in steady progress of construction. From St. Louis to Cincinnati the whole line is under contract. Between Cincinnati and Parkersburg the middle division of the Cincinnati, Hillsborough and Parkersburg railroad will be let to contractors on the 1st of February ensuing. This division, extending from Hillsborough, Highland county, Ohio, to the coal and iron mines of that state, in Jackson county, is about 56 miles in length. The western division of this railway, extending from Cincinnati to Hillsborough, 60 miles east of the former place, has been for some time in operation, and is doing, we are informed, a heavy local business in agricultural products. The Baltimore portion of the chain, extending from Three Forks to Parkersburg, will be pushed forward with due energy.

Ohio.

Cleveland, Zanesville and Cincinnati Road.—The board of directors of the Akron Branch road, have made application to the court, as provided by a general law, for privilege to change the corporate name of the road, and it will hereafter be known as the Cleveland, Zanesville and Cincinnati road. The annual meeting of the stockholders was recently held at Akron. Messrs. Perkins, McMillen, Henry, Miller, Day, Butler, and Cary, were re-elected directors. The directors unanimously re-elected Col. Perkins, president; Prof. Day, secretary; and J. W. McMillen, treasurer. The Akron Beacon says the reports of Mr. Grant, the chief engineer, and the other officers, presented an encouraging state of facts as regards the past operations and future prospects of the road, and speak well for the prudence and efficiency of the officers and directors of the company.

Missouri.

Lexington and Daviess County Railroad.—At a recent meeting of the stockholders of this company Wm. H. Russell and R. C. Ewing, of Lexington; B. F. Smith, of Millville, Thos. A. King, of Knoxville; C. A. Watkins, of Ray country; Geo. W. Dunn, B. J. Brown, J. P. Brown, J. P. Quesenberry, and W. M. Jacobs, of Richmond, were elected as directors of the company until the first Monday in March next.

The board of directors afterwards elected R. C. Ewing, of Lexington, president, and H. J. Comer, of Richmond, secretary and treasurer.

We learn from the Richmond Herald that the stock then subscribed amounted to about two hundred thousand dollars, and the city authorities of Lexington were taking steps for a corporate subscription of fifty thousand more. The looks in Daviess and Caldwell counties had not been heard from.—It is supposed that a survey will be commenced early in the spring.—*St. Louis Intelligencer.*

New York.

Hudson River Railroad.—Hon. Nelson J. Beech, who has for some weeks past been acting in the service of the Hudson River railroad company, has been elected vice president of the company, and will be charged with the duties of acting president, Mr. Morgan, the president, not desiring to devote his time to the business.

Cincinnati and Chicago Railroad.

The Cincinnati Gazette states that John Wood, president of the Hamilton and Dayton railway, has secured an exclusive connexion and joint interest with the Richmond and Miami, and New Castle and Richmond railways. He has also contracted with the Cincinnati, Hamilton and Dayton railway for running the road jointly for five years, from Cincinnati to Richmond, the expense to be divided between them according to the respective lengths of the two roads. The contract with the Richmond and Miami and the Newcastle and Richmond roads consolidates them with the Hamilton and Eaton road, and secures a single gauge from Hamilton to Logansport. When the road is completed to this latter place, a second track of the same gauge is to be laid by the Cincinnati, Hamilton and Dayton road from Hamilton to Cincinnati. This arrangement looks to a single continuous line to Chicago of the different roads—a distance of 299 miles—combined together as a common interest.

Railroad Matters in Ohio.

Dayton and Michigan Railroad.—The line north of Troy to Toledo, on the Dayton and Michigan road, has been all let to Toledo, including the Equipment, Station Houses, etc. Mr. Doolittle, the efficient contractor on the line has the whole contract, but the terms have not yet transpired.

Springfield and Mount Vernon Railroad.—The Delaware Gazette states that the Springfield and Mount Vernon Company have recently sold \$500,000 of their bonds, at the East, on advantageous terms, and that the Little Miami company has taken \$200,000 of their stock, and agreed to run the road, for a term of years, in connection with their road.

Hillsboro' Railroad.—The Jackson county Standard informs us that the subscriptions in that county, approach very near the whole amount allotted to them, of the capital stock of the Hillsboro' and Parkersburg railway.

Xenia, Lebanon and Cincinnati Railroad.—The Lebanon Star says the subscriptions on the "straight line" road, from Xenia, by Lebanon to this city, with "an arm to Springfield," are "mounting up," and that the road will be made in two years.

Steubenville and Indiana Railroad.

A corps of engineers, under charge of A. Frazer, Esq., principal assistant engineer of the Steubenville and Indiana railroad, have taken the field for the purpose of reconnoitering the country, and making a final location of the line between Newark and Columbus, a distance of about 35 miles.

This is the last portion of the main line of the Steubenville and Indiana railroad to be located, the remainder of the line from Steubenville to Newark, a distance of about one hundred and fourteen miles, being all under contract, and the work rapidly progressing in the hands of efficient contractors.

The country which may be traversed between Newark and Columbus, is populous, and rich in agricultural and monied wealth—a region, the way trade of which alone, would well justify the construction of a railroad.

The building of this division of the Steubenville and Indiana railroad, will complete the through line of uniform gauge from the Atlantic to the Mississippi. This great through line, of which the Steubenville and Indiana railroad is an important link, in an engineering point of view, as to alignment, distance, etc., will have no successful competitor; while in a commercial and financial point of view, the simple fact of its passing through the central portion of the States of Pennsylvania, Ohio, Indiana and Illinois, is a sure guarantee of its being one of the most profitable railroads in the country.

Pease & Murphy,
FULTON IRON WORKS,
Foot of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B.—Engines and Boilers repaired. 6tf

Wm. Swinburne,
LOCOMOTIVE ENGINE BUILDER, Paterson,
N. J., is prepared to execute orders for Freight
and Passenger Engines; also, Tenders, Wheels, Ax-
les, Boilers and Railway Machinery in general, with
all the modern improvements, etc. 6tf

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain
of Railroads between New York and Boston and
Chicago.

On and after Monday, January 24, 1853, Passenger Trains will run
daily (Sundays excepted) as follows:

Leave Toledo at 7 A. M.
Leave Cleveland at 1:30 P. M.

Connecting with Cleveland, Columbus and Cincinnati
Railroad at Grafton, with Sandusky and Mans-
field Railroad at Monroeville, Mad River and Lake
Erie Road at Bellevue, and with Michigan Southern
Road at Toledo.

Early in February two trains will be run, connect-
ing directly with trains from West at Toledo, and at
Cleveland with those from East.

E. B. PHILLIPS, Sup't.
Office T. N. & C. R. R.,
Norwalk, O., Jan. 22, 1853.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for
the highly respectable manufacturers, Messrs.
Allen, Everett & Son, of Birmingham, is prepared to
take orders for Brass Tubes of all diameters for Ma-
rine and Locomotive Engines, which will be supplied
on the most favorable terms, and from the established
reputation of the above Firm for superior quality and
workmanship, he has no doubt entire satisfaction will
be given. These Tubes are found to answer well, and
are now in most general use in England, they last
much longer than iron, and when worn out, realize
fully half the amount for old metal. For further par-
ticulars and inspection of patterns, please apply to
JOHN H. HICKS,
90 Beaver st.

Jan. 27, 1853.

ANDREW MOUNT, Auctioneer.
SALE OF BONDS.
WILMERDINGS & MOUNT, AUCTIONEERS.

EIGHT HUNDRED THOUSAND DOL-
LARS SEVEN PER CENT. CONVERTI-
BLE MORTGAGE BONDS of the CATAWIS-
SA, WILLIAMSPORT & ERIE RAILROAD Co.
—The undersigned are authorized by this Com-
pany to offer at auction \$800,000 of their 7 per ct.
Bonds, secured by a first and only mortgage on their
Road, to cost \$3,400,000, and convertible into the
stock of the Co. at any time before 1857.

These Bonds are in sums of \$1,000 each; inter-
est payable semi-annually, at the Bank of North
America, in New York, and the principal redeem-
able at the same place in 1867. They are secured
by mortgage made to Isaac Seymour and Elias Fas-
sett, as Trustees for the Bondholders.

The Catawissa, Williamsport and Erie road ex-
tends from what is called the base of the Broad
Mountain, where it connects with the Little Schuyl-
kill to Williamsport, a distance of 80 miles, with a
branch from Tamanend, near the Little Schuylkill
connection, to the Beaver Meadow Railroad, a dis-
tance of 13 miles, with the right to construct bran-
ches to coal mines on either side of the line, not ex-
ceeding 5 miles in length.

The portion of the line from Tamanend to Cata-
wissa, 35 miles, is graded for a double track, also
the branch of thirteen miles to Beaver Meadows.
To lay down the track and furnish the graded road
is estimated to cost. \$600,000
To construct from Tamanend to the con-
nection with the Little Schuylkill. 400,000
The extension from Catawissa to Wil-
liamsport. 1,000,000

Total. \$2,000,000

To produce this sum the company have issued
\$1,000,000 in bonds, secured by a mortgage, with
the right to issue \$500,000 more, under the same
mortgage, after the road is in operation to Catawis-
sa.

This gives:
To lay the track, etc., on the graded road. \$600 000
To connect with the Little Schuylkill. 400,000
And leaves \$500,000 applicable to the extension to
Williamsport. For this sum, with the balance in
stock of the Company, they have offers from res-
ponsible contractors to grade and do all the work,
and furnish all the materials.

The whole cost of the road will stand thus:
Present stock. \$1,400,000
Bonds. 1,500,000
Stock to complete to Williamsport. 500,000

Total. \$3,400,000
Deduct from this the value of the coal
lands of the company. 100,000

Total. \$3,300,000
Or for whole distance, 93 miles, \$35,483 per mile.

At Williamsport this road has two very valuable
connections, one with the Williamsport and Elmi-
ra road, now under contract, uniting it with the N.
York and Erie road, and all its chain of Northern
and Western connections, and the other with the
Sunbury and Erie road, making it an important
link in a new and shortest great trunk line between
the west and tidewater.

The arrangements are now all complete for open-
ing this entire new line of communication from
Erie on the lake to New York, Philadelphia, and
Baltimore, to-wit, the Sunbury and Erie, from the
lake to Williamsport, the Catawissa, Williams-
port and Erie, from Williamsport to Tamaqua;
the Little Schuylkill to Port Clinton; and the Read-
ing and Philadelphia, to Philadelphia. Or from
Tamaqua, the Lehigh Valley Road, to Easton,
thence over the New-Jersey Central to New-York.
The only roads remaining to be completed to con-
summate these connections are, the Catawissa,
Williamsport and Erie, and the Sunbury and Erie,
both of which are in part under contract, and the
parts not yet let only wait the settlement of some
questions as to choice of route, to be placed under
contract.

By this proposed line of Roads the distance be-
tween Cleveland and New-York is 95 miles less
than by Buffalo and Albany, 70 miles less than by

the Erie Road, and 53 miles less than by the Cleve-
land and Pittsburgh and Pennsylvania Central
Line, while the grades compare quite as favorably.

While the projectors claim for this road these ad-
vantages of through traffic, they also claim that for
local freight business it will have no superior in
the country. It passes through a broad extent of
country, at present without rail access to the sea-
board. This region is exceedingly rich in agricul-
tural and mineral products, and the road penetrates
the very heart of vast deposits of both bituminous
and anthracite coal, and of inexhaustible beds of
iron ore, the tonnage of which will far exceed that
of any agricultural district, however fertile.

Looking upon the map it will be seen that the
average distance between the Buffalo and Albany,
and the New-York and Erie, is about 70 miles; be-
tween the Pennsylvania Central and Baltimore
and Ohio, about the same; while a space is left
between the New-York and Erie, and Pennsylva-
nia Central, of about 150 miles. The proposed new
line occupies about the center of this space. Thus,
when this line is completed, there will be five great
thoroughfares from the Atlantic to the Lakes, in
nearly parallel lines, with a space between each of
about 70 miles, a distance quite sufficient to afford
an ample local business, while they are all competi-
tors for the through business.

It is believed that the connection of this road
with Elmira by the Williamsport and Elmira Rail-
road will add very largely to its traffic. By this
route from Niagara Falls to Philadelphia is but
414 miles, whereas by Albany and New-York it is
558, saving 144 miles of travel by this route. From
Elmira, by the New-York and Erie Railroad, the
distance to New-York is 274 miles, add to this the
distance to Philadelphia, 90 miles, makes 364 from
Elmira to Philadelphia, whereas, by this route, it
will be but 255, saving 109 miles, and bringing El-
mira 19 miles nearer Philadelphia, by this route,
than via New-York, by the New-York and Erie.
When it is borne in mind that the whole tide of
pleasure travel during the warm season is from
South to North; that the interchange of products
between a warmer and colder climate must always
be great, the importance of this communication
can hardly be overrated.

The Bonds will be sold on WEDNESDAY, the
16th day of February, at the Merchants' Exchange,
at 12½ o'clock P. M., by WILMERDINGS &
MOUNT.

Twenty per cent. of the purchase money will be
required upon the day of sale, the remainder in
monthly installments of ten per cent. The pur-
chasers, however, will have the option of paying
in full.

Exhibits containing full particulars of the condi-
tion and prospects of the road, with a map, can be
had at the Agent's Office.

WM. D. LEWIS, President C. W. and E. R. R.
GILBERT, COE & JOHNSON, Agents,
Corner Exchange-place and William-st.
New-York, Jan. 28, 1853.

To Contractors.

SEALED Proposals will be received at the office
of the Maysville and Big Sandy Railroad Com-
pany, in the city of Maysville, Kentucky, until
Saturday, April 2nd, 1853, at sundown, for Gradu-
ation and Masonry of Fifty-one miles of the road,
between Maysville and Springville, (opposite Ports-
mouth, Ohio.) Plans, Profiles and Specifications
will be ready for inspection for two weeks before
the day of letting.

The line from Springville to the mouth of Big
Sandy river will be put under contract as soon as
this company receive reliable assurance of being
met at that point by the Virginia Central Railroad.

By order of the Board of Directors,
THOMAS B. STEVENSON, President.
CHAS. B. CHILDE, Chief Engineer.
JAMES A. LEE, Secretary.
January 20, 1853.

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break.
How many more victims are to be sacrificed be-
fore their use becomes universal?

THOS. PROSSER & SON,
6tf Sole Agents, 28 Platt st., New York.

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.

HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York. January 28, 1853.

PATENT

Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinder to be re-bored without moving them from their places, thereby saving a great expense. Werefer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
61 Courtland St. New York.

January 20, 1853.

Orders Forwarded for Railroad Iron, etc.

THE undersigned will receive and forward orders for the purchase of Railroad Iron, and Metals generally, through the medium of his friends in London.

JOHN H. HICKS,

Jan. 27, 1851.

90 Beaver st.

3,000 Tons Railroad Iron.

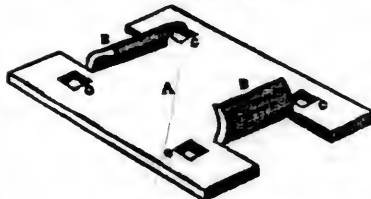
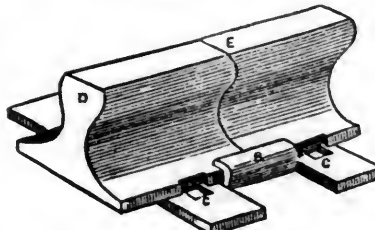
THE undersigned is prepared to contract on behalf of the manufacturers in England, for the above quantity of T Rails, to be delivered at a port in Wales.

For terms, apply to

JOHN H. HICKS,

Jan. 27, 1853.

90 Beaver st.

The American Railroad Chair Manufacturing Co.
IN POUGHKEEPSIE, N. Y.,

ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga,
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennebec and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.



HENDERSON AND NASHVILLE R. R.

SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure.

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

By a compact between the Henderson and Nashville Railroad Co., and the Edgefield and Kentucky Railroad Co., their roads are to be united at the Tennessee and Kentucky State line, and then form a continuous line of Railroad from Henderson on the Ohio, to Edgefield, on the Cumberland river immediately opposite to Nashville, a distance of only about one hundred and forty miles. When it is considered that at Nashville, through the Nashville and Chattanooga Railroad, this road connects with the whole system of Railroads and rivers leading to Charleston, Savannah, and the South Atlantic seaboard, and from thence by a Southern route of Railroads to all the Eastern and Northern cities, and that at Evansville, Indiana, only ten miles of perpetual navigation on the Ohio river distant from Henderson, it connects with the systems of Canals, Railroads and Rivers which penetrate and drain the valleys of the Mississippi and the Lakes, and extend by a Northern route to the Eastern and North-eastern cities, it cannot be doubted that this is a most important road. But if it be taken into the account that it presents much the shortest, and owing to the remarkably favorable profile of the country, for the cheapest route for a railroad designed to connect these Northern and Southern Systems, that it penetrates the richest beds both of bituminous coal and iron ore heretofore valueless because land-locked—that it passes through an agricultural region of great fertility and remarkable beauty, and opens in the South Atlantic States by the shortest, speediest, cheapest and best route, a market comparatively new, for the teeming products, especially provisions of the valley of the Mississippi and the Lakes, its value and importance cannot be over-estimated—that it will pay and pay richly, both in dividends to the stockholders and in indirect profits to those whose residence gives them an interest in the means of transportation and travel which it will afford cannot be doubted.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.
Henderson and Nashville R. R. Co.

Wilkinson's
EXPLOSIVE
RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
Iron, Chairs and Spikes
Also, Cars, Locomotives, and all kinds of Machi-
nery for Railroad purposes.
Office next door to the Custom House, Main st.
January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF

WARRANTED Cast Steel of superior quality for
Tools, Machinery and Engineering purposes.
Single and Double Shear, Blister, German, Spring
and Sheet Steel of every description; also, Cast Steel
Files of high reputation, specially adapted for the use
of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maidenlane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

SISCOE BLAST FURNACE
For Sale.

THIS FURNACE, situated in Westport, Essex
Co., N. Y., on Lake Champlain, is capable of
producing 3000 tons Pig Iron per annum. It is
blown by a powerful steam engine, and another en-
gine raises the stock, etc., etc. There are eight
Kilns, which can make 500,000 bushels Charcoal
per annum, connecting by Railroad with the Fur-
nace, and nearly an acre of sheds for seasoning
wood. One large Brick Mansion House, with ex-
cellent Farm, one Brick Cottage, seventeen Houses
for workmen, commodious Blacksmiths' and Car-
penters' Shops, etc., etc., and about 1500 Acres of
Land. The Furnace is situated on a large and
convenient Dock; Wood for making Charcoal can
be obtained cheaply in the neighborhood, and An-
thracite coal from Rondout can be delivered at low
rates. By the proposed Ship Canal from Lake
Champlain to River St. Lawrence, coal could also
be brought with great facility from Erie. The rich
Magnetic Ore of Essex County, particularly that
from the famous Port Henry Bed, can always be
procured cheaply and in great abundance. The
property will be sold on reasonable terms. Inquire
of Messrs J. & L. TUCKERMAN, 69 West street,
New York, or of F. H. JACKSON, No. 5 Liberty
Square, Boston. 1m2

LOW MOOR IRON.

WM. BAILEY LANG, 91 Liberty Square, Boston,
and 24 Broadway, New York, Sole Agent in
the United States and Canada for the Lowmoor
Iron Co., is prepared to receive orders for this justly
celebrated Iron, and offers for sale an assortment
of the Round sizes which he now has in store, and which
for strength, soundness and uniform quality, stands
without a rival.

**Superior Cast Iron Gas and
Water Pipes.**

THE Subscriber is prepared to contract for the sup-
ply of **CAST IRON PIPES** required by Gas or
Water Companies, Corporations, etc., delivered in any
Seaport in the Union, on reasonable terms. These
Pipes are cast on the most improved principle by the
best Founders in Scotland, from a superior quality
of Pig Iron remelted, are guaranteed to resist a pres-
sure of 300 lbs. to the square inch, or greater if neces-
sary, and to be soft enough to drill easily and freely.
Full information regarding price, and references to
parties in the United States now using the Pipes, can
be obtained on application to the Agent in New York.

WILLIAM KOY, Junr.,
21 Renfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st., New York. 1y50

Railroad Iron.

2000 TONS Railroad Iron, weighing about 59
lbs. per yard, "Erie" pattern of G L and
"Crawshaw" manufacture, now on the way from the
shipping ports in Great Britain to this port, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street,

December 4, 1852.

SIMEON DRAPER, No. 46 Pine-st., offers for
sale, a variety of **RAILROAD BONDS** and
STOCKS; also **CITY, TOWN and COUNTY**
BONDS, among which are—

1st Mortgage Convertible—
7 per ct. bonds of Canandaigua and Corning
R.R., payable in.....New York, 1860
Do. Buffalo, Corning and New York do.....1867
Do. Western Vermont Railroad.....do. 1861-71
Do. Evansville and Illinois.....do.....1862
8 do. Michigan Central.....Boston, 1860
Do. Peoria and Oquawka,.....New York, 1862
1st Mortgage—
7 per ct. bonds, Corning & Blossburg do.....1871
Do. Mansfield and Sandusky.....do.....1860
7 per ct. Vermont Valley.....do.....1860
Do. Troy and Bennington.....Troy, N. Y. 1861
Do. New Jersey Central.....New York, 1860-70
Do. Dauphin and Susq. Coal Co. do.....1871
Do. Brunswick Canal Co.....do.....1857

Also, second mortgage bonds of many of the above
companies, and—

7 per ct. bonds Saratoga and Wash. N. York, 1862
Do. Troy and Boston.....do.....1864
Do. Muscogee Railroad.....Savannah, 1862
Do. Huron and Oxtord.....N. York, 1862
Also, Georgia 7 per ct. State stocks,
interest payable semi-annually.....do.....1872

City of Savannah 7 per cent. bonds,
interest payable semi-annually.....do.....1870-76
7 per ct. bonds of the Town of Huron,

Erie county, Ohio.....do.....1861
10 per ct. City of Keokuk, Iowa, Keokuk, 1863
6 per cent. City of Memphis.....Philadelphia, 1860
10 per cent. City of San Francisco, San Fran. 1870
12 " " Benicia, California, N.Y. 1855
12 " " Sacramento, do. Sacramento.

7 per cent. Atlantic Steamship Co. N. York, 1855
12 per cent. Improvement Scrip of the
State of Wisconsin for improve-
ment of Fox River.....do.....1862

Troy and Rutland railroad Stock, with guarantee
of 4 per cent. dividend and one half surplus profits
of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of
4 per ct. div'd by Saratoga and Washington R. R.
Also, Stock of the Cambria Iron Company.

Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.

Stock in the Buffalo, Corning and New York
R. R. Co.

Stock in the Mansfield and Sandusky R.R. Co.
Stock in the Southern Bank of Kentucky.

Stock in the Mechanic's Bank of N. Y.
Stock in the East River Insurance Co.

The Cold Spring Iron Works,
INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-
setts, manufactures **CAR AXLES**, and all kinds
of **WROUGHT IRON** used in the manufacture of
LOCOMOTIVES and **CARS**; also, **BAR IRON** of
all descriptions. Particular attention is paid to the
manufacture of **CAR AXLES**, and the Works being
situated in a region of **WOOD** and **CHARCOAL**,
with which their Axles are exclusively made, the Com-
pany feel confident they can furnish an article equal,
if not superior, in quality and finish to any in the
market. They solicit the orders of **RAILROAD**
CORPORATIONS and **CAR BUILDERS**, and prom-
ise they shall be promptly attended to: and execut-
ed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Rail-
road, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad Riv-
er and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder,
Address **HENRY MELLUS, Agent,**
Boston, Mass.

or, **GEO. W. PRESCOTT, Sup't.**
Otis, Mass.

November, 12, 1852.

1y

Railroad Iron.

2000 TONS, weighing about 55 lbs. per yard,
now on the way from Great Britain to
New Orleans, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.

December 4, 1852.

The Cambria Iron Company,

ORGANIZED under the laws of Pennsylvania,
with a capital of \$1,000,000, propose embark-
ing in the manufacture of Railroad Iron, at **Johns-
town, Pennsylvania.** The location they have se-
cured offers advantages superior, it is confidently
believed, to any other in this country. Iron Ores,
semi-bituminous Coal, Limestone, and nearly every
article required for the manufacture of Iron, exist,
in inexhaustible quantities, on the spot; and these
deposits are now worked, and the minerals deliv-
ered, cheaper than at any other known point now
occupied for the manufacture of Iron. The Penn-
sylvania Canal and Central Railroad pass through
the property, and cross each other at the spot where
the mineral veins are most thoroughly opened out;
and which location, for its other advantages for fa-
cility of manufacturing, and vicinity to a populous
borough, has been selected for the establishment of
Railroad Iron Works, and for the erection of other
Blast Furnaces, in addition to those now in opera-
tion.

The attention of capitalists disposed to embark
in an enterprise which offers a remunerating profit,
even on the low prices of iron current before the
rise of the last six months, and which promises to
be very lucrative while anything like present rates
prevail, and also of Railroad Companies desirous
of making arrangements for Iron Rails to be deliv-
ered in 1853, is called to this enterprise.

Out of the capital named above, the sum of
\$360,000 has been devoted to the purchase of about
30,000 acres of land, upon which there are six blast
furnaces, which cost, including the personal prop-
erty accompany them, \$350,000. Three of these
furnaces are now in successful operation, and by
next spring, with an outlay of about \$6,000, the
other three can go into blast; and at the present
price of pig iron, these six charcoal furnaces would
realise a net profit of six per cent on \$1,000,000
capital.

The company contemplate erecting four more
blast furnaces, for smelting with coke the iron ores
at Johnstown, and also works for manufacturing
railroad iron. To do this, they will require sub-
scriptions in all to the amount of \$600,000, and to
carry on most profitably the manufacture and dis-
posal of rails, the whole chartered capital should
be raised. Subscription lists, providing that no
subscription shall be binding unless *bona fide* sub-
scribers for the amount of \$600,000 are obtained
by the 1st January next, and pamphlets descriptive
of the advantages of the locality and estimates of
costs, can be had of the undersigned.

D. M. WILSON, Newark,
EDWARD F. GRANT, New York,
SAMUEL H. JONES, Philadelphia,
JOHN HARTSHORN, Boston,
T. F. SECOR, New York,
G. S. KING, Johnstown,
P. SHOENBUGER, Pittsburg,
RHEY, MATHEWS & CO., Pittsburg,
or at the office of the Provisional Committee, at
SIMEON DRAPER'S, 46 Pine st.

The subscriber is prepared to enter into contracts
to deliver **RAILROAD IRON** to Companies re-
quiring it in 1853. **SIMEON DRAPER.**

Iron.

200 Tons Fishkill Charcoal Iron for sale on
reasonable terms, also from 1000 to 5000
tons Fishkill Hematite Ore—delivered at Pough-
keepsie or New York. Samples of the ore may be
seen at the store of Messrs. Hoffman, Bailey & Co.,
No. 62 Water st., New York. Enquire by letter to
NORMAN M. FINLAY,

Poughkeepsie, Dutchess county, N. Y.
July 10, 1851.

A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels
for Cars and Locomotives. Also furnish Wheels
fitted complete on best English and American Rolled
and American Hammered Axles. 311f

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchas-
ers, by **G. O. ROBERTSON,**
135 Water street, corner of Pine,
November 19, 1852. New York.

Volcano Quartz Mining Co.VOLCANOVILLE, EL DORADO COUNTY,
CALIFORNIA.

BOOKS for subscription to \$75,000 of the stock of this company are now open at the office of the company, 78 BROADWAY, New York.

The uncommonly rich claims of this company hold out inducements, to those who are disposed to invest capital in quartz mining in California, not surpassed, if, indeed, equaled, by those of any other company in that state.

The extraordinary richness of our quartz, as was witnessed by thousands at the late Fair of the American Institute, and the extent of our claims, together with the peculiarly favorable location for economical working upon a large scale, will ensure the most ample and satisfactory returns upon the investment.

It is well understood by practical men that, with machinery working twenty tons of quartz, paying two cents per lb., large profits will be realized upon each day's work. It is the intention of the company to obtain machinery sufficient to work fifty tons per day, and to work it in the most economical manner, by which they feel confident of being able, in their stock which will yield from two cents to twenty cents to the lb., to make returns to their shareholders which will not only satisfy, but surpass their expectations.

It will be seen, by reading the pamphlet, containing the charter, the laws of California, and the details of our plans of operation, that our estimates are based upon two cents per lb., and the expenses of working the mill are but, at present high prices for labor, while it is well known to all who reflect upon the matter that, as the cost of labor shall be reduced, the income will be materially enhanced.

If we work 40 tons per day, and yet two cents per lb., it will yield \$16, while three, four, or five cents per lb., would give a proportionate increase of receipts, the expenses of working the mill would not be increased a dollar, and will be less than \$470 a day.

Subscriptions can be made by mail, enclosing, ten per cent on the amount, of the balance, twenty per cent to be paid on the 29th of Nov. inst., and seventy per cent on the 29th day of December next, when certificates of stock will be issued.

Pamphlets, containing the statute of California in relation to corporations, the rules and regulations of our locality, the charter and by-laws of the Co., together with much other interesting and useful matter, including a map of a portion of the northern mining regions may be had gratis at the office of the company, No. 78 Broadway, or by mail on application, (postage paid.)

TRUSTEES OR DIRECTORS.

NICHOLAS DEAN,
ROBERT M. STRATTON,
NATHANIEL CONKLING,
D. K. MINOR,
JOB S. HEARN,
SUMNER WHITNEY,
JAMES C. DONNELLAN,
JAMES CLOUDSLEY,
JAMES ALLEN,

} of New York.

} of California.

D. K. MINOR, President,
JAMES CLOUDSLEY, Vice President.NICHOLAS DEAN, Treasurer.
NATHANIEL CONKLING, Secretary.
New York, Oct. 25, 1852.**To Railroad Co's, Locomotive Builders and Engineers.**

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Aug. 28, 1852. 3m

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

To Contractors.**CLEVELAND AND MAHONING RAILROAD LETTING.**

SEALED PROPOSALS will be received at the Office of the Company, on Superior street, Cleveland, until the first day of March, 1853, for the Grading, Masonry and Bridging of the portion of said road from Cleveland to Warren, a distance of 53 miles.

Plans, Profiles, and Specifications, may be seen at the Company's Office, in Cleveland, and the line will be ready for inspection by Contractors, 2 days previous to the letting.

The line is divided into sections of about one mile each, and bids will be received for each section separately, or for the whole line.

Estimates will be made monthly, and the payments made in cash.

Further information may be obtained on application to Jacob Perkins, Esq., President of the Company, George C. Beckham, Esq., resident Engineer, Cleveland, or to the undersigned.

The remainder of the line from Warren will be let as soon as the location can be completed.

By order of the Board.

EDWARD WARNER, Chief Engineer.

Notice to Contractors.**Alleghany Valley Railroad Lettings.**

SEALED PROPOSALS will be received at the Company's Office, in Fourth street, Pittsburg, until the 22nd day of February, 1853, for doing the Grading, Masonry and Bridging on the portion of said road, between Pittsburg and Kittaning, Armstrong County, a distance of 42 miles. The line will be divided into Sections of about one mile in length, and bids may be made for one or more or all of said sections.

Plans, Profiles and Specifications will be ready for inspection on and after the fifth day of February.

Proposals will be received for the Grading, Masonry and bridging, and also for the superstructure, and finishing said 42 miles, complete, (except furnishing iron.)

Bids will be received and considered, for the entire work, (except furnishing iron,) from Pittsburg to the New York State line.

Satisfactory references will be required from bidders not personally known to the Company.

For further information, application may be made personally, or by letter, to Hon. William F. Johnston, President of the Company, or to George R. Eichbaum, Esq., Associate Engineer, or to the subscriber.

W. MILNOR ROBERTS, Chief Engineer.

By order of the Board of Managers.

Office of the Alleghany Valley Railroad Company, Pittsburg, December 20th, 1852.

LOW MOOR AXLES.

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally, are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

E. DEWOLF, Jr.

Oct. 2, 1852. 1y

To Civil Engineers and Surveyors.

A CIVIL ENGINEER and Surveyor of very great experience in every detail of locating, designing and constructing Public Works, especially Railroads, is desirous of a situation, he has been engaged practically for the past sixteen years, and can produce the most satisfactory testimonials.

Address D. F. Carr of Geo. Gilchrist.

1 m-52

422 Washington-st. N. Y.

\$200,000 SEVEN PER CENT. CONVERTIBLE BONDS OF

the NEW-CASTLE and RICHMOND RAILROAD.—The undersigned offer for sale TWO HUNDRED SEVEN PER CENT CONVERTIBLE BONDS for \$1,000 each, of the NEW-CASTLE and RICHMOND RAILROAD COMPANY, with Interest Coupons attached, payable semi-annually at the office of the Ohio Life Insurance and Trust Company, in New York. The Bonds are payable at the same place in fifteen years and are convertible into the stock of the company within five years.

These Bonds are secured by a mortgage executed by the Company to George Carlisle, of Cincinnati, and Joseph B. Varnum of New York, Trustees of the road from Richmond in Wayne County, to New-Castle in Henry County, including the superstructure, iron rails, depots, tolls, privileges and franchises of the Company. This mortgage is the FIRST AND ONLY LIEN upon this section of the Road, which is a part of the great Trunk Railroad from Cincinnati to Chicago.

The New-Castle and Richmond Railroad extends from Richmond to Logansport, 103 miles, the whole of which is under contract, and about one thousand hands are now employed on the road.

The total amount of stock subscribed upon the whole road is \$509,400. The stock applicable to the construction of the road from Richmond to New Castle is \$250,900.

This railroad passes through the most fertile, populous and highly improved part of Ohio and Indiana, and it must become the great route for freight and travel between Cincinnati and Chicago and the Northwest.

The local business alone would be sufficient to make the road profitable. The counties of Indiana through which it runs produce annually more than two millions of bushels of wheat, five millions of bushels of corn, one hundred and fifty thousand hogs, and fifteen thousand cattle, a large part of which must be transported to market on this road.

The iron rails for more than fifty miles of the road have been purchased. Ten miles of the road, from Richmond to Washington, will be completed and in operation in November next, which will make a continuous railroad of about 70 miles from Cincinnati, by way of Hamilton, Eaton and Richmond.

The holders of the bonds will have for their security the obligations of the company, with subscriptions of stock to the amount of more than half a million of dollars, and a mortgage upon the road from Richmond to New Castle, with the iron rails, superstructure, tolls and franchises of the company.

CARPENTER & VERMILYE, 44 Wall-st.
CAMMANN WHITEHOUSE & Co. 56 Wall-st.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Sole Manufacturers, 41

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States. The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3 1849.

1v

Gerard Ralston,21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,**

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
**Railroad Iron, Chairs, or
any kind of Machinery.**

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT NO. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 7.]

SATURDAY, FEBRUARY 12, 1853.

[WHOLE No. 878, VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, February 12, 1853.

English Railways.

We gather the following interesting statistics in reference to English railways from the annual review of their traffic returns, as compiled for *Hera-path's* (London) *Railway Journal*, under date of Jan. 1st 1853. The amount of capital expended in all the railways in the United Kingdom up to July 1842, was £52,380,100; in 1843, £57,635,100; in 1844, £63,482,100; in 1845, £71,646,100; in 1846, £83,165,100; in 1847, £109,528,000; in 1848, £148,200,000; in 1849, £181,000,000; in 1850, £219,762,730; in 1851, £229,175,235; and in 1852, £239,467,453.

The average cost of the railways in operation per mile in 1842, was £34,690; in 1843, £36,360; in 1844, £35,690; in 1845, £35,070; in 1846, £31,860; in 1847, £31,709; in 1848, £34,234; in 1849, £35,214; in 1850, £35,229; in 1851, £35,058; and in 1852, £34,630. It is stated to be a most unsatisfactory feature that the average cost per mile remained at about the same figure as in 1842, notwithstanding that many comparatively cheap lines have been added to the system since that date. In 1842 the average cost per mile was £34,690, and the receipts for traffic during that year was £3,113 per mile, while in 1852 the average cost was £34,630 per mile, and the receipts from traffic £2,238 per mile, notwithstanding that the annual traffic re-

ceipts increased from £4,341,781 in 1842 to £15,083,310 in 1852, being an increase of traffic in the last year of £10,746,519 over 1842.

The English railways presentsome marked contrasts to our own. The cost per mile of our roads diminish rapidly with their progress. This is owing however, mainly to the fact, that roads are built much more cheaply in the southern and western States, which are the principal theatre of their construction, than in the eastern, from the more favorable character of the country. The earnings of our roads to, increase in much greater ratio than their mileage. Every new road opened contributes directly to the business of those in operation. The construction of a railroad tends to develop the resources of the country traversed to an extraordinary degree, so that the business upon a line increases as a general rule much faster than the increased cost of the road.

During the past year 2,500 miles of new line were opened for traffic in this country, the mileage Jan. 1st 1852 being 10,814; in 1853, 13,314; in 1851, it was 8,856; 1849, 6,397; 1848, 5,565 miles; showing an increase in five years of 7,750, or 1,550 miles annually. Our estimate for mileage to be opened the present year is 3,000 miles, which is probably below the mark.

Another striking point of contrast is in the cost of the roads of the respective countries. In the United States the privilege of building railroads is regarded as the common right of all. Our charters are freely given; not wrung from our Legislature by laborious efforts, or as the price of so much money. In many of the States, railroads may be constructed without applying to the Legislature at all. Those bodies having provided or their construction by general laws, which authorize any body of men to build roads when, and where, and at what cost they choose. Under such laws, railroad companies are organized and all the steps taken preliminary to the commencement of active operations in the field, without the expenditure or loss of a penny. In this country we are obliged to pay nothing that does not contribute directly to the object in view.

In England it frequently costs as much to obtain the right to build a road as the whole cost of such a work in this country. This when procured is looked upon as conferring special privileges on the holders. The great mass of the people feeling that

they have only a remote interest in the work, contrive to make the most they can out of the project, by thwarting its progress, by asking exorbitant sums for lands, right of way, etc., by extravagant charges for services, and by various other ways which can be better imagined than described. In this way the cost of English railroads is swelled to five times the cost of our own, although we pay twice as much for iron and labor, both of which we import from Great Britain, for we use none (with a very small exception) but English iron, and none but Irish laborers work upon our roads. With us railroads are regarded in the light of public benefactions. When one is projected, every man in the community, to be benefitted is expected to take stock, the shares of which are never put higher than \$100. By becoming parties to the work every citizen feels a direct interest in having the road economically built and well managed, because the amount he will have to pay in the shape of transportation depends upon the cost and management of the road. When a farmer lives 500 miles from a market, the addition of half of a cent per ton per mile, may equal the entire profit of his crop. With us, therefore, nearly every member in the community has a much more direct and immediate interest in securing a road that shall reduce the cost of transportation to the lowest possible point, than in what it may yield as an investment of capital; consequently we find the public voice of the whole community to be a constant check and corrective upon the cupidity and bad management of the directors. The latter always, and the president very frequently serve gratuitously. Parties through whose lands a road runs, either give the right of way, or are willing to sell it at its minimum market value, and at any important station some rich land-holder is usually found who stands ready to donate sufficient grounds for such object, or to sell them at a low figure, expecting to be reimbursed by the advanced price of other lands, he may hold. The result is what might be expected. We build our roads cheaply, as a necessary condition to their greatest usefulness, and manage them cheaply, for the same reason. But the considerations that secure their proper management and construction while they reduce the cost of transportation to the lowest practicable figure, at the same time secure a profitable return upon their cost in the shape of dividends, though this is of trifling im-

portance compared with the incidental advantages resulting from these works.

In the management of our railroads, the English might imitate us with great advantage. In some of the most important particulars, such as railway legislation, no such imitation is to be expected. Think of Parliament passing a law authorizing *John Doe and Richard Roe* to build railroads throughout England, when and where they please, to run through my Lord Peacock's park, or knock off a corner of his Castle under the simple pretext of the public good! Such legislation as this would shock the conservative notions of Englishmen and they are, therefore, content to abide the penalty—which comes to them in costly and unprofitable roads, and high rates of fare.

New York Canals.

REPORT OF THE STATE ENGINEER.

We have received the annual report of the State Engineer Mr. McAlpine, from which it appears that the cost of completing the work now under contract, will be \$10,455,617 56; of which sum \$9,451,047 94 is the estimated cost of the enlargement of the Erie Canal.

The estimated cost of work not under contract is \$551,738 55; and the amount required for its completion \$11,007,356 17.

The present condition of the Erie canal enlargement is as follows:—

	Double locks.	Single locks.	Miles.
Completed and in use.....	46	11	118 30
In use and may be fully completed in the spring of 1854....	..	..	34 62
May be brought into use in spring of 1854.....	1	..	7 71
In progress of construction, not included in the above.....	1	1	5 98
Work not commenced.....	..	14	181 32
Total.....	48	26	347 99

BLACK RIVER CANAL.

	Locks.	Miles.
Completed and in use.....	94	30 77
May be brought into use in spring of 1854.....	15	4 56
Not commenced.....	..	43 40
Total.....	109	77 83

OSWEGO CANAL.

	Locks.	Miles.
Completed and in use.....	5	..
May be brought into use by spring of 1854.....	11	..
In progress, not included in above.....	3	..
Not commenced.....	3	..
Total.....	22	..

GENESEE VALLEY CANAL.

	Locks.	Miles.
Completed and in use.....	79	80 00
Under progress.....	33	23 25
Commenced and abandoned.....	..	3 75
Not commenced.....	2	3 00
Total.....	114	118 00

The enlargement of the canal being rendered necessary to accommodate its increased tonnage; it has become a question of much importance to determine what expedients shall be resorted to, to increase the capacity of the canal, until the entire work of enlargement shall be completed.

As the enlargement of the locks has been completed, the enlarged boats can now be used; and their tonnage capacity is increased in proportion to the increased depth of the canal. It is estimated that an expenditure of the sum of \$534,000 will enable the boats to increase the weight of their cargoes from 90 tons, the maximum of the past year, to 150

tons. Of this sum 200,000 would be available toward the enlargement. The expenditure of the above amount is recommended.

A large portion of the report is devoted to the consideration of the cost of transportation over the several routes from the great interior basin of the country, to the sea coast, and the probable influence that the enlargement of the Erie canal would exert upon the internal commerce of the country. As this is a subject of especial interest to the public, as well as to the people of this State, we give this portion of the report entire.

The early completion of this work has been discussed and advocated since 1835, by nearly every legislature; by the successive canal officers; by the citizens of the State generally, and especially by those in the western and central portions of the state, and in New York city.

During this long period, the discussion of the project has developed nearly all of the arguments which can be adduced on the subject, and leaves at the present time but little more to do than to collate them.

The extension and completion of rival avenues of trade, and the recent wonderful development and expansion of the railroad system, has directed attention at the present moment to the comparative merits of the different channels of trade, from the northwestern States to the Atlantic seaboard.

The temporary suspension of the work on the enlargement, renders this an appropriate time for the discussion of its importance, and the effect which its completion will have upon the commercial interests of the State.

The geographical features of that portion of the United States east of the Rocky Mountains, are characterized by the slopes which discharge their waters into the Gulfs of Mexico and St. Lawrence, and those which drain into the Atlantic south of the latter.

The relative proportions of the areas of these drainages are as 32, 11 and 10.

The Mississippi river and its tributaries drain one half of this entire area. Its northeastern arm stretching into our State to within 200 miles of tide water, and its northwestern arm to within 600 miles of the Pacific ocean. The length of the Mississippi and its tributaries is 51,000 miles, of which over 20,000 miles is navigable.

The most important portion of the northeastern drainage, passes off through the St. Lawrence.

The dividing line of the water shed into these two outlets, is contiguous to the chain of great lakes, and is also near the navigable waters of the central and northeastern tributaries of the Mississippi.

The Atlantic slopes are drained by a number of rivers, which are of short extent, compared with those just mentioned.

These natural arteries, in the early occupation of the country, limited the area of trade, directed its flow, and indicated the position of the commercial depots for the exchange of its surplus productions, for the manufactures and luxuries of an older State.

As the population increased and expanded, various artificial tributaries to these natural channels were constructed to meet the increased demands of trade.

The aggregation of capital at the commercial depots, and amongst the denser population near the Atlantic seaboard, led to the construction of many artificial channels. These, in some cases, were constructed to divert trade from the lines of the geographical arteries.

The advantages of climate, population, and easy access to ocean navigation, have given the northern natural channel through the lakes, a preponderance, in the magnitude of its trade over the southern channel through the Mississippi and its navigable tributaries.

These advantages, however would have been lost, if this trade had been forced to seek a communication with the ocean as far north as the Gulf of St. Lawrence, where it would have encountered a cold climate, and waters inaccessible for a considerable portion of the year.

The topographical features of the State of New

York afford the only depression in the great chain of mountains running parallel with the Atlantic coast, which admits of the construction of an artificial channel for an easy outlet to the commerce of the western chain of lakes and their numerous natural and artificial tributaries.

Other depressions exist in this range of mountains through which avenues for the diversion of this trade have been projected or constructed. The State of Pennsylvania has opened a water communication (with a short break) from the Susquehanna to the Ohio, and the Virginia canal, when completed, will open another from the James river also to the Ohio, but these works are compelled to surmount an elevation which adds largely to the cost of transportation.

Private enterprise is also engaged in opening other communications between the Atlantic seaboard and the great producing regions of the north-west.

The extent of the trade and commerce thus sought to be reached by these enterprises, "is a prize worth the efforts of a people and an age to whose industrial enterprise history has furnished no parallel."

This region affording this trade embraces the six Northwestern States and Missouri, containing a population of over five millions, which doubles once in twelve years; and which has an annual cereal production equal to three hundred millions of bushels.

The surplus production of this vast region now seeks a market chiefly on the Atlantic, and must pass through the several channels of trade already spoken of.*

These channels, stated in consecutive order, are as follows:—

First, from Lake Erie, by Lake Ontario and the St. Lawrence to Quebec.

By Lake Ontario and railroads to Boston.

By Lake Ontario, the St. Lawrence, and the projected canal, to Lake Champlain, and thence to Boston or New York.

By the New York canals and the Hudson to New York.

By the New York central and southern railroads to New York.

Second, from the Ohio river—

By the Pennsylvania canals and railroads to N. Y., Philadelphia and Baltimore.

By railroad and projected canal to Baltimore.

By canal to Richmond.

And third, by the Mississippi river and its tributaries to New Orleans.

The consideration of the comparative advantages of these various routes requires an examination into the cost of transportation on the ocean, lakes, rivers, canals and railroads.

The elements of the cost of transport in these cases, consist of loading, conveying, discharging, warehousing, insurance, and in artificial channels the necessary charges to repay the cost of construction and maintenance.

The cost instead of the charges should be considered in this comparison, because the latter fluctuate on the various routes, and on the different articles which are conveyed, competition reducing them to a minimum, and monopoly raising them to a maximum.

The cost of loading and discharging, depends upon the price of labor and the facilities afforded; and the cost of insurance, on the character of the navigation.

The cost of conveying upon the ocean depends on the amount of the business concentrated at the seaport, and the facilities for reaching the open sea.

New York and Boston possess, therefore, advantages over the other cities named.

The Hudson affords an example of the best description of river navigation, in consequence of the uniformity of the flow and the smoothness of its waters, allowing the use of either sail or steam vessels, and of light hulls, thereby increasing the proportion of the weight of the cargo to the whole weight moved.

The suspension of its navigation during the winter increases the cost of transportation, as the inter-

* In 1851, the exports of wheat and flour by the Lakes were equivalent to twelve millions of bushels.

est and expenses must be charged on the business done during two thirds of the year.

The Mississippi and its larger branches have the advantage of a long route, and a current of from three to six miles an hour in the direction of the greatest trade. The fluctuations of their waters, the higher price of labor, the necessity of employing steam vessels exclusively, and the hazards of the navigation increase the cost of transportation on these waters.

The cost of movement on a canal depends upon the relative sectional areas of the boat, and of the canal, upon the actual size of the two, and upon the elevation to be overcome.

The cost of transport by canals and railroads, is increased by the tax necessary to be levied to give a remuneration for the capital invested, and also to pay the current expenses of operating and maintaining the works.

The other circumstances constituting the expense of these modes of transport, will be treated of in the following pages.

Having thus stated the characteristics of the several modes of transport, it becomes necessary to ascertain the actual cost of each, for the purpose of making a practical application of the results thus obtained, to the several channels of trade from the interior to the sea coast.

In arriving at these general results it will not be necessary to regard those fluctuations of trade and commerce tending to increase or diminish the cost of transport, which are of only a temporary character.

These rates of cost have been arrived at with great care, yet if other persons should entertain different opinions in regard thereto, or if errors should be found in their application to the different routes, the results herein stated cannot be so materially changed as to affect the general conclusions.

It becomes necessary to ascertain the cost of ocean transport for the purpose of comparing the several routes, on which articles for export are, or may be expected to be carried, and for this purpose the following table is given, which shows the distances travelled by sailing vessels and the ordinary rates of charges from the American ports already named:—

Table of the cost of transport per ton per mile.

Ocean, long voyage	1.5 Mills.
" short "	2 to 6. "
Lakes, long "	6. "
" short "	3 to 4. "
Rivers, Hudson, and of similar character	2.5 "
" St. Lawrence and Mississippi tributaries of "	3. " 5 to 10. "
Canals, Erie enlargement	4. "
" other large, but shorter	5 to 6. "
" ordinary size	5. "
" " with great lockage	6 to 8. "
Railroads transporting coal	6 to 10. "
" not for coal, favorable lines and grades	12.5 "
" " steep grades etc.	15 to 20. "

In the appendix marked E, will be found details of the cost, and also of the charges for transportation by the several modes of conveyance above stated.

These tables show that the cost per ton from the Eastern end of Lake Erie, by the several routes, is as follows:

1st. By the Canadian canals and the St. Lawrence to Quebec	\$2 58
2d. By the Welland canal, Lake Ontario, the Ogdensburg, Vermont & Massachusetts railroads	8 02
3d. By the Welland canal, Lake Ontario, St. Lawrence, proposed Caughnawaga canal, Champlain lake and canal and the Hudson to New York	3 43
4th. By the Welland canal, Lake Ontario, the Oswego and Erie canals and the Hudson to New York	2 94
5th. By the Erie canal and the Hudson river to New York	3 16
6th. By the N. Y. Central railroad and the Hudson	6 19
7th. By the N. Y. Southern railroad to New York	8 43
8th. Erie canal enlarged and Hudson river to	

New York	2 52
9th. Erie and Oswego canals enlarged and Hudson	2 43

It appears, therefore, that after the Erie canal is enlarged, it will be the cheapest channel of conveyance from Lake Erie to the Atlantic; but there is now a difference in the cost of transportation in favor of the Canadian canals to Quebec.

The cost per ton from New York by the Erie canal, Lake Erie to Cleveland, and the Ohio canal to Beaver, is \$4 77.

The same from New York to Cleveland, and the Ohio canal to Portsmouth is \$5 97, or by the way of Beaver and Ohio river, is \$5 85.

The same from New York to Toledo, and the Ohio canal to Cincinnati, is \$5 82.

The same from New York to Toledo, and the Indiana canal to Evansville, is \$6 99.

The cost from New York by the Erie canal, and the great Lakes to Chicago, thence to Peru, and the Illinois and Mississippi rivers to St. Louis, is \$7 09; and to Cairo, is \$7 61.

The cost per ton from the Capes of the Delaware through the Delaware and Chesapeake, and the Pennsylvania canals, Portage railroad and the Ohio river to Beaver, is \$4 59; to Portsmouth, \$5 67; to Cincinnati, \$5 98; to Evansville, \$6 96; to Cairo, \$7 51.

The same from the Capes of the Delaware by Philadelphia, the Union canal, and to Beaver, as before, is \$4 31; to Portsmouth, \$5 39; to Cincinnati, \$5 70; to Evansville, \$6 68; to Cairo, \$7 26.

The cost per ton from the Capes of Virginia to Baltimore, and thence by the Baltimore and Ohio railroad to Wheeling, is \$6 99.

The cost per ton from the Capes of Virginia to Richmond, thence by the James River canal, and the Kanawha and Ohio rivers to Portsmouth, is \$4 11; Cincinnati, \$4 42; Evansville, \$5 40; Cairo, \$5 98.

The cost per ton from St. Louis to New Orleans, including the extra cost of drayage and shipment at New Orleans, is \$6 89.

From the above statements it will be seen that the Pennsylvania canals reach the Ohio river at Beaver and Portsmouth, 46 cents per ton cheaper than the New York and Ohio canals; and that they reach Cincinnati, Evansville and Cairo, 12 cents cheaper.

The Virginia canal, when completed, will reach the Ohio river at Portsmouth, \$1 74 per ton cheaper than the New York and Ohio canals; and Cincinnati, Evansville and Cairo, \$1 40 cheaper.

The dividing line of trade between the Pennsylvania and New York canals is 46 miles north of Beaver and Portsmouth, and 12 miles north of Cincinnati and Evansville; but when the enlargement of the Erie canal is completed the dividing line of trade in accordance with the same principles will be extended to the Ohio for a distance of 30 miles up the river from Beaver (say to Pittsburgh), and embrace all of the trade of the Ohio river below that point.

The dividing line of trade between the Virginia and New York canals, when the former, and the enlargement of the Erie canal are completed, will be 110 miles north of Portsmouth and Cincinnati.

The dividing line of trade between New Orleans and the New York canals is now a little above the mouth of the Illinois river, but when the Erie canal is enlarged it will be extended to the Mississippi at least as far down as St. Louis.

The completion of the enlargement of the Erie canal will reduce the expense of transportation about seventy-five cents per ton, which is equivalent to extending the area of its drainage of trade 250 miles on a river similar to the Ohio; 150 miles on an ordinary canal, fifty miles on a railroad, and five to seven miles on common roads, where these

† To the cost of the movement in each of the above cases, has been added a price per ton, which would on a movement of two millions of tons per annum, pay the annual cost of maintenance and interest at 7 per cent, on the cost of the artificial works through which the several routes pass. In the case of the enlargement of the Erie canal, the movement is taken at four millions of tons, in consequence of its greater capacity.

distances are not met by competing lines, and one-half of those distances when they are so met.

The southern line of the trade drainage of the New York canals is about one thousand miles long, the increased area of this drainage which would be caused by the enlargement would be equal to one-half of either of the North-western states, and embrace a belt of the most productive lands in four of those states.

A reduction in the cost of transport through the Erie canal, such as that which will be produced by its enlargement, will also increase the amount of trade now received by permitting the exportation of many articles of large bulk and small value which are restrained by the present cost of transportation.

The whole area of the district the trade of which concentrates at the eastern end of Lake Erie, is equal to square miles.

In the appendix marked G. will be found tables furnishing the statistics of this trade and other interesting details, which the reports from the offices of this state do not furnish. These tables have been prepared from the reports of the Canadian board of Works, from Mr. Andrews' recent report to the secretary of the treasury, and from official and other sources.

These tables show that the seven north-western states and Canada West, contain a population of over six millions, an area of over 400,000 square miles, and that their annual agricultural and animal products exceed 15,000,000 tons.

The commerce of the western lakes alone, is now valued at over three hundred millions of dollars, and annually employs eighty thousand tons of steam and one hundred and forty thousand tons of sail vessels.

The amount of flour and grain transported on the lakes in 1851, was of flour two millions of barrels, of wheat eight millions of bushels; corn, seven millions, and oats and barley, two millions, making an aggregate of over twenty-seven millions of bushels of cereal produce.

The whole exports of the same articles from the United States in 1851, were but little more than half the above amount. The exports of the same articles from the city of New York in 1851 and 1852 were about one-third of those transported on the lakes:

The exports of flour and wheat to and through Buffalo and Oswego in 1850 and 1851 were:

	Barrels.	Bushels.
1850, Flour	280,116	1,160,445
1851, "	270,735	771,857

The tolls received by the state of New York from Canadian produce and property passing through the canals is estimated at over \$300,000 annually.

The increase of tonnage in 1851 over 1850, is more than fifty per cent. on each of these works.

The tonnage transported on the Welland canal in 1851, was about fifty per cent. more than that transported on the St. Lawrence canal. This excess is made up in part by about four millions of bushels of wheat, corn, and flour which were probably sent to Oswego and Ogdensburg, and by about fifty thousand tons of iron, (chiefly railroad iron) which was sent from New York by the way of Oswego.

The Canadian canals have already diverted a considerable amount of business from the canals of this state.

The Welland canal has turned a large trade from Lake Erie into Lake Ontario. A portion of this trade is received again at Oswego, but a considerable amount has passed down to Ogdensburg, and below that point, and has been lost to our canals.

The Ogdensburg railroad has carried 97,395 tons of through freight eastward, and 18,813 tons westward the last year.

The connections which this road has with nearly all of the interior roads in New England, makes this a desirable route for such articles as flour, etc., which are required for consumption in the interior of those states. This would appear from the fact that the imports into Boston in 1852 by railroads and by water, show a falling off of over three millions of bushels of flour and corn since 1848.

The comparative cost of transportation by canals

and railroads, requires, perhaps a more extended investigation than has been given to it in the preceding pages, and this is the more necessary as there is an erroneous impression that railroads may soon become important rivals to the Erie canal, and eventually supersede it in the transportation of the most important articles of freight.

For the purpose of making this comparison, it is necessary to ascertain in such case,

1. The capacity and expense of construction and maintenance.

2. The proportion of the cargo to the whole weight moved, and the expense of the movement.

The original cost of the Erie canal was \$7,143,477, being \$19,679 per mile.

The annual expense of repairs for the last ten years has averaged \$984 20 per mile, and for the preceding ten years about \$725 per mile.

The capacity of the Erie canal, before it received the advantages of the improvements by its partial enlargement was one and a half millions of tons per annum.

The average weight of the boat is 30 tons

The average weight of down cargo is 70 "

The capacity of the largest class boats 90 "

The proportion between the cargo and the whole weight is as one to 1.43, and between the capacity of the boat and the whole weight is as one to 1.33.

The expense of running, towing and horse power, is 2½ mills per ton per mile.

The cost of the enlarged canal with double locks, may be taken at twenty-eight and a half millions of dollars, being \$80,736 per mile.

The annual expense of repairs is estimated at \$700 per mile.

The capacity will be at least seven millions of tons per annum.

The proportion between the cargo and the whole weight will be as 1 to 1.2.

The expense of running, towing and horse power, will be 1½ mills per ton per mile.

The cost, exclusive of equipment, etc., of the Central line of railroad from Buffalo to Albany, is fourteen millions of dollars, and adding the cost of completing a double track would amount to twenty millions of dollars, or sixty thousand dollars per mile.

The annual expense of repairs of roadway for the last two years, has averaged six hundred dollars per mile.

In the report of my predecessor, for 1851, he makes remarks on the capacity of railroads to perform the business of the Erie canal.

His estimate would give for a double track railroad from Buffalo to Albany a capacity of about 340,000 tons per annum.

The Reading railroad transported in 1851 two millions of tons over a double track. This is, however, a short road (92 miles in length) and three-fourths of its tonnage was coal.

The regularity of this description of freight, the remarkable convenience with which it is handled and the favorable grades, (being in the direction of the trade) causes this great increase in the capacity of the road.

The capacity of a double track railroad from Buffalo to Albany, run exclusively for freight would fall short of one and a half million tons per annum.

The proportion between the freight and the whole weight moved would be as 1 to 1.7.

The average expense of operating the central line of roads in 1852, was 8½ mills per ton per mile; and of the New York and Erie and the Northern roads, was seven mills. On the Reading road, for 1851, it was four and one-fourth mills for transporting coal.

The expense of operating the road may be taken at 6 mills per ton per mile.

An abstract of the preceding statements is as follows:

	Erie Canal.	Enlarged do.	R. R.
Capacity for transport of freight, tons.....	1,500,000	7,000,000	1,500,000
Cost per mile for construction, dollars.....	19,677	80,736	60,000
Cost per mile for repairs.....	800	700	600

Cost per ton per mile for movement, mills.....

2½

1½

6

Ratio between cargo and whole freight.....

1 to 1.43

1 to 1.2

1 to 1.7

The relative cost of a railroad, and its capacity to perform the freighting business now done on the Erie canal, can be arrived at with considerable accuracy, by comparing the business done on the New York and Erie railroad during the past season, with that of the Erie canal.

The former, fully equipped, and performing an immense business, under the advantages of an economical system of private management, and the latter, under the more costly and less efficient direction of the State government.

The Erie railroad has done a mixed business of passengers and freight. The movement of the latter, is 406,460 tons, or 96,697,695 tons moved one mile.

The distance travelled by the freight, in proportion to the passenger trains, is as 13 to 10. It may, therefore, be assumed that, if the business of the road had been confined exclusively to freight, it would have transported an increased amount, in the proportion of 13 to 10; equal to 312,661 tons, or a total of 719,121 tons.

As the railroad is one-fifth longer than the Canal, this movement may be increased to 800,000 tons, or 200,000,000 tons moved one mile.

The movement on the Erie canal, a little exceeds three millions of tons, or five hundred and fifty millions of tons moved one mile.

The proportion of business done by the railroad, is to that done by the Canal, as one to two and a half.

The present cost of the road and equipments is \$27,551,206 73. The comparative cost of a road of the length of the Erie canal would be twenty-two millions of dollars.

The present cost of the Erie canal, deducting that portion of the expenditure for its enlargement, which has not materially increased its capacity, and adding for the cost of the boats, horses, etc., to equip it in the same manner as the railroad, is seventeen millions of dollars.

The comparative cost of the railroad and canal would then be as 100 to 77.

When a double track is completed on the Erie railroad, (allowing for its decrease in length,) its capacity will be increased to one and a half millions of tons, and its cost to thirty millions of dollars.

Two such roads would be required to perform the business now done on the canal, and they would increase the cost upon the principles before stated, to fifty millions of dollars.

The proportion of the cost of the canal to that of the railroad, would then be nearly as 1 to 3.

The capacity of the Erie canal when enlarged, will be seven millions of tons, and its cost, including its equipment with boats and horses, forty-six millions of dollars.

A railroad to perform this business, would require nine tracks, and would cost nearly one hundred and twenty millions of dollars.

It should be remembered that the business on the canal is confined to seven months, and the great bulk of it is done in five, so that the duration of this business may be taken at one half of the year, while the railroad has the whole year to perform its business in.

The other main avenue of trade leading to both works, are closed for the same length of time as the canal, consequently it would be perfectly fair in making the above comparisons, to reduce the duty of the railroad at least one-third in each of the cases stated.

The results above stated are, however, deemed sufficient to show that the cost of a railroad to perform the present or anticipated business of the canal, would increase the tax upon its trade to repay its interest and maintenance, so much as to turn it into other channels.

Also, the cost, and the greatest amount of business done on the leading railroads in the United States.

In the preceding pages, the comparative value of railroads and canals for the transportation of freight has been dismissed, and the superiority of

the latter maintained, yet it has been no part of my object to undervalue the former.

The Canals of New York, with one exception, have been constructed by the State—the railroads have been built by incorporated companies. The object of the State expenditure was to accommodate trade and commerce, that of the corporations to receive a profitable return for their investments.

The former has proved to be a profitable investment, and the latter has resulted in furnishing great facilities to the business of the State—and thus each in accomplishing the object proposed by itself, has also accomplished the object aimed at by the other. Both have promoted the public good. Railroads and Canals have each their appropriate functions to perform, and each adds to the business of the other. The facility for the cheap transport of the vast business between the East and West, creates the necessity for a rapid communication between the owners. The Canals are appropriate for the one, and the railroads for the other.

It has been no part of my present object to discuss the propriety of any of the financial schemes which have been suggested for accomplishing the "speedy enlargement of the Canals." That duty belongs to the financial officers of the government. I have endeavored to show that the State of New York occupies a position which enables her to command the trade of the Northwest—that the enlargement of the Erie canal is necessary to cheapen transport and retain her present advantages, and that it will also increase this trade to an extent that will remunerate the expense of its completion. Respectfully submitted, Wm. J. McALPINE, State Engineer and Surveyor.

Brunswick and Florida Railroad.

SECOND REPORT OF THE PRESIDENT AND DIRECTORS TO THE SHAREHOLDERS.

Since the organization of the company, in June last, the directors have proceeded, to the best of their ability, in carrying out the objects contemplated by the stockholders. As mentioned in a former report contracts have been entered into with Messrs. R. Collins and E. Alexander, by which these gentlemen covenant to grade the whole main line from Brunswick, 130 miles, to Thomasville and the Albany branch; to construct all bridges and culverts, and in general to do all the earth work and masonry, lay the iron, and deliver up the line in complete order, early in 1854, for the compensation of \$13,000 per mile. In pursuance of this contract, the work has been commenced energetically at numerous points along the line, and there is now graded ready for rails, a section of 10 miles of road from Brunswick westward. During this winter the contractors will have 20 miles more in readiness, and be able to lay down the iron in April, to a point at least 30 miles from the seaboard. The right of way for the whole line has been acquired at a very little cost to the company.

The directors have contracted in England, under favorable circumstances, for all the iron rails, chairs and spikes necessary to lay the track to Thomasville. It is to be shipped in parcels, a certain portion every month during this year, and will probably all arrive in Brunswick in a little over 12 months from this time. The iron is of a heavy T pattern, of superior manufacture, and payment for its first cost is to be made in the mortgage bonds of the company.

Upon the authority granted by the charter, and voted by the stockholders and board of directors, the entire line to Thomasville and Albany has been mortgaged, to secure an issue of \$1,200,000 of bonds, the proceeds of which are to be used to furnish the iron and equip the road. These bonds will only be negotiated to meet the wants of the company, for the above named purposes. The subscriptions to the capital stock of the company along the line of the road, now reach \$830,000; upon which payments have been made to the amount of \$340,000, and engagements and notes have been received for the balance of the subscription, to the satisfaction of the contractors, who entertain no fears but that the whole amount subscribed will be paid in time to meet their wants.

Though the iron for the Brunswick and Florida railroad has been purchased on favorable terms, it still costs more than was contemplated, when pro-

vision was made for it in the contract with Messrs. Collins and Alexander. To provide for this excess in the cost of the iron to furnish the increased equipment, which it becomes more and more evident will be demanded by the traffic of the district; and to meet the contingent expenses, so liable to be overlooked or under estimated by railroad companies, the directors have increased the New York and Boston subscription to \$1,250,000, ten per cent. upon which has been paid in. This subscription is entirely distinct from that of the Georgia shareholders; it has been made up by capitalists here, upon the express understanding that only such an amount shall be called on this stock, as the directors shall find necessary to fulfil the contracts of the Co., finish the road and maintain the credit of the corporation.

Interest will accrue to each shareholder according to the respective amounts paid up. The surplus of earnings after paying expenses, interest on bonds and on the amounts paid up on stock, is to be divided among the shareholders here and in Georgia, pro rata according to the number of shares each person holds.

Negotiations are now in progress for the furtherance of that portion of the plans of the company, which contemplates the extension of the road from Thomasville to Pensacola, and the result shall, at an early day, be communicated to the stockholders. Arrangements are also making for a speedy and mutually advantageous connection with the St. Marks and Tallahassee railroad, which will permanently accommodate an extensive district of country, and, by opening a railroad communication between the Gulf of Mexico and the Atlantic, will bring a large amount of business over the united roads, at a period some months earlier than a road can be constructed to Pensacola.

It may not be considered out of place to refer here to the project which has been started in Savannah, for building a railroad from that city to Albany, and thence to some point on the Gulf of Mexico.—This line of road would be of great benefit to the section of country through which it would pass, and it would in no way interfere with the prospects of the Brunswick and Florida railroad, as the local traffic along the latter route will be ample for its support, and the through traffic, from the Gulf to the Atlantic, will be far more than the road can accommodate.

The friends of the Savannah and Gulf road have brought forward a mass of evidence showing the immense results which must follow the opening of railroad communication, to supersede the ocean passage around the capes of Florida. Their calculations fully corroborate the estimates made in the report of the Brunswick and Florida railroad company of July last; and indeed the advantages which must accrue to the public and to the stockholders, from the completion of one or both of these railroads, are too palpable to require further argument. While referring to their report of July last, the directors can now repeat with confidence, that the estimates of traffic then set forth, have been in every respect confirmed by their subsequent examinations. The local traffic which must come upon their line of road from Thomasville to Brunswick, after making the most liberal allowance for expenses and contingencies, and laying by an ample sinking fund, will leave a large surplus over and above interest on the bonds and stock payments.

The Chief Engineer of the company, Mr. McRae, with an efficient corps of assistants, in attending with assiduity to the interests of the corporation. He reports that very little deviation will be found necessary, from the original line of survey, and that the route presents few difficulties or impediments to the rapid progress of the work. A locomotive and a quantity of platform cars will be shipped out to reach Brunswick in February, to meet the first cargo of iron from England. The rainy weather of the past season has delayed the completion of the canal from the Altamaha to Brunswick; but this work will be finished this winter, and afford great facilities to the railroad contractors for procuring early and cheap supplies of bridge timber, besides furnishing an immense amount of lumber and other outward freight for ships from Brunswick, before the railroad shall have passed the Santilla and penetrated into the district, which will yield its most valuable traffic.

The opening of this canal, and development of the advantages of this excellent port, will be but the forerunner of the benefits which Florida, Alabama, Southern Georgia, and indeed the whole Southern country will derive from the carrying out of the undertakings of this company. The national importance of this railroad from Brunswick to Pensacola, cannot fail to strike every attentive inquirer. The directors do not now intend to dwell upon this matter, but will, at as early a period as is consistent with the interest of the corporation, communicate to the stockholders, the steps they have taken in regard to it.

President.—Solomon Foot.

Directors.—Wm. Chauncey, Amos Davis, Thos. A. Dexter, Levi J. Knight, John Paine, S. R. Brooks.

New York January, 1853.

Journal of Railroad Law.

THE BROADWAY RAILROAD CASE.

The importance of this case in itself and also in relation to its bearing upon similar cases which will, doubtless, hereafter arise, induces us to present a brief abstract of the points decided.

It will be recollected that the Common Council, in defiance of the injunction of the Supreme Court, prohibiting them from authorising *Jacob Sharpe and his associates to construct a railway in Broadway*,—did so authorise them, and that the Aldermen passed resolutions denouncing the injunction in no measured terms, and that this was done after a copy of the summons, complaint and injunction had been served upon the Mayor, and a copy of the summons and injunction upon the members of the Common Council.

1st. Alderman Sturtevant, whose case was first taken up, was held to be *individually* a party to the suit. It has been very often adjudged that when an injunction is addressed to a corporation, every member thereof is as much bound as if he had been named individually.

Lord Kenyon briefly and forcibly stated the principle by which this subject is governed in the *King vs Holland*, 5 Term Reports, 522. "Where a duty is thrown upon a body consisting of several persons, each is individually responsible for its performance, and individually liable for its breach.

2nd. The service of the injunction upon Sturtevant was valid and regular, although when served upon him in person, it was not accompanied by a copy of the complaint.

A copy of the complaint together with the injunction was served upon the Mayor, the day before the meeting of the Aldermen. The Mayor was the representative of the whole corporation. 2 Revised Statutes, 458. The service was effectual as to every member of the corporation. Sturtevant and his colleagues actually knew the contents of the complaint, for they resolved that "the reasons for the injunction were untenable," and the complaint alone contains the reasons.

An injunction directed to a corporate body is binding upon each individual member of that body. Therefore the injunction which has been violated by the corporation as a whole, has been violated by each member thereof who has assented to the obnoxious act. Therefore, an attachment must issue against Mr. Sturtevant unless the injunction which he has violated is unlawful and void, as he contends it is.

4th. The resolution of the Common Council in favor of Sharpe and his associates, cannot be treated as a nullity, on the ground that it was only initiatory and unavailing until the grant had been accepted by Mr. Sharpe and his associates. In no case is a grant effectual by the mere will and act

of the grantors. In every case it depends for its ultimate validity upon the acceptance of the grantee. The Common Council have done all they could to make the grant effectual. The assent of the grantees has been filed with the clerk of the Common Council. The injunction was therefore violated in letter and spirit and wilfully so.

5th. The language of the injunction manifestly prohibits the passage of the resolution complained of, and this court was empowered to restrain the action of the Common Council in respect to the matter before them.

Was the order of the injunction void upon its face from a total want of jurisdiction in the court by which it was issued?

If the injunction was of such a nature as the court could issue, *under any circumstances*, to the Common Council, this body disregarded it at their peril.

For the purpose of determining whether they would obey or disregard the injunction, they had no right to look into the complaint at all, and this for the plain reason that the jurisdiction of the court may be certain and undoubted, and yet the facts and allegations set forth in the complaint, be wholly insufficient to warrant its exercise. When this insufficiency exists, there is a want of equity in the complaint for which the injunction will be dissolved; but this want of equity is no evidence of a want of jurisdiction, that rendering the process void, justifies disobedience. A party before whom an injunction is served, (they are the words of Chancellor Walworth that I quote,) is not permitted to speculate upon the future decision of the court as to the equity of the bill, and disobey the injunction, upon the ground that upon the merits it ought not to have issued. (*People vs. Spalding*, 2 Paige, 329; *Sullivan vs. Judah* 4 Paige, 446.) I add, that if there are any valid grounds in law, upon which the injunction in a particular case might have issued, although not one of the grounds may be stated in the complaint, the court has jurisdiction; and its order must be obeyed. It is erroneous but certainly not void; and it is only a certain and manifest invalidity that can excuse and protect disobedience.

The distinction between want of equity and want of jurisdiction is intelligible, certain and established.

The doctrine contended for by the defendant that neither the propriety nor legality of proceedings pending before legislative bodies may be inquired into by Courts of Justice, may be true when applied to the legislature of the State, which, as a co-ordinate branch of the government, representing and exercising in its sphere the sovereignty of the people, is, for political reasons, of manifest force, wholly exempt in all its proceedings from any legal process or judicious control; but the doctrine is not, nor is any portion of it, true, when applied to a subordinate municipal body which, although clothed, to some extent, with legislative and even political powers, is yet, in the exercise of all its powers, just as subject to the authority and control of courts of justice, to legal process, legal restraint, and legal correction, as any other body or person, natural or artificial. The supposition that there exists an important distinction, or any distinction whatever, between a municipal corporation and any other corporation, aggregate in respect to the powers of courts of justice over its proceedings, is entirely gratuitous, and, it seems to me, is as destitute of reason as it certainly is of authority. The counsel could refer us to no case, nor have we found

any, in which the judgment of the court has proceeded upon such a distinction.

And the Constitution of our State declares that "all corporations shall have the right to sue and shall be subject to be sued, in all courts, like natural persons." Therefore if the Common Council can claim immunity from judicial restraint, so can every Bank, Insurance company, Hospital, Library or Savings Bank. They all have legislative powers in the same sense, although not with so wide a scope as the Common Council. They may all make by-laws, and they may clothe in the form of a by-law any fraudulent operation.

But will the Court interfere with the discretion of a corporate body? It will interfere—and it is bound to interfere, whenever it has reason to believe that those in whom the discretion is vested are prepared, illegally, wantonly, or corruptly, to trample upon rights and sacrifice interests which they are specially bound to watch over and protect.

In the 1st of railway cases 195, Lord Cottenham declared "that when public functionaries are departing from the powers which the law has vested in them, and are assuming a power which does not belong to them, this court no longer considers them as acting under their commission, but treats them, whether a corporation or individuals, as persons dealing with property without legal rights;" and he added, "that when such persons infringe or violate the rights of others, they become, like all other individuals, amenable to the jurisdiction of this court by injunction.

Consequently the injunction order was not void, from total want of jurisdiction in the court whence it issued, if there is any ground whatever upon which this Court could lawfully restrain the corporation from making the grant which the order described. And there are many such grounds.

First. It may be that the corporation cannot establish, nor authorize any one to establish, a railway in a public street.

Secondly. It may be, that a Broadway railway, would be an injurious monopoly.

Thirdly. Perhaps a Broadway railway would be a public nuisance.

Fourthly. The grant to Jacob Sharp, and his associates may have been procured by corruption.

An attachment must be issued.

Cincinnati, Cambridge and Chicago Short Line Railway Company.

The Cincinnati Gazette states that a Company with the above title, was organized at Cambridge City, Indiana, on the 10th inst. A Board of Directors was elected, consisting of Thomas Tynes, Solomon Meredith, John Crum, Charles H. Raymond, Pleasant Johnson, Jacob Vare, Jesse Wiatt, Robert Umpley, Dickerson Hurst and Wm. H. Bennett, of Indiana, and Caleb B. Smith, S. C. Parkhurst and George Graham, of Cincinnati, Caleb B. Smith was elected President of the board.

This company also contemplate the construction of a road from Newcastle, by way of Cambridge City, to the State line, to connect with the line of the Cincinnati Western Company. It is designed to consolidate these two companies, and thus make one line from Cincinnati to Newcastle. From Newcastle to Chicago a road has been located on a direct line, and on a large part of the route. The work is now in progress. The work now projected is designed to complete a straight line from this city to Chicago, and by connecting with the Indiana Central road at Cambridge City, to make a direct road from here to Indianapolis.

Ohio and Pennsylvania Railroad.

ANNUAL REPORT TO THE STOCKHOLDERS.

GENTLEMEN:—The Board of Directors of the Ohio and Pennsylvania railroad company respectfully submit to the stockholders their annual report for 1852, and congratulate them on the results of the past year, and the encouraging prospects of the continued and increasing prosperity of the company.

The earnings of the road, as it has been gradually extended, have exceeded the expectations of the Board; the number of passengers carried in the year has reached two hundred and thirty-six thousand and thirty-three, (236,033). The gross earnings have been \$315,118 53, and the net earnings, \$172,985 18.

That part of the road upon which the ballasting has been completed is believed to be as smooth, as pleasant to ride upon, and as easy upon the machinery, as any road in the United States. The trains are run with great regularity, and the express train makes the run from Pittsburgh to New Brighton, twenty-eight miles, in one hour, and to Alliance, eighty-two miles, in three hours and a half. Whenever it is necessary to do so the speed can readily be increased. The travel of the country is controlled by the time taken and the price charged; and for the through travel from distant points, for which so many lines will compete in Ohio, our road will enter the field of competition, with low grades, a smooth track, a cheap line, and a large number of important connections. Our local business from the rich counties and many populous towns along the line will furnish a sure reliance; and we have no doubt that with judicious management the stock of the Ohio and Pennsylvania railroad company will always be a safe, reliable and profitable investment. The Board desire and intend that stability, reliability, and punctuality should characterize both the road itself and the financial policy of the company.

On the 6th day of January, 1852, the road was opened to Alliance, 82 miles from Pittsburgh, where it intersects the "Cleveland and Pittsburgh railroad." On the 11th of March it was opened to Massillon, and a connection was accomplished with the Ohio Canal; and on the 10th of August the opening of the road to Wooster, 134 miles from Pittsburgh, was celebrated. The ballasting has been completed on about 75 miles of the track, and three-gravel trains are now employed upon it.

In the last annual report the Board stated to the stockholders that—"From Wooster, by Loudonville and Mansfield, to the point of intersection with the Cleveland, Columbus and Cincinnati railroad, a distance of 53 miles, the grading and bridging are under contract and in progress. Arrangements have been made for timber, and the Board hope that they soon will be for the requisite railroad iron. If an ample supply of funds can be provided, the whole road can be brought into use in twelve months from the present time."

Aware of the importance of accomplishing a direct connection with the Mansfield and Sandusky and the Cleveland, Columbus and Cincinnati railroads as soon as practicable, the Board lost not time in endeavoring to procure "an ample supply of funds." The local subscriptions on the western division were inadequate to complete the grading and bridging, and did not form a sufficient basis of credit to provide the superstructure. Additional means from other sources were therefore absolutely necessary, and it took some time to obtain them. On the 16th day of July the President laid before the Board the official subscription of the Mayor of the city of Allegheny for 4,000 shares, \$200,000 of the stock of the company, being in addition to a similar sum subscribed when the road was begun; and also the official subscription of the President of the Pennsylvania railroad company for 5000 shares, or \$250,000 of the stock of the company. Both these subscriptions were applicable to the completion of the work between Wooster and Crestline; and as soon as they could be rendered available they were applied to that purpose. If the money thus obtained could have been had early in the Spring, the work might have been done before now; but, notwithstanding the delay of several months in the early part of the season, and the wet weather, high water, and bad roads which have retarded the contractors since, about thirty working

days from the present time will suffice to complete the track-laying from Wooster to Crestline, and to give us the through travel and the spring trade over the whole distance of 187 miles from Pittsburgh to that point. The timber of the superstructure is nearly all down, and the iron is laid from Wooster to Lakeville, a point 150 miles from Pittsburgh, to which the construction trains now run. At or near this point, the Springfield, Mount Vernon, and Pittsburgh railroad will intersect our line, and form its best and most direct connection with Cincinnati. With the advantage of light grades, and a cheap line through a beautiful country, we are satisfied that this route will compare favorably with any other that may be constructed or projected to connect Cincinnati with Pittsburgh and Philadelphia. From Mansfield the iron has been laid eastward to a point beyond Lucas, and the work is in progress in both directions from Mansfield.

The Ohio and Pennsylvania railroad company was chartered by both the States whose names it bears, with ample powers and privileges, for the express purpose of making a railroad to connect the internal improvement system of one State with that of the other. The joint charter thus granted was accepted, and the work prosecuted in good faith, for this very purpose. By its provisions as soon as ten miles of the road were completed and brought into use, the charter became perpetual, and although the road has had several temporary termini, and although no limit of time is fixed by the law for the completion of the remainder of the road, its chartered rights extend from the city of Pittsburgh to the western line of the State of Ohio.

The Pennsylvania railroad company has agreed to subscribe one hundred and fifty thousand dollars to the stock of this company, to be expended in constructing the connection between the two roads in the city of Pittsburgh. A short link, of easy construction will also be needed between Crestline and Galion, a distance of about three and a half miles, to perfect the connection with the Bellefontaine and Indiana road, and with the lines leading to Indianapolis and St. Louis. Negotiations are pending, but not yet concluded, in relation to both of these short but important junction lines.

A net work of railroads is fast overspreading the State of Ohio, and the day of intense competition in that State is rapidly approaching. Through the Lake Shore line, both of the great rival railroads of the State of New York, the New York and Erie, and the Buffalo and Albany roads, are now in actual connection with the roads of Ohio. The Baltimore road, after a struggle of twenty-five years, has at length reached the Ohio river at Wheeling. The passenger runners and freight agents of the New York lines are spread throughout the West, and the time is at hand when the Pennsylvania route must be freed from all unnecessary expenses and delays. Pennsylvania can never command that share of the through business to which her position entitles her, until the whole line through the State is brought into a condition to compare favorably with rival routes. We have reason to expect the completion of the mountain division of the Pennsylvania railroad in a few months, which will do away with the greatest difficulty that now impedes our progress.

If the line through Pennsylvania was worked at as low rates per mile, and in as systematic a manner as the New York lines, by a union of interests between the Pennsylvania railroad and those belonging to the State, those roads in the West which now divert the business from Pittsburgh, would at once become feeders to our improvements. We feel assured that the force of competition must, sooner or later, bring about this result so important to our road.

We desire to cultivate friendly relations with all other lines, with which ours is or may be connected, whilst at the same time we endeavor to protect and promote, in every way in our power, the interests of our own company.

At the Federal street station in Allegheny city, we have purchased or appropriated the lots lying intermediate between the railroad and the Pennsylvania canal, so as to give the company a front of about seven hundred feet on the canal for the convenience of transshipping freight. At Massillon ample frontage on the Ohio canal has been secured,

and a track laid to the company's wharf. On the opening of canal navigation in the spring we look for a large business between these points.

The Cleveland and Pittsburgh, the Cleveland, Columbus and Cincinnati, and the Little Miami railroads, are working in harmony with our road, to the mutual advantage of those lines, together with ours and the Pennsylvania railroad, which we hope will continue to be the case.

Enterprising parties in Ohio have undertaken the construction of the Cleveland and Mahoning road, from Cleveland south-eastward by way of Warren. They propose to connect their line with ours at or near New Brighton. When constructed, this line will give us two alternative routes to Cleveland, passing through different districts of country.

The construction of another connection, that of the Darlington Cannel Coal railroad has been commenced and will doubtless be pressed forward with vigor. This work cannot fail to promote the general income of our road.

When we reach Mansfield, (which we hope to do in about a month,) by means of the Mansfield and Sandusky city railroad, we shall have a continuous connection with Sandusky city, Toledo, and Chicago, and we think that the interchange of business at Mansfield, will be highly advantageous to both companies.

The peculiar position of our road, intersecting and connecting with so many other lines, running westward, north-westward, and south-westward, renders its relations with other companies exceedingly complicated: and calls for the exercise of the greatest prudence and caution in making arrangements with roads, which are controlled by so many conflicting interests.

Our rule of action is to make the interests of this company, and of its stockholders, the pole-star of our policy, and not to be swerved from this course either by threats or importunities. Whilst treating all applications with respect and attention, we are careful to concede nothing calculated to injure the interests of those whose trustees and representatives we have undertaken to be.

By pursuing a judicious and firm course of policy, we are satisfied that the Ohio and Pennsylvania railroad can be always maintained in the position of a safe and highly desirable investment. Its stock is now at par, or very nearly so, at home, where its value is best understood, and its bonds are above par in the eastern market. Those who subscribed to the stock originally, to help the work along in its infancy, have no reason to regret it.— They have aided in accomplishing a most important public improvement; and they have received interest in stock on their paid-up instalments. The Board propose now to close the stock interest account, and to commence in July next the payment of cash dividends. After paying all the expenses of keeping up the road, and its equipments, and operating it in the best style, and paying the interest on the company's bonds, the Board believe that the earnings of the year 1853 will pay at least 7 per cent to the stockholders. In succeeding years, when the road and its connections are more fully completed, better results may be anticipated. We have carefully avoided the creation of a floating debt, and have fortunately purchased the iron for the road for about three hundred and fifty thousand dollars less than it would cost at the present market prices.

Extended western connections working in harmony with our road, are very important to the interests of this company; and after mature deliberation, the board have determined to recommend to the stockholders to pass resolutions giving authority to the board to contribute one hundred thousand dollars, on the part of this company towards the construction of the Springfield, Mount Vernon, and Pittsburg railroad, and a like amount to the Ohio and Indiana railroad, on such conditions as the board may think necessary to protect the interests of this company.

The first of these roads is under contract from Springfield to Mount Vernon, and the company needs aid to enable it to connect with our road at a point east of Loudonville. It is a matter of great importance to us to secure this connection with central and south western Ohio, and with the city of Cincinnati.

The Ohio and Indiana road is under contract from Crestline to Fort Wayne, and it will form part of the most direct route from Chicago to Pittsburgh, Philadelphia and New York. Its speedy completion will greatly benefit our Co.

Whilst the board are anxious not to authorize on recommendation any expenditure of capital, except in cases where it is clearly the company's interest, they feel that in the management of such a great enterprise as ours, a reasonable degree of liberality is sometimes the soundest and safest policy, and whilst gratefully acknowledging the opportune aid rendered to them by the Pennsylvania railroad Co. they feel that by aiding the two roads referred to, we shall make the best return in our power to render.

No railroad can be considered to be entirely completed while the increase of its business requires facilities for its accommodation. We have considered it good policy to make preparations for a large trade, and to increase our side tracks, station houses, and other conveniences accordingly. Additions must also be made to the equipment of the road, as the developments of the business require. The road was originally graded and bridged for a double track from Pittsburg to New Brighton, twenty-eight miles, and in accordance with the recommendation of Solomon W. Roberts, Esq., the chief engineer and superintendent, the board propose to lay about ten miles of new track between Pittsburg and Sewickley, in 1853, which will suffice to complete the second track between those points, by uniting the turnouts already laid. The New Brighton accommodation train now has thirteen stopping places in twenty-eight miles, and applications for more are still urged. Unless the doubling of the track is begun soon after the road is opened to Crestline, this train will begin to produce serious inconvenience.

Negotiations are pending, but not yet consummated, for the erection of a telegraph line along the railroad, the want of which is sensibly felt.

The cost of the Ohio and Pennsylvania railroad will be about half as much per mile as the Pennsylvania railroad, which must always be its main eastern connection. When the Central route is complete, and all the inclined planes avoided, the shortness of this line to Philadelphia and N. York, must tell powerfully in its favor. As a line to Baltimore, it has also great advantages, the distance from Pittsburg, by Harrisburg, to Baltimore, being 333 miles, with moderate grades, against 380 miles from Wheeling to Baltimore, with the Alpine grades of the Baltimore and Ohio railroad.

The construction of the Alleghany Valley railroad will give our line a highly important connection with Northwestern Pennsylvania and with the railroad system of the state of New York.

The report of the treasurer is herewith submitted showing the financial condition of the company. The amount of stock issued is \$1,750,700 00; of mortgage bonds, \$1,750,000 and of income bonds \$700,000.

A report made to the president, by the chief engineer and superintendent, is also submitted for the information of stockholders, accompanied by a number of tabular statements exhibiting a variety of details in relation to the working of the road.

Respectfully submitted by order of the board of directors.

WM. ROBINSON, Jr. President.

Pennsylvania.

Susquehanna Railroad.—At the annual election, held at the office of the company, in Harrisburg, the following gentlemen were elected directors and officers of the company: Henry Tiffany, W. F. Murdock, Daniel Holt, Alexander Fisher, William Gilmore, Simon Cameron, Eli Slater, Geo. F. Miller, Joseph Casey, Jacob S. Haldeman, Joseph R. Priestley, John B. Packer, Wm. F. Packer, A. B. Wasford, chief engineer.

Illinois.

Atlanta and Lagrange Railroad.—This road is now completed to Lagrange, some 70 miles from Atlanta and within about 15 of West Point, the Eastern terminus of the Montgomery and West Point railroad.

Ohio.

Cleveland, Zanesville and Cincinnati Railroad.—The above is the new title for what was formerly the Akron Branch road, the name of which has been changed as provided by a general law of the state.

The annual meeting of this company was held at Akron, on the 26th ult., at which Messrs. Perkins, McMillen, Henry, Miller, Day, Butler and Cary, were re-elected directors. The directors unanimously re-elected Col. Perkins, president; Prof. Day, secretary; and J. W. McMillen treasurer. The reports of Mr. Grant, the chief engineer and the other officers, presented an encouraging state of facts as regards the past operations and future prospects of the road, and speak well for the prudence and efficiency of the officers and directors of the company. The following figures are from the annual report:

EXPENDITURES.	
Right of way.....	\$36,824 90
Engineering.....	16,224 41
Contingencies.....	10,933 22
Interest.....	4,058 73
Road bed.....	166,418 80
Superstructure.....	119,281 38
Equipment.....	37,636 89
Station buildings and machine shop fixtures.....	17,078 99
Total expenditures.....	\$408,457 32
Amount derived from stock.....	261,224 35
Bonds.....	128,197 61
Road receipts, Bills payable, etc.....	19,035 36
	\$408,457 32

RECEIPTS.

The total receipts from the road to December 31, were:	
Passenger business.....	\$12,760 50
Freight and mails.....	3,097 77
Gross receipts.....	15,858 27
Less expenses.....	5,240 06
	\$10,618 21

No. of passengers conveyed, 36,404.

Philadelphia Waking Up.

The city councils of Philadelphia have voted a subscription of 10,000 shares to the Hempfield railroad, 20,000 shares to the Sunbury and Erie road, and instructed their delegates to the meeting of stockholders of the Pennsylvania railroad to vote in favor of a subscription by the latter to the Marietta and Cincinnati railroad. The following is the preamble and resolutions adopted in reference to the aid proposed to be extended to the Marietta road.

Whereas, In the opinion of councils it is the interest of the Pennsylvania railroad company to assist with its credit, within limits suggested by sound judgment in forming those links of communication which are necessary to effect the purposes of its organization, and to secure to Philadelphia her just proportion of the trade of the West and South West, which, without active exertion, she will be deprived of by reason of the great efforts now making by the cities of New York and Baltimore to attract the same exclusively to their markets.

Therefore, Resolved, That as stockholders in the Pennsylvania railroad company, the councils do assent to a subscription by said company of \$750,000 in the capital stock of the Marietta and Cincinnati railroad company, and that his Honor Chas. Gilpin, Mayor, and John Price Wetherill and Thomas Snowden, Esqs., presidents of Select and Common Councils, be, and they are hereby appointed delegates to represent the city of Philadelphia at the next annual meeting of said company, with full authority and instructions to cast the vote of the stock held by the city, in behalf of such

subscription upon condition that the remaining legislation be first had and obtained.

American Railroad Journal.

Saturday, February 12, 1853.

Hudson River Railroad.

We publish this week the returns made by this company to the Legislature, under date of September 30, 1852.

We have for a long time held, and have frequently expressed opinions unfavorable to the financial prospects of this road, which we are sorry to see so fully confirmed by the figures furnished by the company.

The total cost of the road Sept. 1st, 1851 was.....\$9,305,551 09
The total cost of the road Sept 1st, 1852 was.....10,527,654 75

Showing an increase during the year of.....\$1,222,103 66

It will be recollected that the road had been opened for its whole length, previous to the first date.

The present amount of funded and floating debt is.....7,002,985 42
The interest on this debt at the legal rates is.....490,208 97
The gross receipts of the road the past year were.....1,063,659 31
Expenses for the same period.....724,876 55

Leaving for net earnings.....\$338,782 76

Showing the net earnings of the company the past year were not enough to pay the accruing interest of the sum of \$151,426 21.

The company paid interest the past year upon \$5,783,000 only; a sum of \$1,219,985 less than the present debt. The interest account is stated at \$409,264 72.

The net earnings being only \$338,782 76, the company were compelled to borrow \$70,481 96 to meet the accruing interest upon a portion of the present debt, while at the same time their funded and floating debt increased as before stated by the sum of \$1,219,985.

The company are now carrying passengers at the rate of one cent per mile. By the returns in another column already referred to, it appears that the whole number of miles travelled by passengers for the year 1852 to be 47,464,368. The expenses of passenger transportation for the same period were \$545,684 99, which is equal to a cost of 1 15-100 cents per passenger per mile; that is, *it cost for the year 1852 1 5-10 mills per passenger per mile more than the company is now receiving.* The company therefore upon their own showing are not paying expenses, as far as the passenger traffic is concerned, and it is well known its receipts are chiefly derived from this source. But this is not the only bad feature in the case. The road is still very far from completion. From the best information we can obtain, sustained by the opinion of some of our best engineers, the expenditure of at least 2,500,000 is necessary for this purpose. Only 55 miles of double track is completed. To raise which, at the price obtained for the last securities sold by the company, will carry the funded and floating debt up to about \$10,000,000, requiring a net income of \$700,000 to pay the interest account alone.

At the rate of one cent per passenger per mile the company cannot do better than pay expenses with any amount of business at its command.

This sum is the ordinary estimate of cost upon the average of our roads. Unless therefore this company can increase its charge, its receipts will not more than meet expenses, as is shown by their own report.

The surplus which the returns show was derived from the freight traffic for the winter of 1851 and 1852 which is known to have been large, and from the higher rates of fare, to wit, 2 cents per mile charged for a great part of the year. But the company were driven from this high rate, against sound policy as we think, by the steamboat competition. Having yielded to this competition, and given the public a taste of low fares, any increase of their rates would probably drive a greater part of the travel back again to the river. The company are in a dilemma from which we see no way of escape, and which supercedes the necessity of any inquiry as to the manner in which its affairs have been conducted. If the route be such that the business will not pay, then it matters not whether the road has cost \$10,000,000 or \$20,000,000, as far as the question of income is concerned. In such case no management can correct the original fault which consisted in building the road.

The road in fact occupies a route that will not pay. At the rates charged, it is earning nothing, and any increase drives its business to other channels. The greater part of it is *through* business, and it is a maxim in railroading that the *through* traffic never pays; or in other words, it is the *local* traffic from which the greatest profit is derived. The Hudson River road has the river in front and the Harlem railroad in the rear; its local business is therefore drawn from a very narrow belt of country, without large towns, and not distinguished for its productiveness. During the season of navigation, it has no *freight* traffic worth mentioning, and for the same period it holds its passenger traffic only by submitting to ruinously low rates. Such seems to be a correct statement as to the condition and prospects of this company.

While such are the facts, it is undoubtedly true that in the direction and management of the company, several capital blunders have been committed. The road has cost too much by millions, which have been lost in construction; in improvident and unwise expenditures, for we do not think that any jobs have been made out of this concern by the directors. The profits included in the construction account have gone into other hands. It has been unfortunate for this company that it has had so little sympathy from the public, which, instead of lending a helping hand, has opposed and endeavored to thwart its plans at every step. The consequence is it has been compelled to pay enormously for everything; lands, right of way, and services of all kinds. It has made no appeals for public sympathy, and for that aid which is often far better than money, the good will of the public; and it possesses neither. The internal management of the company has been bad from the outset. One or two parties connected with the road, have always exercised an overshadowing influence which has been felt in every department. To this fact is to be attributed the constant and frequent change of its executive officers from the highest to the lowest grade. Persons who have acquired an enviable reputation from long experience on other roads, employed upon this, have disappeared from it for no other reason than their refusal to carry out the will of those who constituted the financial strength of the company. In fact since the road was first commenced, one or two persons have virtually filled the

offices of president, chief engineer, treasurer, superintendent, etc., etc. The management of all the departments was made to conform to their idea of propriety. Here undoubtedly has been a great error. Because a man has wealth or great business capacity, or stands high in the financial circles, he is not in virtue of these, presumed to be qualified to superintend the operations of a road its engineering department, and his interference may be as fatal to its success as were his efforts necessary to secure the means for its construction. "Every man is to be trusted in his own calling" is a wise maxim, and the violation of it has proved destructive to the interest of other projects than the Hudson river railroad.

Our only object in the above is to convey a correct idea of the condition and prospects of this road.—We have argued only from data furnished by the company, and which will be found in another column. Its condition is fitted to inspire sympathy rather than any unkind feeling. It is a great work, calculated to promote the interest of this city in the highest degree. Those to whose efforts we are indebted for its construction, are certainly deserving a very different reward than awaits them.

Ohio and Pennsylvania Railroad.

We give this week the 5th annual report of this company, which presents its affairs, and future prospect, in a very favorable light.

The road was one of the pioneer projects, in the recent railroad movement in Ohio. It commenced with feeble means, before confidence had begun to be felt in Western roads, and when capital was dealt out with a sparing and distrustful hand. The company fortunately secured the services of two gentlemen to take charge of the financial and engineering department, who not only brought to their respective duties the right kind of ability, but whose selection, contributed to secure to the project no small amount of the confidence which it now enjoys. By dint of good management both at home and abroad, the means of the company have been increased in equal ratio with the progress of the work, and the moment of its completion, is the period of its greatest strength and popularity. To commence with the slight means at the command of this company in the outset, and to carry its work forward with a steady and uniform pace, and when completed, to show its securities at a large premium in the market, and its stock at *par*, is no common event. And those who have achieved such results, are, more than most men, the benefactors of their fellows. The actual advantage of this road to the country traversed, is, we have no doubt, ten times greater than its cost, in addition to all the direct revenues that it will yield.

We are free to speak of this project because we have been somewhat familiar with its affairs from the start, and we know of no other company that have had greater obstacles to encounter, who have surmounted them with more untiring energy and resolution. Other companies may have done as well, if so, they deserve a high meed of praise.

Accompanying the report of the President is that of the Chief Engineer and Superintendent, S. W. Roberts, Esq., which presents more in detail, the general statements of the President. When the full report is received, we shall refer to it again.

Pennsylvania.

Columbia Railroad Monopoly.—We learn from Philadelphia that the Pennsylvania Central railroad company have purchased the interest held by Messrs. Bingham & Dock in the Columbia road.

Railroad Iron.

The progress of our railroads is an interesting subject, in connection with the supply and prices of railroad iron; and it is well to keep the former in view, as a means of estimating the probable future price of this most important article in our great enterprises.

The increased mileage of our railroads for the past few years has been as follows:

No. of miles opened Jan. 1, 1848....	5,565	Annual increase.
" " " " 1849....	6,397	832
" " " " 1851....	8,856	*1,215
" " " " 1852....	10,814	1,958
" " " " 1853....	13,314	2,500

We estimate the mileage opened the present the mark. Assuming a favorable condition of the money market, the mileage opened in 1854 will be at least 3,500 miles. On the 1st day of January, 1855, therefore, or a little less than two years from year, to be, 3,075; which certainly is not above this time, there will be 20,000 miles of railroad in operation in the United States. In the meantime a large amount of double track will be laid, say from 800 to 1,000 miles.

At the present weight used, it requires about 100,000 tons of rails to every 1,000 miles of new road. Upon all the railroads in the United States, therefore, there will be laid on the first day of Jan., 1855, over 2,000,000 tons of railroad iron.

But the amount that goes into rails makes but a small portion of the aggregate for which railroads create demand and consumption. The consumption consequent upon, and immediately following the construction of railroads, is probably three times greater than the quantity used for rail.—Should this estimate prove correct, it will be seen that the demand for rails will bear but a small proportion to that for other objects.

How is this demand to be supplied? Largely by our own works, no doubt. We shall also be compelled to obtain extensive supplies from the foreign maker.

We state these facts as means of forming a correct estimate as to the future. From the data given, parties must and will make such figures, as will suit themselves, as to the prospective price of rails.

We presume the make in this country, as well as in Great Britain, will be rapidly increased to supply the immense demand which is inevitable.

Air Line Railroad.

We have the satisfaction of stating that this important project has recently been placed under contract to parties who unite the highest respectability of character and great experience in railroad construction, with ample means. The work of construction will be commenced immediately, with a design of completing the whole road, with the least practicable delay.

The road when completed, will form the nearest practicable route between Boston and New York, and will be some 20 miles at least shorter than any other. In addition to this advantage to the through travel, no portion of Connecticut will supply a larger local business than the line traversed by this road. It is densely filled with a rich, industrious and active population, which as yet are unsupplied with suitable railroad accommodation, connecting with the two great eastern markets, New York and Boston.

The railroads of Connecticut as a general rule

* Two years, averaged.

have been very successful enterprises. They are constructed at a comparatively low cost, and the numerous manufacturing establishments scattered over the whole State afford a large and lucrative traffic. The relations between these, and the cities named, are most intimate, which secures to the roads a very large freight, as well as passenger traffic.

The immense freight and passenger business between Boston and New York is well known. There are three daily lines made up partly of railroads and water, and two by railroad, all of which are well patronized, making five well supported lines. This fact must be a sufficient guarantee for a large through business upon the proposed road, while at the same time there can be no doubt of a lucrative business from local traffic.

Stock and Money Market.

During the present week there has been a very unsteady stock market, principally among the fancies. For the first few days there was a large decline in Erie, Harlem and Hudson River, most of which have, however, nearly recovered their old standing. For sound securities the demand continues good, and money remains abundant for all practicable purposes.

The principal event of the week, is the announcement of a new loan for the Erie railroad of \$10,000,000, secured by a mortgage which takes precedence of the \$10,000,000 convertible and income bonds. The knowledge of the loan appears to have had a favorable effect upon the securities and stock of the company.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, FEBRUARY 12, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	100½
U. S. 6's, 1856	108½
U. S. 6's, 1862	115
U. S. 6's, 1862—coupon	115
U. S. 6's, 1867	120
U. S. 6's, 1868	120
U. S. 6's, 1868—coupon	120
Indiana 5's	101½
Indiana 2½	57
" Canal loan 6's	96
" Canal preferred 5's	40
Alabama 5's	98
Illinois 6's, 1847	89
Illinois 6's—interest	61
Kentucky 6's, 1871	110
Maryland 6's	110½
New York 6's, 1854-5	108
New York 6's, 1860-61-62	116
New York 6's, 1864-65	119½
New York 6's, 1 y., 1866	119½
New York 5½'s, 1860-61	111
New York 5½'s, 1865	112
New York 5's, 1854-55	106
New York 5's, 1858-60-62	108
New York 5's, 1866	113
New York 4½'s, 1858-59-64	101
Canal certificates, 6's, 1861	—
Ohio 6's, 1856	104½
Ohio 6's, 1860	109½
Ohio 6's, 1870	116½
Ohio 6's, 1875	116½
Ohio 5's, 1865	106
Ohio 7's, 1851	105½
Pennsylvania 5's	98
Pennsylvania 6's, 1847-53	101
Pennsylvania 6's, 1879	99½
Tennessee 5's	94½
Tennessee 6's, 1880	108½
Virginia 6's, 1886	110½

CITY SECURITIES—BONDS.

Brooklyn 6's	106
Albany 6's, 1871-1881	107½
Cincinnati 6's	103½
St. Louis	101½
Louisville 6's 1880	98½
Pittsburg 6's, 1869-1871	102½
New York 7's, 1857	108
New York 5's, 1858-60	102
New York 5's, 1870-75	103½
New York 5's, 1890	104
Fire loan 5's, 1886	—
Philadelphia 6's, 1876-90	107
Baltimore 1870-90	107
Boston 5's	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867	115½
Erie 2d mortgage, 7's, 1859	110½
Erie income 7's, 1855	98½
Erie convertible bonds, 7's, 1871	98
Hudson River 1st mort., 7's, 1869	105
Hudson River 2d mort., 7's, 1860	99½
New York and New Haven 7's, 1861	105½
Reading 6's, 1870	92½
Reading mortgage, 6's, 1860	95½
Michigan Central, convertible, 8's, 1860	111
Michigan Southern, 7's, 1860	102
Cleveland, Col. and Cin. 7's, 1859	123
Cleveland and Pittsburg 7's, 1860	102
Ohio and Pennsylvania 7's, 1865	109½
Ohio Central 7's, 1861	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Feb. 3.	Feb. 10.
Albany and Schenectady	113½	114
Boston and Maine	105	105½
Boston and Lowell	105½	106
Boston and Worcester	105	103½
Boston and Providence	90	89½
Baltimore and Ohio	90½	90½
Baltimore and Susquehanna	33	34
Cleveland and Columbus	124½	125
Columbus and Xenia	—	—
Camden and Amboy	149	150
Delaware and Hudson (canal)	130	130
Eastern	98	98
Erie	91	92
Fall River	—	104½
Fitchburgh	102	102
Georgia	—	—
Georgia Central	—	—
Harlem	69½	69½
" preferred	115	115
Hartford and New Haven	129	129
Housatonic (preferred)	35	35
Hudson River	70	68
Little Miami	119½	120
Long Island	38½	39½
Mad River	99	99
Madison and Indianapolis	105	105
Michigan Central	106½	107½
Michigan Southern	125	124
New York and New Haven	115½	116½
New Jersey	129	129
Nashua and Lowell	—	—
New Bedford and Taunton	117	117
Norwich and Worcester	51½	52½
Ogdensburg	27½	28½
Pennsylvania	50	49½
Philadelphia, Wilm'gton & Balt	40	40½
Petersburg	—	—
Richmond and Fredericksburg	105	105
Richmond and Petersburg	35	35
Reading	85½	87½
Rochester and Syracuse	127	126
Stonington	57½	57
South Carolina	122½	122½
Syracuse and Utica	146½	146½
Taunton Branch	115	115
Utica and Schenectady	153	149
Vermont Central	20½	21½
Vermont and Massachusetts	21	20½
Virginia Central	40	40
Western	101	101½
Wilmington and Raleigh	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Quebec and Richmond Railroad.

We find in Herapath's London Railway Journal a communication from Mr. Ross, the engineer of this road, which conveys a very correct idea of its objects and character. It is a work indispensable to the prosperity of Quebec, the great seaport of the Canadas. In the summer season it will be the favorite route of pleasure tours in this country, and will be then thronged with travel. The country about Quebec presents some of the finest scenery in the world, and is one of the few places on this continent possessing great historic interest. One hundred years ago a great battle before its walls decided the long contest between England and France for supremacy, and left the Anglo Saxons the dominant race on this continent, an event which has been followed by the most momentous results.

It is a hallowed spot too in our own recollection, from the achievements and suffering of our people, during the war of the revolution. It is also the oldest city in the United States or Canada; and as far as its appearance and the character of a large portion of its population is concerned, we get by visiting it a good idea of a city of the old world without the disagreeable necessity of crossing the ocean. These considerations render Quebec a most attractive point to the pleasure tourist, with all the present inconveniences of travel. With a railroad, and one too traversing a beautiful section of country, ten persons will visit it when one now does.

In the winter Quebec is entirely cut off from the commercial world, to the great injury of all its interests. The above road will supply the conditions wanting to secure to her a growth corresponding to that of other cities similarly situated in this country. During the period in which navigation is closed, this road must constitute the channel through which the wants of some 300,000 people will be supplied. In connection with the St. Lawrence and Atlantic and Atlantic and St. Lawrence railroads, those people will be brought into connection with Montreal and with Portland, where is one of the best harbors in the United States. We are pleased to learn that a road of so much importance is making very rapid and satisfactory progress.

Mr. Ross speaks in high, but deserved terms, of Mr. A. C. MORTON, one of our most distinguished and competent engineers, to whom the Provincial and numerous important railroads in the United States are so much indebted for the present favorable position they now occupy. We are sorry to add, however, that when he speaks of the railroads in the United States, he makes himself quite ridiculous. In his report he says:—

"As to the character of the works of construction, in the United States these are generally (indeed, almost without exception) of a very indifferent and temporary kind—so much so, as to deter any travelling beyond 20 miles per hour, and even at this speed a journey is rarely performed without some accident or mishap, owing to the imperfect state of the road, the consequences of which are apparent in the cost of working. And in every instance in which I have seen any account published, it is more than double the cost per mile common to railways in this country, and with loads not reaching one quarter the extent they do here, besides the liability (frequently occurring) of the large timber structures with which they cross the rivers taking fire, and causing a complete cessation of travel until the damage is repaired."

All this is entirely incorrect. Our leading roads in the Northern States, are not only well built, but they run at a speed fully up to the limits of true economy. The destruction of our wooden structures by fire is of very rare occurrence—so much so, that

their construction is not considerably objected to on this account, their cheapness being taken into consideration. So with the cost of operating our roads. We are quite sure that we manage them more economically than any other people. However this may be, we put passengers over them at the rate of from 30 to 40 miles per hour, and continue to make them pay from 6 to 12 per cent. upon their cost, which, after all, is the best test of good management and proper construction.

Macon and Western Railroad.

The report of this company just published presents the following results of the operations of the road for the past year. The gross earnings for this period have been \$269,955 93, and the expenses chargeable to the same, \$116,358 74—leaving net \$153,697 19. If to this be added the amount at credit of profit and loss per last report, proceeds of old iron, and bonds issued since last report, we have the sum of \$238,221 10. Out of this the following disbursements have been made—to wit:

Paid dividends Nos. 11 and 12 in February and August last.....	\$97,120 00
Interest on Bonds.....	10,780 00
State and City Tax.....	3,315 75
Paid for construction, new Engines, Cars &c.....	49,425 82
Bonds redeemed and cancelled.....	5,000 00
	<hr/> \$165,641 57

Leaving a balance in hand of \$72,579 53 to be appropriated to dividend and reserved fund.

There was a decrease in passenger earnings, as compared with the year 1851, of 10½ per cent., and an increase of freight earnings of 72 per cent. The aggregate increase of earnings was 27½ per cent., which, on the whole, is a satisfactory result, as the Superintendent, Mr. Foote, remarks. He entertains a confident belief, that this increase will be continued.

The expenses of operating the road have been about 11 per cent. more than for the previous year. This is partly accounted for by the greater amount of fuel and material for repairs of road purchased during the year, and now on hand. The whole expenditure for the year is about 43 per cent. of the gross earnings.

The cost of new engine, new depots, machine shops, freight cars, &c., will involve an outlay of about \$75,000, a large portion of which will be required during the present year. When these are made, the President says, "the road will be complete in all its departments, and no further outlay will ever be required; and as the increasing business and profits of the road are amply sufficient to warrant it, he recommends an increase of capital stock for this."

The Board in January last, authorized the issue and sale of the company's bonds to the amount of \$65,000, for the purpose of meeting contracts previously made, for new construction, new engines, cars, &c. But the funds accruing from the sale of old iron, obviated the necessity of selling more than \$38,000 of them.

The new passenger depot, freight warehouse, &c., at the junction of the Central, Southwestern, and Macon and Western tracks, in Macon, are under way, and will be completed early the present year. Nothing has been done in Atlanta towards remedying the badly arranged tracks and buildings there.

The Thomaston and Barnesville railroad company have completed the location of their road from Thomaston to Barnesville, and contracted with John D. Gray, Esq., for grading the whole line. This road is to connect with the Macon and Western at Barnesville, and extend to the flourishing town of Thomaston, in Upson county; and when finished, the President believes it will not only secure the business now and heretofore received from that town and county, but will unquestionably bring to the Macon and Western road, much new and profitable business from the counties of Talbot and Meriwether, which, without this road, will be diverted in a different direction.

At the annual meeting the following gentlemen

were elected: Isaac Scott, President; Directors, Andrew Low, Edward Padelford, J. C. Levy, Chas. Moran, Drake Mills, Adam Norrie, Ker Boyce, F. C. Matthiesson, N. C. Munroe, J. B. Ross, James Thweatt, C. J. McDonald.

The following is the financial statement of the company's affairs 1st Dec. 1852.

Construction account.....	\$1,276,422
Difference between the par value of shares and the amount as issued to stockholders.....	215,282 00
Griffin Plank road.....	12,000 00
Assets.....	\$96,051 36
Liabilities.....	2,471 83
	<hr/> 92,579 53
	<hr/> \$1,596,283 53
Capital stock 12,140 shares at \$100 per share.....	1,214,000
Bonds.....	\$173,000
Less amount cancelled.....	5,000
	<hr/> 168,000
Reserved fund.....	35,000
Profit and loss.....	126,919 00
Iron account, sale of.....	53,364 52
	<hr/> \$1,596,283 53

Pennsylvania.**Philadelphia and Reading Railroad Company.**

At an election of this Company for officers, held January 10th, the following named gentlemen were unanimously elected to serve for the ensuing year:

President—John Tucker

Managers.—Samuel Norris, Charles S. Boker, Robert D. Cullen, George W. Richards, Matthias S. Richards, Christopher Loser.

Secretary and Treasurer—Samuel Bradford.

Southern Michigan and Northern Indiana Railroad.

Below we give the semi-annual statement of the financial condition of this company, upon the first day of January 1853.

In presenting the foregoing exhibit we have two sources of gratification;—in the favorable state of the Co's affairs, which furnish an excellent illustration, in result of what we have so often attempted to prove the productiveness of western railroads; and in the excellent example set by these company's in making a full, lucid and satisfactory exhibit of their affairs upon making a dividend. The two acts should always go together; and the statement in the present case, is alike creditable to the company and the success of the road.

The business of these companies the past 6 months, large as it has been, must be much larger for the future, not only from the rapid progress of the western states in wealth and population, but from the more favorable relations it bears to other roads. The completion of the Toledo, Norwalk and Cleveland road, which connects with this road at Toledo forms a direct outlet east, while from its western terminus, Chicago, railroads are making the most rapid progress in every direction. At that point concentrates the trade of the greater portion of Illinois, Missouri, Indiana and a large portion of Wisconsin, embracing an aggregate population of 1,500,000. For this vast aggregate, the above road with its connections constitutes the only present outlet by railroad. The travel from the present year must therefore be greatly in excess of the past.

Its local business, too, must increase very rapidly from the fact that it traverses an exceedingly fertile section of country, though but slightly developed from its very recent settlement.

The Northern Indiana road was opened for use through its entire length in June 1852, thus furnishing, in connection with the Michigan Southern R. R. a direct communication from Chicago to Lake Erie at Monroe and Toledo.

In pursuance of agreements made between the two companies, the entire line from Chicago to Lake Erie has been operated and managed as one road since the first day of July 1852.

The gross earnings for the six months ending Dec. 31, 1852, were as follows:

1852. Passengers. Freight. Mails, & Misc. Total.				
July \$54,303 88	\$23,168 80	\$42 84	\$77,515 52	
Aug. 65,403 42	28,063 58	126 40	91,593 40	
Sept. 68,317 96	46,972 02		115,289 98	
Oct. 79,180 75	52,051 46		131,232 21	
Nov. 41,573 12	56,805 74	3,704 98	102,083 84	
Dec. 25,444 43	26,269 29		51,713 72	
Mail		22,752 33	22,758 33	

332,223 56 233,330 89 26,632 55 592,187 00

The expenditures for the same period have been:

For operating and repairs of road and equipment, rents paid to the Erie and Kalamazoo road, taxes, and the general management.....	293,046 75
For interest.....	92,653 41
	385,700 16

Net earnings for six months.....\$206,486 84

The Income Account, on the 1st Jan. 1853, stood as follows:

1852. Balance of income account July 1852.....	\$49,614 70
Gross earnings for six months as per the preceding statement.....	592,187 00
	\$641,801 70
Less operating expenses, rents, taxes, etc.....	\$293,046 75
Interest.....	92,653 41
	385,700 16

1853. Jan. 1st. Balance to the credit of this account.....\$256,101 54
A semi-annual dividend of 5 per cent. upon the capital stock of the companies was paid on the 3rd of Jan. inst. amounting to.....124,970 52

Leaving a balance of income account, after payment of dividend of.....\$131,131 02
Against this balance there has been charged, for extraordinary expenses incurred in forming the boat connections upon lakes Erie and Michigan during the past season.....34,357 86

Leaving to the credit of the income account.....\$96,773 15

This road was opened for use at a period when business arrangements for the year had been generally formed.

Owing to delay in fulfilling contracts by manufacturers and contractors, it was deficient in locomotive power, and in accommodations for the transportation and storage of freight. It was also without railroad connections at the east or the west and dependent for all its through business upon the lake boats, (and for a portion of the time without any such connections upon Lake Michigan.) Its business was interrupted by the relaying of thirty miles of track during the fall; its machine shops were uncompleted, and the efficiency of its machinery thereby impaired, while the expense of repairs was increased; and it was subject to large incidental expenses necessarily attending the bringing into use of a long line of new road, of which 186 miles had been opened to the public within 18 months from the commencement of its construction; and it met with an active competition for all its through business, from an old, thoroughly organized and powerful rival company.

In view of these circumstances, the directors regard the result of their current half-year's business as not only highly satisfactory but also as fully justifying their most sanguine expectations as to the value and productiveness of the stock of these companies.

The length of roads of the companies is as follows:

MAIN LINE.	
Main line of the Michigan Southern road.....	131
Main line northern Ind. road.....	113
	244 miles main line.

BRANCHES.	
Tecumseh Branch.....	10 miles
Constantine Branch.....	4 "
Erie and Kalamazoo Branch.....	33 "
Michigan City Branch.....	14 "
Goshen Branch.....	10 "
	71 " Branches.

Total miles.....315
All the roads (except the Tecumseh Branch of 10 miles) are laid with a substantial rail of 58 lbs. to the yard.

The financial condition of the companies, on the 1st day of January, 1853, was as follows:

1853.	Dr.
Jan. 1. To capital stock of the Michigan Southern railroad company.....	\$1,244,500 00
Michigan Southern railroad 8 per cent bonds, due July, 1853.....	30,664 00
Do. 7 per cent. mortgage bonds, due 1860.....	995,000 00
Do. 8 per cent. bonds, due in 1857.....	500,000 00
Amount owing to the State of Michigan, payable \$50,000 per annum, with interest at 6 per cent.....	150,000 00
Bills payable.....	263,547 39
Capital stock of the Northern Indiana railroad company.....	1,254,910 58
7 per cent mortgage bonds, Northern Indiana railroad company, due in 1861.....	981,000 00
Do. bills payable.....	500,752 72
Dividends due.....	3,770 13
Erie and Kalamazoo railroad bonds, due in 1862.....	250,000 00
Income account.....	256,101 54
	\$6,430,246 36

1853.	Cr.
Jan. 1. By construction Michigan Southern road.....	\$2,868,619 38
Do. Northern Indiana road.....	2,585,705 95
Do. Erie and Kalamazoo road.....	247,180 78
Steamboats.....	141,810 14
Iron rails on hand.....	118,000 00
Wood and materials on hand.....	45,982 29
Bills and sums receivable.....	169,397 91
Cash in banks.....	75,950 59
Do. in hands of Superintendent and agents.....	177,599 32
	\$6,430,246 36

From the foregoing statement it will be seen, that after deducting the cash and other property on hand, the present actual investment in the construction and equipment of the 315 miles of road is about six millions of dollars. This is less than \$20,000 per mile—a cost not exceeding one-third to one-half the cost of similar works in New York and the Eastern States—and being also very considerably below the average cost per mile of other first class roads in the Western States—as will appear from the following comparative statement:

315 miles roads of Michigan Southern and Northern Indiana companies, cost \$6,000,000, equal to \$19,000 to \$20,000 per mile.
280 miles Michigan Central, cost \$8,000,000 to \$8,500,000, equal to \$28,000 to \$30,000 per mile.
126 miles Cleveland and Columbus, cost \$3,250,000 to \$3,500,000, equal to \$26,000 to \$27,000 per mile.
83½ miles Little Miami road, \$2,634,000, equal to \$31,500 per mile.

Owing to the large amount of business offering, it is necessary to provide an ample equipment.—The equipment accounts, on the 1st day of January, 1853, were about \$600,000. This must be considerably increased, in order to meet the demands of business.

The equipment on 1st of January, 1853, consisted of 46 locomotives, of from 16 to 22 tons each.

30 first class passenger cars.	
8 second class "	
13 Emigrant "	
12 baggage "	
6 Post office "	
69	
Cattle racks.....	69
Platform cars, equal to 4 wheels.....	30
Covered cars, equal to 4 wheels.....	148
	547
Total.....	793

Eight additional locomotives, and 150 freight cars have been contracted for, and will be ready for the business of the present season.

The prospects for a large business for this company for the current year are rendered certain by the completion of the entire line of Lake Shore road between Toledo, Cleveland and Buffalo. The last link in the chain between Cleveland and Toledo was completed on the 24th January instant. To meet the increasing travel it has been found necessary to run an additional daily train—thus providing a morning and evening train between Toledo and Chicago. This will commence running on the 7th February next. The Chicago and Rock Island road, from Chicago to LaSalle, at the head of navigation on the Illinois river, 100 miles from Chicago, will be opened in March ensuing. This road is a most important tributary to the business of the Northern Indiana company, and will draw a large share of the travel from St. Louis for the East.

JOHN B. JEARVIS, President.

EDWIN C. LITCHFIELD, Treasurer.

Hudson River Railroad.
Return of the Hudson River Railroad, under the Laws of New York, for the year ending September 30, 1852.

Capital stock as by charter.....	\$4,000,000 00
Amount of stock subscribed.....	3,753,475 99
Amount paid in, as by last report....	3,703,229 23
Total amount now paid in of capital stock.....	3,740,515 99
Funded debt, as by last report.....	5,646,884 92
Total amount now, of funded debt....	6,046,395 00
Floating debt as per last report.....	159,427 58
The amount now, of floating debt....	956,590 42
Total amount now, of funded and floating debt.....	7,002,933 42
Average rate per annum of interest on funded debt.....	several per ct.

COST OF ROAD AND EQUIPMENT.		
	As per last report.	To present time.
For graduation and masonry.....	\$4,249,990	\$4,656,636
Bridges.....	174,345	234,868
Superstructure, including iron.....	1,777,524	1,851,469
Passenger and freight stations, engine and car houses, machine shops, machinery.....	444,434	575,174
Land, land damages & fences.....	796,216	849,760
Locomotives and fixtures and snow plows.....	163,926	319,744
Passenger and baggage cars.....	146,651	168,772
Freight and other cars.....	77,811	318,039
Engineering and agencies.....	416,021	466,038
Other expenditures, not enumerated above, including interest on stock.....	1,058,630	1,087,171
Total.....	\$9,305,551	\$10,527,654

CHARACTERISTICS OF ROAD.	
Length of road.....	144 miles.
Length of double track, including sidings.....	55 do.
Weight of rail, per yard, on main track.	70 lbs.
Number of engine houses and shops, six engine houses and 3 shops, engines....	44
Rated as 8 wheel cars.	passenger cars, 1st class, 78; do 2nd class and emigrant, 4; baggage, mail and express cars, 19; freight cars 447.

DOINGS OF THE YEAR IN TRANSPORTATION.

Miles run by passenger trains....	555,968
Miles run by freight trains.....	244,289
Rate of fare per mile charged to passengers, in respective classes.....	1 cent to 2 cents.
Number of passengers (all classes) carried in cars.....	1,125,633
Number of miles travelled by passengers.....	47,464,368
Number of tons, of 2,000 pounds of freight carried in cars.....	65,045
Total movement of freight, or number of tons carried one mile.....	7,634,678
Average rate of speed adopted by ordinary passenger trains, including stops, (miles per hour)....	27.68-100
Rate of speed of same, when in motion.....	35
Average rate of speed adopted by express trains including stops....	35.50-100
Rate of speed of same, when in motion.....	45
Average rate of speed adopted by freight trains, including stops....	16.65-100
Rate of speed of same when in motion.....	25
Tons.	
Average weight in tons of passenger trains, exclusive of passengers and baggage.....	784
Average weight in tons of freight trains, exclusive of freight....	1284
The amount of freight in tons....	65,045
The product of the forest.....	1,017
Do of animals.....	22,217
Vegetable food.....	3,497
Other agricultural products.....	9,820
Manufactures.....	10,630
Merchandise.....	14,078
Other articles.....	3,755

EXPENSES OF MAINTAINING ROAD.

Amount.	ALLOTTED TO.	
	Pass.	Freight
	transpor-	transpor-
	ta-tion.	ta-tion.
Repairs of road-bed and railway, excepting cost of iron, (see law).....	\$59,512	\$49,674
Depreciation of way.....	780	520
Repairs of buildings....	780	520
Repairs of fences and gates.....	23	15
Taxes on real estate....	10,846	10,231
Totals.....	\$71,163	\$60,441

EXPENSES OF REPAIRS OF MACHINERY.

Repairs of engines and tenders.....	\$62,325	\$51,550	10,775
Repairs of passenger and baggage cars.....	34,907	34,907	.....
Repairs of freight cars..	4,594	.....	4,594
Repairs of tools and machinery in shops.....	2,289	1,526	763
Incidental expenses, including oil, fuel, clerks, watchmen, etc., about shops.....	9,912	8,608	1,304
Totals.....	114,029	\$96,592	\$17,437

EXPENSES OF OPERATING THE ROAD.

Office expenses, stationery, etc.....	\$8,822	\$5,881	\$2,940
Agents and clerks.....	27,490	21,326	6,163
Labor, loading and unloading freight.....	20,821	.....	20,821
Porter, watchmen and switch tenders.....	78,438	68,258	10,179
Wood and water station attendance.....	7,888	6,259	1,629
Conductors, baggage and brakemen.....	32,881	26,921	5,960
Enginemen and firemen..	24,421	21,281	3,140
Fuel, cost and labor preparing.....	169,858	141,238	28,619
Oil and waste for engines and tenders.....	12,541	10,394	2,147
Oil and waste for freight cars.....	2,218	.....	2,218

Do., do., for passenger & baggage cars.....	4,745	4,745	.....
Loss and damage of goods and baggage.....	2,504	626	1,878
Damages for injuries to persons.....	7,253	5,329	1,924
Damages to property, including damages by fire and cattle killed on road.....	1,730	1,153	576
General superintendence..	3,979	3,652	326
Contingencies.....	76,472	70,981	5,490
Totals.....	\$182,068	\$338,051	\$94,017

EARNINGS AND CASH RECEIPTS AND PAYMENTS.

1st. Earnings:	
From passengers.....	\$782,396 49
From freight.....	236,805 36
From other sources.....	44,457 46
	\$1,063,659 31
2d. Receipts:	
From passengers.....	\$783,281 18
From freight.....	228,043 44
From other sources.....	45,368 62
3d. Payments other than for construction:	
For transportation expenses.....	\$721,876 55
For interest and rents.....	409,264 72

Milwaukee and Mississippi Railroad.

Statement of its Financial Affairs ending December 31, 1852.

DEBTOR.

Stockholders.....	\$337,961 87
Construction, expenditures for engineering, right of way, grading, superstructure, depot buildings, and including pay to J. & S. Chamberlain, contractor.....	\$251,286 23
Real estate, including Milwaukee depot grounds.....	33,155 07
General expenses, embracing officers' salaries, office rent, printing and stationery, taxes, loan and mortgage expenses, etc.....	65,150 11
Special expenses—losses and expenses connected with the Cryder fraud....	18,596 71
Interest, including interest on mortgages, road and city bonds.....	95,918 57
Personal property.....	9,379 03
Debts and bills receivable, including mortgages of stockholders on hand and with the City Treasurer, and amount of cash subject to draft in hands of the fiscal agent of the company in New York.....	200,410 04
Treasurer.....	60,663 17

CREDIT.

Stock.....	1,067,900 90
Bonds, ten per cent. R. R. bonds now outstanding 74,000, 8 per cent R. M. bonds sold and exchanged for ten per cent bonds, 492,000.....	566,000 00
Income account, balance.....	43,095 67
Bills payable and other liabilities.....	81,231 33
Warrants on the Treasurer, outstanding.....	4,486 09
	\$1,763,763 09

WM. TAINTOR, Secretary.

Wilmington and Manchester Railroad.

The Wilmington and Manchester railroad company has completed about 100 miles of their line, about 50 miles at each end. The entire line, (161 miles) will be completed and in operation by the 1st of June next. They now carry the great Southern mail, using stage coaches between the completed portions. Iron rails to complete the whole road have been purchased and are on the ground, and are being laid down as fast as possible. These rails were purchased and paid for at very low rates, at a cost of \$375,000 less than present prices. Already a considerable amount of cotton has been transported over this road. The company has expended, in construction, about \$1,300,000.

Railroad Projects in Kentucky.

Louisville and Frankfort Railroad.—The stockholders of the Louisville and Frankfort railroad have voted, at a recent meeting held for this purpose, to authorize the President and directors to cause the branch of the road to be constructed from Eminence, or some other suitable point on the road to the Ohio river opposite Cincinnati, Ohio, provided sufficient stock and means can be obtained to construct the branch without taking any of the profits of the present road to make said proposed branch road.

It was also voted at the same meeting "to authorize the President and directors to build a branch to Harrodsburg, in Mercer county, Ky., provided, That the President and directors of this company make a suitable arrangement with the Shelby railroad company for their road, and stock and means can be obtained to construct said branch road without taking any of the profits of the present road for that purpose."

We presume that attempts will be made to carry out both of these projects. The object of the former being to constitute the above road a portion of a line of railroad between Louisville and Cincinnati, and of the latter to secure to Louisville a trade which the Covington and Lexington road threatens to draw to Cincinnati. The Louisville Courier expresses a belief that both objects will be accomplished.

The Montour Iron Works.

The Harrisburgh Telegraph states that a very large number of workmen are now busily engaged in putting up the new rolling mill, about to be erected by the Montour Iron Company, at Danville. The foundation is already laid, and the work will be pushed forward as quickly as labor and money can do it. The machinery is all ready, and the mill is expected to be completed for operation early in the Spring. There will be 32 puddling furnaces in this new mill, very nearly as many as in the old one, and the structure will be 231 feet long, and 124 feet wide. When finished, these two mills will present the appearance of an immense building, and be by far the largest establishment of the kind in the United States.

Ohio and Mississippi Railroad.

We had an interview says the St. Louis Intelligencer, with one of the contractors of this road on Saturday, and we learn that every thing is being done to push forward this road to completion, at the earliest possible period. Upward of 1,200 men are now employed on the line of the road, nearly 500 of whom are at work between Illinoistown and the Bluffs.

We also learn from official data, that upward of \$100,000 have been expended on the immediate line of the road, in grading, masonry, bridging, engineering, &c., &c. \$9,746 has been paid for the right of way to Vincennes, which strikes us as a very small sum, compared with what is usually paid for this right by other roads.

O. M. Mitchell, Esq., consulting Engineer of the road, we understand, leaves for England in a few weeks, on business connected with the interests of the Ohio and Mississippi railroad company.

Railroads in Indiana.

The iron is now down on the Indianapolis road to Union, connecting the line from Cincinnati by Dayton and Greenville. Daily trains were advertised to run regularly from Lafayette and Terre Haute by Indianapolis to Cincinnati, in one day, commencing on the 1st of February.

Brunswick and Florida Railroad.

We give in another column the report of this company, which is engaged in building a railroad from Brunswick, through Southern Georgia, in the direction of Pensacola, Florida.

The section of the State traversed by this road is at the present time isolated from market, from the lack of railroad and the absence of navigable water courses, the want of which, it is the object of the above project to supply. The road can be built at a minimum cost for Southern roads, as it traverses a level region, and crosses no important rivers.

The road terminates at a very excellent harbor, one of the best, if not the best on the Southern Atlantic coast, and when extended to Pensacola, as proposed, will connect the above with the best harbors, probably, on the gulf. These facts add in no small degree to the importance of the above project.

The country bordering upon the eastern portion of the route, abounds in immense quantities of pine timber, which has become an important article of commerce and which must supply a large traffic to the road.

Cultivation will follow the clearing of the forest, but the latter will probably supply a larger traffic for years, than the produce of agriculture, for an equal section of country. Upon reaching the waters that flow into the Gulf of Mexico, the fertile cotton lands of the State are reached, the production of which will take this route to a market.

The enterprise is of great importance to southern Georgia, a territory equal in area to many of our States. It has been pushed forward with commendable energy, and no doubt is now entertained of its early completion. Its construction will form a new era in the history of the southern portion of the State, and will produce there similar results to those that have followed the construction of railroads in other portions of Georgia.

Williamsport, Catawissa and Erie Railroad.

We have already referred to the project, the securities of which are to be sold on Wednesday next. Its object is to open an outlet for the rich and extensive region of which Williamsport is the center, in the direction of New York and Philadelphia; and also to form a portion of a through route between those cities, and Lakes, Erie and Ontario. It is a work required by an abundant local, and by the prospective business, of new works in progress, and which will connect it with the trade of the West. Our readers are referred to the advertisement of sales in another column by Messrs. Gilbert, Coe & Johnston, and also to an article in our paper of the 5th, in reference to the relation and object of the above work.

Cincinnati, Hillsborough and Parkersburg Railroad.

The entire line of this road, with stations and rolling stock, has been let to the powerful firm of J. and S. Chamberlain & Co., of Cleveland, Ohio, the well known contractors—who have subscribed one million of dollars stock—and one of their firm, Mr. Sturges, the influential banker of Zanesville, Ohio, has taken three-quarters of a million, on his private account, in addition.

This road is now running to Hillsborough, 60 miles east of Cincinnati, and doing very well—the new letting extends from Hillsborough, to the Ohio river, crossing below Parkersburg about 112 miles, where it connects by a high bridge, with the Baltimore line, with whom this company have an agree-

ment for business, and whose gauge they have determined to carry out through Southern Ohio, to Cincinnati.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use. JAS. PRENTICE, 315 Broadway, N. Y. Feb 9 1853.

To Railroad Companies, Car Builders, Machinists, etc.

SINGER, HARTMAN & CO., SHEFFIELD IRON AND STEEL WORKS, PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sts.

HANING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc.

1517*

Devlan's Patent Oil Manufacturing Co.,
12 BROADWAY, NEW YORK.

THIS Oil is extensively used on Railroads and Steamships, and other Machinery, and is worthy the attention of every individual or company that uses Oil for Lubricating purposes. It is cheaper than the best Spermin, because it answers the same purpose and is more durable, thereby making a saving of from 40 to 50 per cent. The best of testimonials establish that fact, but cannot be given in this notice. All that is required is to test the matter, and if it will not answer as recommended, it will be taken back and money returned.

New York, Feb. 9, 1853. 2w

Iron.

200 Tons Fishkill Charcoal Iron for sale on reasonable terms, also from 1000 to 5000 tons Fishkill Hematite Ore—delivered at Poughkeepsie or New York. Samples of the ore may be seen at the store of Messrs. Hoffman, Bailey & Co., No. 62 Water st., New York. Enquire by letter to NORMAN M. FINLAY, Poughkeepsie, Dutchess county, N. Y. July 10, 1851.

Gerard Ralston,
21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE
**PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,**
And for the Purchase and Inspection of
**Railroad Iron, Chairs, or
any kind of Machinery.**

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore. 3s

Railroad Iron.

2000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.
December 4, 1852.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

Blake & Parkin, MEADOW STEEL WORKS, SHEFFIELD,

INVENTORS OF

CORE-ANNEALED CAST STEEL,
A most Important Improvement in CAST STEEL, originating with B. & P., for SCREW TAPS, PISTON RODS, ENGRAVERS, to CALICO PRINTERS, SILVER and GOLD ROLLERS, etc., etc., warranted to harden by ordinary process without breaking, being soft in the centre to any required diameter, and hard to any specified depth from the outside.

HARD CENTRE CAST STEEL.
For DIES, LATHE CENTRES, MINT PURPOSES, etc., etc., warranted to harden the Inside without breaking, (the outside remaining soft.)

HARD AND SOFT SURFACE CAST STEEL.
In Bars and Sheets, hard on one or both sides, and soft in the centre, or soft on one or both sides, and hard in the centre, and adapted for a variety of purposes, as MACHINE KNIVES, SLIDE BARS, PLOW KNIVES, PLANING KNIVES, ROLLER BARS for Beating Engines for Paper Makers, etc.

⚒ This peculiar Steel is quite SOLID, and it is quite malleable, and draws down under the Hammer, still retaining the difference of hardness. When hardened, the hard part is left very hard, while the soft is left just harder than common iron.

THE REPORT OF THE JURY OF THE
"EXHIBITION OF ALL NATIONS."
Class 21, Page 486:

"The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE & PARKIN, of SHEFFIELD, consisting of the union of Two qualities of Cast Steel, hard and soft, in the same article; manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors."

A PRIZE MEDAL WAS

AWARDED TO

MESSRS. BLAKE & PARKIN.

N. B.—The Inventors mark all their Goods with their CORPORATE MARK—X. L. ENT.

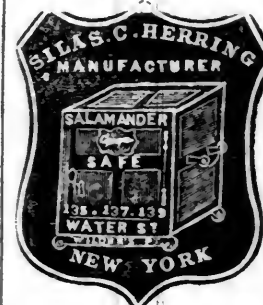
Also, Cast Steel, German and Spring Steel, warranted Cast Steel Files, Saws, etc.
February 9, 1853.

IRON SAFE WAREHOUSE.

Silas C. Herring,

Manufacturer and Sole Proprietor of
HERRING'S PATENT FIRE PROOF SAFE,

Which received the MEDAL at the WORLD'S FAIR, Also, Manufacturer of HERRING'S (Wilder's Patent) Single and Double Salamander SAFES. And dealer in all kind of Iron Safes, Vault Doors, Express Boxes, AND Money Chests.

**Fulton Car Manufactory, CINCINNATI, OHIO.**

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.
Cincinnati, Ohio, February 9, 1853.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.
HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,
Chief Engineer and General Agent.

New York. January 28, 1853.

PATENT

Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be rebored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Borton and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

Orders Forwarded for Railroad Iron, etc.

THE undersigned will receive and forward orders for the purchase of Railroad Iron, and Metals generally, through the medium of his friends in London.

JOHN H. HICKS,
90 Beaver st.
Jan. 27, 1851.

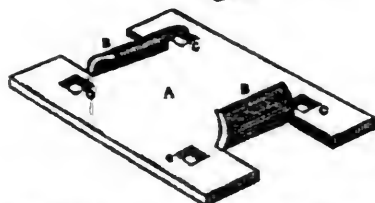
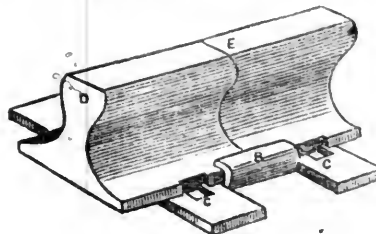
3,000 Tons Railroad Iron.

THE undersigned is prepared to contract on behalf of the manufacturers in England, for the above quantity of T Rails, to be delivered at a port in Wales.

For terms, apply to JOHN H. HICKS,
90 Beaver st.
Jan. 27, 1853.

The American Railroad Chair Manufacturing Co.

IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica, Chester Valley, Penn.,
Buffalo and Rochester, Tioga,
Northern, Norwich and Worcester,
Montreal and New York, Kings Mountain, S. C.,
Kennebec and Portland, Columbia and Granville,
Plattsburg and Montreal, Buffalo, Bayou Brazos and
Chicago and Rock Island, Colorado, Texas,
Milwaukee and Miss., Panama, and others.

For further information address,
N. C. TROWERIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.



HENDERSON AND NASHVILLE R. R.

SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:
 1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure.

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

By a compact between the Henderson and Nashville Railroad Co., and the Edgefield and Kentucky Railroad Co., their roads are to be united at the Tennessee and Kentucky State line, and then form a continuous line of Railroad from Henderson on the Ohio, to Edgefield, on the Cumberland river immediately opposite to Nashville, a distance of only about one hundred and forty miles. When it is considered that at Nashville, through the Nashville and Chattanooga Railroad, this road connects with the whole system of Railroads and rivers leading to Charleston, Savannah, and the South Atlantic seaboard, and from thence by a Southern route of Railroads to all the Eastern and Northern cities, and that at Evansville, Indiana, only ten miles of perpetual navigation on the Ohio river distant from Henderson, it connects with the systems of Canals, Railroads and Rivers which penetrate and drain the valleys of the Mississippi and the Lakes, and extend by a Northern route to the Eastern and North-eastern cities, it cannot be doubted that this is a most important road. But if it be taken into the account that it presents much the shortest, and owing to the remarkably favorable profile of the country, for the cheapest route for a railroad designed to connect these Northern and Southern Systems, that it penetrates the richest beds both of bituminous coal and iron ore heretofore valueless because land-locked—that it passes through an agricultural region of great fertility and remarkable beauty, and opens in the South Atlantic States by the shortest, speediest, cheapest and best route, a market comparatively new, for the teeming products, especially provisions of the valley of the Mississippi and the Lakes, its value and importance cannot be over-estimated—that it will pay and pay richly, both in dividends to the stockholders and in indirect profits to those whose residence gives them an interest in the means of transportation and travel which it will afford cannot be doubted.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.
Henderson and Nashville R. R. Co.

Wilkinson's
EXPLOSIVE
RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
 Iron, Chairs and Spikes.
 Also, Cars, Locomotives, and all kinds of Machi-
 nery for Railroad purposes.
 Office next door to the Custom House, Main st.
 January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF

WARRANTED Cast Steel of superior quality for
 Tools, Machinery and Engineering purposes.
 Single and Double Shear, Blister, German, Spring
 and Sheet Steel of every description; also, Cast Steel
 Files of high reputation, specially adapted for the use
 of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark 

CHAS. CONGREVE, Agent,
 58 Maidenlane, New York.

Stocks of the above goods constantly on hand.
 January 12, 1853.

SISCOE BLAST FURNACE
For Sale.

THIS FURNACE, situated in Westport, Essex
 Co., N. Y., on Lake Champlain, is capable of
 producing 3000 tons Pig Iron per annum. It is
 blown by a powerful steam engine, and another en-
 gine raises the stock, etc., etc. There are eight
 Kilns, which can make 500,000 bushels Charcoal
 per annum, connecting by Railroad with the Fur-
 nace, and nearly an acre of sheds for seasoning
 wood. One large Brick Mansion House, with ex-
 cellent Farm, one Brick Cottage, seventeen Houses
 for workmen, commodious Blacksmiths' and Car-
 penters' Shops, etc., etc., and about 1500 Acres of
 Land. The Furnace is situated on a large and
 convenient Dock; Wood for making Charcoal can
 be obtained cheaply in the neighborhood, and An-
 thracite coal from Rondout can be delivered at low
 rates. By the proposed Ship Canal from Lake
 Champlain to River St. Lawrence, coal could also
 be brought with great facility from Erie. The rich
 Magnetic Ore of Essex County, particularly that
 from the famous Port Henry Bed, can always be
 procured cheaply and in great abundance. The
 property will be sold on reasonable terms. Inquire
 of Messrs J. & L. TUCKERMAN, 69 West street,
 New York, or of F. H. JACKSON, No. 5 Liberty
 Square, Boston. 1m2

LOW MOOR IRON.

WM. BAILEY LANG, 9 Liberty Square, Boston,
 and 24 Broadway, New York, Sole Agent in
 the United States and Canadas for the Lowmoor
 Iron Co., is prepared to receive orders for this justly
 celebrated Iron, and offers for sale an assortment
 of the Round sizes which he now has in store, and which
 for strength, soundness and uniform quality, stands
 without a rival.

Superior Cast Iron Gas and
Water Pipes.

THE Subscriber is prepared to contract for the sup-
 ply of **CAST IRON PIPES** required by Gas or
 Water Companies, Corporations, etc., delivered in any
 Seaport in the Union, on reasonable terms. These
 Pipes are cast on the most improved principle by the
 best Founders in Scotland, from a superior quality
 of Pig Iron remelted, are guaranteed to resist a pres-
 sure of 300 lbs. to the square inch, or greater if neces-
 sary, and to be soft enough to drill easily and freely.
 Full information regarding price, and references to
 parties in the United States now using the Pipes, can
 be obtained on application to the Agent in New York.

WILLIAM KOY, Junr.,
 21 Renfield st., Glasgow,
 Scotland.

J. M. EADIE, Agent,
 26 Front st., New York. 1y50

Railroad Iron.

2000 TONS Railroad Iron, weighing about 59
 lbs. per yard, "Erie" pattern of G L and
 "Crawshaw" manufacture, now on the way from the
 shipping ports in Great Britain to this port, for sale by
 P. CHOUTEAU, Jr., SANFORD & CO.,
 No. 51 New street.

December 4, 1852.

SIMEON DRAPER, No. 46 Pine-st., offers for
 sale, a variety of RAILROAD BONDS and
 STOCKS; also CITY, TOWN and COUNTY
 BONDS, among which are—

1st Mortgage Convertible Bonds: Payable in

7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R.R.	" 1861-71
7 per ct.—Tioga R.R.	" 1872
8 per ct.—Peoria and Oquawka... ..	" 1863
6 per ct.—Maysville and Lexing- ton	" 1870
6 per ct.—Dauphin and Susque- hanna Coal Co.	" 1877
1st Mortgage Bonds:	
7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City	" 1866
7 per ct.—Mansfield & Sandusky City	" 1860
7 per ct.—Toledo, Norwalk and Cleveland	" 1861
7 per ct.—Vermont Valley	" 1861
7 per ct.—New Jersey Central.. ..	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington. Troy, N.Y. 1862	

Also, second mortgage bonds of many of the above
 companies, and—

7 per ct.—Saratoga & Washing- ton R.R. bonds.	New York, 1862
7 per ct.—Troy and Boston	" 1864
7 per ct.—Muscoogee Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford... ..	New York, 1862
10 per ct.—Mansfield and Sandus- ky R.R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R.R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
10 per ct.—City of Milwaukee... ..	" 1857
7 per ct.—State of California... ..	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.	" 1862

Troy and Rutland railroad Stock, with guarantee
 of 4 per cent. dividend and one half surplus profits
 of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of
 7 per cent. dividend by Saratoga and Washington
 Railroad.

Stock in the Western Vermont R. R. Co.
 Stock in the Mad River R. R. Co.
 Stock in the Buffalo, Corning and New York
 R. R. Co.
 Stock in the Mansfield and Sandusky R.R. Co.
 Stock in the Chemung R. R. Co.
 Stock in the Southern Bank of Kentucky.
 Stock in the New York and Virginia Mail
 Steamship Company, paying 20 per cent.
 dividends.

To Railroad Co's, Locomotive
Builders and Engineers.

THE undersigned having taken the Agency of Ash-
 croft's Steam Gauge, would recommend their
 adoption by those interested. They have been exten-
 sively used on Railroads, Steamers and Stationary
 Boilers, where, from their accuracy, simplicity, and
 non-liability to derangement, they have given perfect
 satisfaction. In fact, for Locomotives, they are the
 only reliable Gauge yet introduced.

CHAS. W. COPELAND,
 Consulting Engineer, 64 Broadway.
 Aug. 23, 1851 3m*



A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels
 for Cars and Locomotives. Also furnish Wheels
 fitted complete on best English and American Rolled
 and American Hammered Axles. 31f

Pease & Murphy,
FULTON IRON WORKS,
 FOOT of Cherry st., E. R. Office, 27 Corleau.
 corner of Cherry st. Manufacturers of Land
 and Marine Engines.
 N. B.—Engines and Boilers repaired. 6f

Toledo, Norwalk and Cleve-
land Railroad.

OPEN through, completing the last link in the chain
 of Railroads between New York and Boston and
 Chicago.

 On and after Monday, January 24, 
 1853, Passenger Trains will run
 daily (Sundays excepted) as follows:

Leave Toledo at 7 A. M.
 Leave Cleveland at 1:30 P. M.

Connecting with Cleveland, Columbus and Cincin-
 nati Railroad at Grafton, with Sandusky and Man-
 field Railroad at Monroeville, Mad River and Lake
 Erie Road at Bellevue, and with Michigan Southern
 Road at Toledo.

Early in February two trains will be run, connect-
 ing directly with trains from West at Toledo, and at
 Cleveland with those from East.

E. B. PHILLIPS, Sup't.
 Office T. N. & C. R. R.,
 Norwalk, O., Jan. 22, 1853. 1

Brass Tubes for Locomotive &
Marine Boilers.

THE undersigned, having been appointed agent for
 the highly respectable manufacturers, Messrs.
 Allen, Everett & Son, of Birmingham, is prepared to
 take orders for Brass Tubes of all diameters for Ma-
 rine and Locomotive Engines, which will be supplied
 on the most favorable terms, and from the established
 reputation of the above Firm for superior quality and
 workmanship, he has no doubt entire satisfaction will
 be given. These Tubes are found to answer well, and
 are now in most general use in England, they last
 much longer than iron, and when worn out, realize
 fully half the amount for old metal. For further par-
 ticulars and inspection of patterns, please apply to

JOHN H. HICKS,
 90 Beaver st.
 Jan. 27, 1853.

The Cold Spring Iron Works,
INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-
 setts, manufactures CAR AXLES, and all kinds
 of WROUGHT IRON used in the manufacture of
 LOCOMOTIVES and CARS; also, BAR IRON of
 all descriptions. Particular attention is paid to the
 manufacture of CAR AXLES, and the Works being
 situated in a region of WOOD and CHARCOAL,
 with which their Axles are exclusively made, the Com-
 pany feel confident they can furnish an article equal,
 if not superior, in quality and finish to any in the
 market. They solicit the orders of RAILROAD
 CORPORATIONS and CAR BUILDERS, and prom-
 ise they shall be promptly attended to: and execut-
 ed on terms as advantageous as can be had elsewhere.


They refer to—
 John Kinsman, Esq., Superintendent Eastern Rail-
 road, Salem, Mass.
 A. T. Peirce, Esq., Car Builder, Norwich, Conn.
 E. T. Osborn, Esq., Superintendent of the Mad Riv-
 er and Lake Erie Railroad, Sandusky City, Ohio.
 W. W. Wetherell, Car Builder.
 Address HENRY MELLUS, Agent,
 Boston, Mass.
 or, GEO. W. PRESCOTT, Sup't.
 Ouis, Mass.


November, 12, 1852. 1y

Etna Safety Fuse.

THIS superior article for igniting the charge in wet
 or dry blasting, made with DUPONT'S best pow-
 der, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

 Sole Manufacturers,
 No. 55 Liberty St.
 NEW YORK.

And in the principal cities and towns in the U. States.
 The Premium of the AMERICAN INSTI-
 TUTE was awarded to the Etna Safety Fuse at the
 late Fair held in this city.

November 3, 1849.

1y

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
 No. 139 GREENWICH STREET,
 NEW YORK.

ANDREW MOUNT, Auctioneer. SALE OF BONDS.

WILMERDINGS & MOUNT, AUCTIONEERS.

EIGHT HUNDRED THOUSAND DOLLARS SEVEN PER CENT. CONVERTIBLE MORTGAGE BONDS of the CATAWISSA, WILLIAMSPORT & ERIE RAILROAD Co. —The undersigned are authorised by this Company to offer at auction \$800,000 of their 7 per cent. Bonds, secured by a first and only mortgage on their Road, to cost \$3,400,000, and convertible into the stock of the Co. at any time before 1857.

These Bonds are in sums of \$1,000 each; interest payable semi-annually, at the Bank of North America, in New York, and the principal redeemable at the same place in 1867. They are secured by mortgage made to Isaac Seymour and Elias Fassett, as Trustees for the Bondholders.

The Catawissa, Williamsport and Erie road extends from what is called the base of the Broad Mountain, where it connects with the Little Schuylkill to Williamsport, a distance of 80 miles, with a branch from Tamanend, near the Little Schuylkill connection, to the Beaver Meadow Railroad, a distance of 13 miles, with the right to construct branches to coal mines on either side of the line, not exceeding 5 miles in length.

The portion of the line from Tamanend to Catawissa, 35 miles, is graded for a double track, also the branch of thirteen miles to Beaver Meadows. To lay down the track and furnish the graded road is estimated to cost..... \$600,000

To construct from Tamanend to the connection with the Little Schuylkill.... 400,000
The extension from Catawissa to Williamsport..... 1,000,000

Total.....\$2,000,000

To produce this sum the company have issued \$1,000,000 in bonds, secured by a mortgage, with the right to issue \$500,000 more, under the same mortgage, after the road is in operation to Catawissa.

This gives:

To lay the track, etc., on the graded road. \$600,000
To connect with the Little Schuylkill.... 400,000
And leaves \$500,000 applicable to the extension to Williamsport. For this sum, with the balance in stock of the Company, they have offers from responsible contractors to grade and do all the work, and furnish all the materials.

The whole cost of the road will stand thus:

Present stock.....\$1,400,000
Bonds..... 1,500,000
Stock to complete to Williamsport..... 500,000

Total.....\$3,400,000

Deduct from this the value of the coal lands of the company..... 100,000

Total.....\$3,300,000

Or for whole distance, 93 miles, \$35,483 per mile.

At Williamsport this road has two very valuable connections, one with the Williamsport and Elmira road, now under contract, uniting it with the N. York and Erie road, and all its chain of Northern and Western connections, and the other with the Sunbury and Erie road, making it an important link in a new and shortest great trunk line between the west and tidewater.

The arrangements are now all complete for opening this entire new line of communication from Erie on the lake to New York, Philadelphia, and Baltimore, to-wit, the Sunbury and Erie, from the lake to Williamsport, the Cattawissa, Williamsport and Erie, from Williamsport to Tamaqua; the Little Schuylkill to Port Clinton; and the Reading and Philadelphia, to Philadelphia. Or from Tamaqua, the Lehigh Valley Road, to Easton, thence over the New-Jersey Central to New-York. The only roads remaining to be completed to consummate these connections are, the Catawissa, Williamsport and Erie, and the Sunbury and Erie, both of which are in part under contract, and the parts not yet let only wait the settlement of some questions as to choice of route, to be placed under contract.

By this proposed line of Roads the distance between Cleveland and New-York is 95 miles less than by Buffalo and Albany, 70 miles less than by

the Erie Road, and 53 miles less than by the Cleveland and Pittsburgh and Pennsylvania Central Line, while the prices compare quite as favorably.

While the projectors claim for this road these advantages of through traffic, they also claim that for local freight business it will have no superior in the country. It passes through a broad extent of country, at present without rail access to the seaboard. This region is exceedingly rich in agricultural and mineral products, and the road penetrates the very heart of vast deposits of both bituminous and anthracite coal, and of inexhaustible beds of iron ore, the tonnage of which will far exceed that of any agricultural district, however fertile.

Looking upon the map it will be seen that the average distance between the Buffalo and Albany, and the New-York and Erie, is about 70 miles; between the Pennsylvania Central and Baltimore and Ohio, about the same; while a space is left between the New-York and Erie, and Pennsylvania Central, of about 150 miles. The proposed new line occupies about the center of this space. Thus, when this line is completed, there will be five great thoroughfares from the Atlantic to the Lakes, in nearly parallel lines, with a space between each of about 70 miles, a distance quite sufficient to afford an ample local business, while they are all competitors for the through business.

It is believed that the connection of this road with Elmira by the Williamsport and Elmira Railroad will add very largely to its traffic. By this route from Niagara Falls to Philadelphia is but 414 miles, whereas by Albany and New-York it is 558, saving 144 miles of travel by this route. From Elmira, by the New-York and Erie Railroad, the distance to New-York is 274 miles, add to this the distance to Philadelphia, 90 miles, makes 364 from Elmira to Philadelphia, whereas, by this route, it will be but 255, saving 109 miles, and bringing Elmira 19 miles nearer Philadelphia, by this route, than via New-York, by the New-York and Erie. When it is borne in mind that the whole tide of pleasure travel during the warm season is from South to North, that the interchange of products between a warmer and colder climate must always be great, the importance of this communication can hardly be overrated.

The Bonds will be sold on WEDNESDAY, the 16th day of February, at the Merchants' Exchange, at 12½ o'clock P. M., by WILMERDINGS & MOUNT.

Twenty per cent. of the purchase money will be required upon the day of sale, the remainder in monthly installments of ten per cent. The purchasers, however, will have the option of paying in full.

Exhibits containing full particulars of the condition and prospects of the road, with a map, can be had at the Agent's Office.

WM. D. LEWIS, President C. W. and E. R. R. GILBERT, COE & JOHNSON, Agents, Corner Exchange-place and William-st. New-York, Jan. 28, 1853.

To Contractors.

SEALD Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1843, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,
THOMAS B. STEVENSON, President.
CHAS. B. CHILDE, Chief Engineer.
JAMES A. LEE, Secretary.
January 20, 1853.

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,
Sole Agents, 28 Platt st., New York.

To Contractors.

CLEVELAND AND MAHONING RAILROAD LETTING.

SEALD PROPOSALS will be received at the Office of the Company, on Superior street, Cleveland, until the first day of March, 1853, for the Grading, Masonry and Bridging of the portion of said road from Cleveland to Warren, a distance of 53 miles.

Plans, Profiles, and Specifications, may be seen at the Company's Office, in Cleveland, and the line will be ready for inspection by Contractors, 2 days previous to the letting.

The line is divided into sections of about one mile each, and bids will be received for each section separately, or for the whole line.

Estimates will be made monthly, and the payments made in cash.

Further information may be obtained on application to Jacob Perkins, Esq., President of the Company, George C. Beckham, Esq., resident Engineer, Cleveland, or to the undersigned.

The remainder of the line from Warren will be let as soon as the location can be completed.

By order of the Board.

EDWARD WARNER, Chief Engineer.

Notice to Contractors.

Alleghany Valley Railroad Lettings.

SEALD Proposals will be received at the Company's Office, in Fourth street, Pittsburg, until the 22nd day of February, 1853, for doing the Grading, Masonry and Bridging on the portion of said road, between Pittsburg and Kittanning, Armstrong County, a distance of 42 miles. The line will be divided into Sections of about one mile in length, and bids may be made for one or more or all of said sections.

Plans, Profiles and Specifications will be ready for inspection on and after the fifth day of February.

Proposals will be received for the Grading, Masonry and bridging, and also for the superstructure, and finishing said 42 miles, complete, (except furnishing iron.)

Bids will be received and considered, for the entire work, (except furnishing iron,) from Pittsburg to the New York State line.

Satisfactory references will be required from bidders not personally known to the Company.

For further information, application may be made personally, or by letter, to Hon. William F. Johnston, President of the Company, or to George R. Eichbaum, Esq., Associate Engineer, or to the subscriber.

W. MILNOR ROBERTS, Chief Engineer.

By order of the Board of Managers.

Office of the Alleghany Valley Railroad Company, Pittsburg, December 20th, 1852.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally, are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. 1y*

To Civil Engineers and Surveyors.

A CIVIL ENGINEER and Surveyor of very great experience in every detail of locating, designing and constructing Public Works, especially Railroads, is desirous of a situation, he has been engaged practically for the past sixteen years, and can produce the most satisfactory testimonials.

Address D. F. ca.: of Geo. Gilchrist.

1 m-52

432 Washington-st. N. Y.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX, No. 8.]

SATURDAY, FEBRUARY 19, 1853.

[WHOLE No. 879. VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, February 19, 1853.

Pennsylvania Railroad.

Protest of the County of Allegheny to the Subscription of Stock in the Hempfield, and other Roads.

The commissioners of Allegheny county, on behalf of its citizens, by their agent, duly authorised, respectfully ask, as a matter of right, that this protest be placed on the minutes of the stockholders of the Pennsylvania railroad company, against the resolution this day adopted, authorising a subscription of \$700,000 to the capital stock of the Marietta and Cincinnati railroad company. They enter this protest in order that, hereafter, no acquiescence in the action of the stockholders may by any possibility be inferred. They believe such a subscription entirely unauthorised by the charter of the company, the general laws of the commonwealth regulating corporations, at variance with its true interests, a violation of the faith pledged to its loanholders, by embarking in the risks and responsibilities of another corporation, and cannot be legalized by any subsequent law or enactment against the consent of a large body of or even one individual stockholder. They fear that such an application of the funds of the company, in the face of dissent by a large body of stockholders, without the approval of the loanholders, or any authority of law, may involve the company in the penalty of forfeiting its charter. Fearing and believing this, desiring to incur no portion of the responsibility, should these consequences ensue, and resolute that should this distant adventure incur the complaint or affect injuriously the interests of those who have loaned their money to make a railroad within the limits of Pennsylvania, under the sanction of its

laws and the inviolability of a charter, and nowhere else, no blame should attach to us; equally resolute to prevent, by legal process, if any be attainable, this sacrifice of our local interests, for the advantage of another and a rival community, and this violation of our rights as large stockholders, we enter this, our most earnest protest.

On the 13th of April, 1846, authority of law was obtained to enable the county of Allegheny to subscribe to the stock of the Pennsylvania railroad company. But for this authority, this railroad company had no right to receive, or any municipal corporation any power to bestow, one cent in furtherance of the enterprise.

The legislative authority was obtained; and then and not till then, did the county of Allegheny contribute its money to the other resources of the company. This very money which, without special legislative authority, the railroad company could not receive or apply to its own uses, they now, without the slightest authority of express law, propose to bestow on another and distant corporation. If the power did not, and does not, without express authority, exist, to receive money thus subscribed, we most earnestly deny the existence of any implied power to part with it. The dissent of any single tax payer of any of the municipal bodies or stockholders in any corporations which were permitted to subscribe, is sufficient to arrest the diversion of money thus contributed to a precisely defined trust fund. The dissent and protest formerly and distinctly made of a whole community whose aggregate contribution amounts to over one million of dollars, ought to arrest, and must, unless every well settled principle of law be abrogated, finally avert the measure now proposed.

It there be one principle of law well settled by express judicial decision, by legislative action, and by public opinion, as recognised and assented to by courts and legislatures, it is, that a corporation created for a precisely defined object has no power beyond those expressly conferred by its charter. Whatever effect as among themselves, the acquiescence of corporators may have on measures aside from the main end and strict letter of the character, there can be no question that the dissent of any considerable number, of any one stockholder, is sufficient to prevent the exorbitant action of a majority. The dearest and the clearest right of a minority, is to insist on the strict enforcement of the restraints which it is the very object of a charter to impose on a majority. That dissent—this emphatic protest—the citizens of the county of Allegheny now make against a measure, which the charter of the Railroad Company never authorized or contemplated. There is not one word in that instrument to permit the Pennsylvania Railroad Company to subscribe to a foreign corporation. Should the measure now adopted, or kindred measures which may follow in its wake, lead to a forfeiture of the charter of the Railroad Company, and the sacrifice of the vast pecuniary interests

entrusted to it, no part of the responsibility will rest on us who now earnestly protest. Our words of warning are uttered in season. Throughout the charter nothing is more apparent than the jealousy of the Legislature, of the affiliation or combination of this company with others. The branches of the road itself to Indiana, to Union Town, and others, are made a matter of express concession; the junction of the Pittsburgh and Connellsville Railroad is as expressly provided for by the act of 15th March, 1847.

But beside these, and to this, in the same earnest and respectful language, the citizens of Allegheny county ask attention. It is expressly made the ground of a forfeiture of the charter, to loan or part with any part of the money received for subscriptions to any other corporation. Yet it is now proposed and resolved to take the money subscribed by the county of Allegheny, and, against her consent, subscribe it as common stock (less secure, by far, than a loan,) to a company of another State, whose corporate powers are beyond the control of the Legislature which created and restricted this company, and which may, if the Legislature of Ohio please to grant them, have banking or other privileges, and whose nearest point of contact is more than fifty miles from the line of the Pennsylvania railroad. Against this perversion of their money, and this clear violation of corporate duty, we do most earnestly protest.

The citizens of Allegheny county further protest against it as a breach of faith pledged to them. Their money was subscribed for the purpose only of constructing a railroad from Harrisburg to Pittsburg—not a railroad from Greensburg to Wheeling—still less for a road from Wheeling to the mouth of the Muskingum. Not one dollar could have been obtained, had the idea been suggested that part of that dollar was to be used for objects adverse to our local interests. Would the citizens of Philadelphia acquiesce in the use of the money they have invested in this corporation, to the construction of a road from Harrisburg to Easton, in the direction of New York, or would they countenance for one moment an appeal from Allegheny county, to permit the corporate credit of the company to be applied to a railroad from Pittsburg to Baltimore. The pledge the railroad company gave when the subscription was eagerly and gratefully received, was that it should be used for the one purpose then in view, the construction and maintaining (and for this every dollar will be needed) of the road, of which 50 miles westward from Philadelphia and 50 miles eastward from Pittsburg were, as a new security to local interests, to be first constructed. Against the violation of this express pledge the citizens of Allegheny county enter their protest. The contract which a corporation makes with its stockholders to use their funds for the purpose only for which the corporation is created, has always, till now, been held sacred, or has never been violated with impunity.

The citizens of Allegheny county, therefore, weighing well the duty they owe to themselves and to the laws of the land—the duty they owe to their fellow citizens in the eastern part of the state, bound together as they are, and always hope to be, by ties of interest and brotherly feeling, believe it to be a part of that duty to make this protest against what is pernicious to their judgment, and may be fatal to the interests involved in the great enterprise of the Pennsylvania railroad. That work, sustained not only by individual subscriptions, but by contributions from municipal corporations, liable necessarily to fluctuations of opinion and feeling, which are bound to exact a rigid accountability—reaching from one end to the other of the state and exposed from its very extent and apparent influence to a jealous public scrutiny—can only be successfully consummated, and securely protected by a strict performance of corporate duty and a cautious observance of every restraint which the letter of its charter prescribes. So long only is it safe—so long only ought it to be safe. If, forgetting these restraints—if, disregarding this protest, made at an early moment, and when the first step beyond direct railway connection is contemplated, and embarking in loans and subscriptions of such an enormous amount to foreign companies and making itself responsible for their errors, the Pennsylvania railroad company ventures further in this career of experiment and adventure, the end need not be foretold. It will not be the first corporation which, seduced from the plain path of its interest and duty by distant and speculative temptations, aside from the legitimate advantages which the promotion of local interests secures, has fallen under the burthen of accumulated errors and wrongs, and has been remembered for its ruin of all who trusted to its faith and ventured their money in the confidence that it would confine itself within the restraints imposed by the letter of its charter. W. ROBINSON, JR. On behalf of Commissioners of Allegheny Co.

We publish the above protest at the request of Gen. Robinson, who expresses a hope that we shall concur with him in the views which he so forcibly sets forth. Waiving all considerations as to the rights involved, and the influence that the proposed subscriptions will exert as precedents to be followed in other cases, we are certainly in favor of their being made. Thus viewed, the subscriptions, in the several cases are aid, that a rich and powerful company may very properly extend to meritorious, but comparatively weak projects.

As far as the results of these subscriptions are concerned, the city of Pittsburgh will be the gainer by them. We think it of the highest importance to that city, that the Marietta road should be extended north, so as to enter into communication with it. The construction of the Ohio and Indiana road, too, cannot fail to be highly advantageous to Pittsburgh.

The principal objection arises, undoubtedly, from the subscription to the Hempfield road, on the ground that its construction would be injurious to the interests of Pittsburgh. We think, however, that that city has nothing to fear from such a result. We have no idea that the prosperity of such a city rests upon so precarious a foundation, as to be threatened by the construction of any road in its immediate vicinity, whatever may be its object or direction. Pittsburgh is now a town of so much importance, that she cannot be avoided by the travel and commerce passing east and west through central Pennsylvania. We think her citizens attach altogether too much importance to the Hempfield project, and anticipate consequences that exist only in imagination. This is our idea of the matter. But we admit, that should the result of the act complained of prove favorable, even to Pittsburgh, this fact by no means disposes of the real points at issue, which are the competency of the Pennsylvania company to make the proposed subscriptions,

and the practical consequence of such acts, in their general application.

The objections, of course, suggest themselves to every one. Here is a company, chartered and organized for the specific purpose of constructing a railroad between Pittsburgh and Harrisburgh; with this limited object in view, the county of Allegheny takes \$1,000,000 of its stock. And there is no pretence that this stock would have been taken, had it been anticipated that the company would ever have extended aid to the Hempfield road. Have this company, therefore, any right to engage in enterprises not contemplated in the partnership for construction? Admit the affirmative, and there is nothing to prevent the Pennsylvania company from guaranteeing the interest on a railroad to the Pacific, or from going into projects, in which the original object of the organization is lost sight of, and its whole capital lost or squandered.

There can be no doubt whatever that the precedent here established is a dangerous one. It is not only opposed to prudence, which is also the correct policy; to the commonly received maxims in commercial affairs, but is liable to be exercised in violation of private right. There may be instances where a stockholder may with justice object to any departure by the company from its original objects. In such cases good faith is violated. But to our minds the great objection is the danger that the aid may be extended to unworthy objects. And here lies the objection which we have so often expressed to subscriptions, by cities or counties, to railroad projects. A railroad should not be built where the people on its line cannot and will not, furnish voluntarily, a considerable portion of the means requisite for its construction, for the reason, that where such ability does not exist, there will not be found probably sufficient business for the support of the road; and for the additional one, that the application of such a rule is the only test by which we can detect the sound, from the speculative projects. A community may be very glad to get a railroad, when they would not put a penny into the enterprise. Persons too, will be very ready to vote the credit of the corporation in which they reside, to a road in which they would not invest personally. So long therefore as any ways are left open to build railroads on credit alone, the public is liable to be imposed upon by projects that can be built in no other manner, and which will never pay. On the contrary, when parties getting up a road, furnish a portion, say one half its cost, the presumption is, that the route that can furnish so much means for construction, will also afford sufficient business for the support of a road. The fact too, that the parties immediately connected with such road, have a large personal interest at stake, is a good, and is in fact the only safe guarantee, for its prudent and economical management. Railroads are purely commercial enterprises, and the moment the principles that should be our guide in such cases, are discarded, the danger of an untoward result becomes imminent. For these reasons therefore, credits of either cities or counties, or of friendly companies, should only be resorted to in cases of extreme necessity.

We believe we have stated the correct rules which should govern the action of railroad companies in going beyond the manifest and original objects of their organization. We do not of course deem ourselves competent to make any application of them in the cases before us. With regard to the Marietta, and Ohio and Pennsylvania roads, we believe that the proposed aid may not only be

safely extended, but that the city of Pittsburgh has a direct interest in the construction of both. With regard to the Hempfield road we have great doubts as to the expediency of the proposed measure. We believe it would have been much wiser for Philadelphia to have made Pittsburgh a point in the route to Wheeling, as well as to Northern Ohio. We are informed that with a very slight increase of distance, this might have been effected. Such a course would have harmonized the interests both of Philadelphia and Pittsburgh. These two cities are more widely estranged, and the latter is already projecting new works for the purpose of bringing herself into relations with other markets and center of trade. We are convinced that no reasonable effort should have been spared by Philadelphia to return the good will of Pittsburgh, a city through which, by far the greater portion of the trade between Philadelphia and the West, must always pass.

But in such matters, as in the application in the present case, of the principles we have above stated, we admit that our own views are not entitled to great weight, from the fact, that we have not before us the evidence necessary to a correct decision. In the abstract, all the companies named have equally our good will, and have received such support as we could render. The time has now come, however, in which unless great caution be observed, injudicious and unwise measures will be adopted, and not only must all projects based entirely upon credits, be discouraged, but often those constructed to meet the wants of a business already sufficiently accommodated by existing works.

Massachusetts.

Western Railroad.—The eighteenth annual report of this company exhibits the acts and doings of the directors during the year ending Nov. 30, 1852.

RECEIPTS AND EXPENSES.

<i>Receipts:</i>	
From passengers.....	\$615,460 87
" Freight	685,062 85
" Mails and other sources.....	39,329 37—\$1,339,873 99
<i>Expenses:</i>	
Repairs of roadway....	\$158,988 01
" Engines....	48,208 81
" Passenger and freight cars....	74,388 81
" Buildings....	13,354 86
Transportation expenses.....	336,804 45
General expenses.....	24,933 23—656,678 17
Net earnings for the year.....	\$683,194 92
From which deduct:	
Interest and exchange on state loans etc....	\$284,461 20
6½ per cent dividend to stockholders.....	334,750 00
1 per cent. dividend to sinking funds.....	50,000 00
Loss on Pittsfield and North Adams railroad.....	4,691 78—673,902 98
Surplus earnings carried to contingent fund, 1852.....	\$9,291 94
Add balance to credit of do. Nov. 30, 1851.....	128,121 59
Total amount of contingent fund, Nov. 30, 1852.....	\$137,413 53
The total value of the Massachusetts	
Sinking fund, Nov. 30, 1852.....	\$773,343 32
Of the Albany " ".....	349,155 81
	\$1,122,449 13
The receipts of the Pittsfield and N. Adams railroad for the year were:	

Passengers.....	\$17,532 57
Freight.....	21,963 38
Other sources.....	900 00
	<u>\$40,395 55</u>
Expenses.....	18,087 33
Net income.....	<u>\$22,308 22</u>
Amount charged guaranty fund for deficiency.....	4,691 78

\$27,000 00

From which two dividends were paid of 3 per cent. each.

The receipts of the corporation for the year 1852, as compared with the preceding year, will stand thus:

	Passengers.	Freight.	Other sources.	Total.
1851.....	\$603,207	\$714,362	\$36,324	\$1,353,893
1852.....	615,481	685,062	39,329	1,339,873

Increase...	\$12,274	\$29,300	\$3,005	\$14,021
Decrease...				

During the year 15½ miles of new rails have been laid weighing 61 and 63 pounds per yard. Thirty four thousand eight hundred and sixty-nine sleepers have been laid, 33,501 between Albany and Worcester; 1,368 between Pittsfield and North Adams. Five trussed frame bridges have been rebuilt of an aggregate length of 378½ feet, two road and farm bridges, length 123 feet; and a bridge under the railroad at Wilbraham. 6,113 lineal feet have been re-ballasted west of the State line; ten wood sheds have been built, one passenger engine, eight freight cars, one baggage car and 61 new trucks have been built in the shops of the company during the year. The directors in supplying new rails, have adopted the policy of re-manufacturing the worn out rails. Some 1,000 tons were thus re-manufactured during the year by the Bay State Iron Co., and present a fine appearance.

There have been 11 fatal accidents on the road during the year none of whom were passengers.

Arrangements have been made with the Harlem company by which 23 miles of the Western railroad is brought into use for an important and increasing freight business between New York and Albany.

The total mileage in 1851 was 774,609, and in 1852, 848,002, being an increase of 73,393 miles run, explaining with the reduction of the joint tariff of the Boston and Western roads, (equal to about 12 per cent.) why expenses have been greater and receipts less in 1852 than in 1851.

Official returns made to the legislature by eight of the principal railroads in Massachusetts for the year 1846, '47, '48, '49 and '50, contain facts which can neither be disregarded nor controverted. The roads referred to are the Boston and Worcester, Boston and Providence, Boston and Lowell, Boston and Maine, Fitchburg, Eastern, Old Colony and Western. During the years enumerated and on all the roads named, 490,838,686 passengers and 268,551,340 tons freight were carried one mile, and to do this work, 13,755,550 miles were run by engines; this, with the exception of the mails and expresses constitute all the work done in five years by the several roads specified; to do this work it cost, exclusive of the interest on the capital employed, \$10,977,839, or at the rate of 1.44 cents per passenger or per ton of freight carried one mile; that is to say, the average cost of carrying one of the tons of freight one mile was very nearly 1½ cents. The proportions due to each cannot be specified, as the manner in which the returns are made, does not

admit of distinguishing between the cost of transporting passengers and that of freight. However this proportion may be, there is the fact, that 759,390,026 of both cost at the rate of nearly one and a half cents per mile for each; whether the cost of a passenger carried one mile be assumed at one cent, and a ton of freight one mile at two cents, or in any other proportion, is immaterial, the main result is the same—the mean cost as determined from the aggregate number of passengers and tons carried one mile, being 1½ cents nearly.

These statistics admonish the proprietors of railroads to compel their agents to adhere to such principles in their management as are sanctioned as safe in practice.

One per cent of the net earnings are by law to be paid into the sinking funds for the payment of the bonds of the Co. and at their maturity 1st Jan. 1870, will, as stated in the report of the Investigation committee probably amount to \$4,452,424.

The following statement exhibits the total means provided for the construction of the Western railroad and Albany and West Stockbridge railroad.

51,000 shares capital stock.....	\$5,150,000 00
\$899 900 sterling bonds average due July 5, 1869.....	4,319,520 00
Albany city bonds.....	1,000,000 00

Total means.....	\$10,469,520 00
Amount paid sinking fund.....	459,578 62

Net means.....	\$10,009,941 38
Total cost of road and equipment..	9,953,758 84

Expended on account of new station house at Springfield.....	63,079 60
	<u>\$10,016,838 44</u>

Balance expended for construction more than realized and which is now due income.....	6,897 06
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Cleveland and Columbus Railroad.

Financial Statement of the affairs of the Cleveland and Columbus Railroad, for the year ending, Nov. 30, 1852:

Construction.....	\$2,974,316 24
Cars and engines.....	452,581 17
	<u>\$3,426,897 41</u>

Bills receivable.....	37,843 00
Real estate.....	29,230 59
Cleveland city and Delaware county bonds.	141,000 00
Columbus and Xenia railroad stock.....	4,400 00
Cleveland and Cincinnati Telegraph stock.	3,000 00
Individual and other accounts.....	12,629 30
	<u>228,102 89</u>

3,655,000 30

Capital stock.....	\$3,027,000 00
Contributions for preliminary surveys....	1,462 59
Mortgage bonds.....	355,000 00
Other Convertible bonds.....	50,000 00
Other bonds not convertible.....	3,200 00
Bills payable and other liabilities.....	8,231 64
Amount borrowed from earnings.....	210,106 07
	<u>3,655,000 30</u>

Gross earnings for year ending this day.....	\$777,793 22
Running expenses " ".....	294,339 42
	<u>\$483,453 80</u>

Interest for year ending this day.....	\$72,649 67
Dividend 7 per cent. declared 1st Aug.....	133,786 12
Amount carried to contingent fund 1st August...	31,933 49
Balance applicable to dividend and contingent purposes.....	245,084 52
	<u>\$483,453 80</u>

New York and Erie Railroad.

Return of the New York and Erie railroad, being for the year ending Sept. 30, 1852. (Received Dec. 26, 1852.)

Capital stock as by charter.....	\$10,500,000 00
Amount of stock subscribed.....	7,766,991 17
Amount paid in, as by last report..	5,992,289 29
Total amount now paid in of capital stock.....	7,766,991 17
Funded debt as by last report.....	14,503,868 90
Total amount now of funded debt..	18,003,868 90
Floating debt as per last report....	2,957,376 31
The amount now of floating debt....	1,323,053 55
Total amount now of funded and floating debt.....	19,326,922 45
Average rate per annum of interest on funded debt.....	7 per cent.

COST OF ROAD AND EQUIPMENT.

	As per last report.	To present time.
For graduation and masonry.....	\$9,368,636 38	\$10,661,624 92
Bridges.....		included above.

Superstructure, including iron.....	4,230,508 96	4,790,322 46
Passenger and freight stations, buildings and fixtures.....	764,305 91	1,048,199 53

Engine and car-houses, machinery and fixtures...		included above.
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Land, land damages and fences.....	990,254 85	1,077,365 67
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Locomotives and fixtures, and snow plows.....	1,117,643 96	1,349,987 29
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Passenger and baggage cars.....	178,290 84	262,878 78
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Freight and other cars.....	859,255 26	1,162,745 22
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Engineering and agencies.....	443,886 80	475,821 29
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Total.....	\$24,026,858 20	\$27,551,205 71
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CHARACTERISTICS OF ROAD.

Length of road, main line from Piermont to Dunkirk.....	446 miles.
Length of road laid.....	446 "
Length of double track including sidings. 80½ "	
Length of branches owned by the company, laid, Newburgh branch.....	18½ "
Length of double track laid on same....	2 "
Weight of rail per yard on main track, 58, 62, 65, 68, and 72 lbs.	
Number of engine houses and shops....	19 "
Number of engines.....	142 "
Rated as eight } passenger cars, 1st class 75; do 2nd class and emigrant, 16; baggage, mail, and express cars, 43; freight do 1,834.	

DOINGS OF THE YEAR IN TRANSPORTATION.

Miles run by passenger trains.....	1,062,424½
Miles run by freight trains.....	1,326,846½
Rate of fare per mile charged to passengers in respective classes, 1st class 2c; 2d class, 1½c; 3d class 4-5c.	
Number passengers (all classes) carried in cars.....	864,330
Number of miles travelled by passengers, or number of passengers carried one mile.....	81,179,554
Number of tons, of 2,000 pounds, of freight carried in cars.....	456,460
Total movement of freight, or number of tons carried one mile.....	96,697,695
Average rate of speed adopted by ordinary passenger trains, including stops, (miles per hour).....	21
Rate of speed of same, when in motion.....	29
Average rate of speed adopted by express trains, including stops.....	27
Rate of speed of same when in motion.....	33
Average rate of speed adopted by freight trains, including stops.....	10
Rate of speed of same when in motion.....	15
Average weight in tons of passenger trains, exclusive of passengers and baggage.....	96
Average weight in tons of freight trains, exclusive of freight.....	149

The amount of freight in tons:

The product of the forest.....	76,908
" animals.....	75,943
Vegetable food.....	56,929
Other agricultural products.....	2,419
Manufactures.....	74,847
Merchandise.....	50,687
Other articles.....	118,724

EXPENSES OF MAINTAINING ROAD.

	Amount.	ALLOTTED TO. Pass. Freight transportation.	portat'n
Repairs of road-bed and railway, excepting cost of iron.....	\$183,391	\$83,770	\$104,620
Cost of iron used in repairs. 918 tons, at \$60 per ton.....	55,080	24,492	30,587
Repairs of buildings.....	5,614	2,496	3,117
Repairs of fences and gates.....	3,948	1,755	2,192
Taxes on real estate.....	43,233	21,616	21,616
Totals.....	\$296,267	\$134,131	\$162,135

EXPENSES OF REPAIRS OF MACHINERY.

Repairs of engines and tenders.....	\$203,312	\$106,318	\$96,994
Repairs of passenger and baggage cars..	63,355	63,355	.....
Repairs of freight cars	68,804	.....	68,804
Repairs of tools and machinery in shops.....	21,389	10,821	13,568
Incidental expenses, including oil, fuel, clerks, watchmen, etc., about shops..	18,685	8,290	10,394
Totals.....	\$378,546	\$188,785	\$189,761

EXPENSES OF OPERATING THE ROAD.

Office expenses, sta- tionery, etc.....	\$28,812	\$13,202	\$15,610
Agents and clerks....	79,868	35,427	44,440
Labor, loading and unloading freight..	90,367	.....	90,367
Porter, watchmen and switchtenders.....	21,420	9,504	11,915
Wood and water sta- tion attendance....	6,019	2,670	3,348
Conductors, baggage and brakemen.....	178,410	81,822	96,587
Enginemen and fire- men.....	131,222	51,170	80,051
Fuel, cost and labor preparing.....	262,363	75,007	187,355
Oil and waste for en- gines and tenders..	54,449	24,772	29,676
Oil and waste for freight cars.....	21,625	.....	21,625
Do., do., for passenger and baggage cars..	11,921	11,921	.....
Loss and damage of goods and baggage.....	36,766	3,383	33,383
Damages for injuries to persons.....	18,638	18,638	.....
Damages to property, including damages by fire and cattle killed on road....	4,857	2,163	2,694
General superintend- ence.....	20,120	8,927	11,192
Contingencies.....	20,090	8,914	11,176
Totals.....	\$986,953	\$347,526	\$639,427

EARNINGS AND CASH RECEIPTS AND PAYMENTS.

1st. Earnings:			
From passengers.....	\$1,382,636	87	
From freight.....	1,883,198	76	
From other sources.....	271,930	90	
	\$3,537,766	53	
2d. Receipts:			
From passengers.....	\$1,371,529	20	
From freight.....	1,905,884	39	
From other sources.....	292,401	70	
3d. Payments other than for construction:			

For transportation expenses.....	\$1,691,623	82
For interest.....	1,114,939	07
For dividends.....	416,334	00
Rent of Chemung railroad.....	36,000	00
Expenses Hudson River ferry.....	143,544	28
	\$3,382,441	17

Journal of Railroad Law.

THE LAKE SHORE RAILROAD CASE.

Although we have lately presented an abstract of the dissenting opinion of Judge Lewis of the Supreme Court of Pennsylvania in the highly important case of *The Commonwealth vs the Franklin Canal Company*, it may be well to exhibit more fully than we have done some of the grounds upon which he decided that an injunction ought not to be issued against the defendants.

"It was urged" says Judge Lewis, in substance, "as one reason for issuing the injunction that the company have threatened to construct their road across the public highways of the Commonwealth. This objection if ruled would prevent the company from constructing any road. A railroad is a public highway. The right to construct one involves the right to cross other highways,—although the crossings must be made as convenient as may be; and in this case the route of the road has been submitted to and approved by the road commissioners of Erie county.

It is also alleged "that the Legislature in chartering the company meant to secure the construction of a railroad from Pittsburgh to Lake Erie, and that the company in constructing the Erie division, before completing the other parts of the road, have violated their charter." But all portions of a railroad line cannot be finished simultaneously. The most necessary portion should be first constructed; as has been done in first constructing the Erie division. But it is not true that the company were bound to construct a railroad from Pittsburgh to Lake Erie. By their act of incorporation they were directed to *repair the said Canal and Slack-water navigation*. By the act of 1849 the company have the *privilege of constructing a railroad if deemed most expedient*. They may maintain the Canal and slack-water navigation, if they please, forever. They have the privilege of extending from "the north end of the canal" to Lake Erie, and from the south to Pittsburgh by such route as the company shall deem most expedient and advantageous.

But the great matter charged is that the company have committed a stupendous fraud in locating their road from the north end of their Canal to Lake Erie, in such a manner as to approach the Ohio and to attract and accommodate a large amount of travel and trade passing along the shore of the Lake between Cleveland and Buffalo. In considering this charge, it is necessary to divest our minds of the narrow and illiberal notion that the commerce between the States is repugnant to the policy of the Commonwealth, or is a violation of her rights, or an insult to her sovereignty, or some other high offence, which deserves condemnation or rebuke. It is neither. It is nothing but the exercise of a natural right; recognized by the laws of nations, and sanctioned throughout the civilized world. In the primitive communion, before governments were established, the general right of travelling over the earth for the purposes of commerce and other innocent purposes, existed free from control. This right still exists as a remainder of that primitive communion which has not been, and never will be surrendered, so long as the people have intelligence to know their rights and the courage to preserve them. Among independent and separate nations the rights of commercial intercourse cannot be molested, nor can an innocent passage be denied without just reasons. Such unjust denial or molestation is a just cause of war. This doctrine is fully sustained by Vattel, and by other writers of the principles of international law. It is true that these rights were necessarily imperfect, because they were subject to the control of independent nations, who could not be compelled to answer for their violation, except by means of war. Under the federal constitution of the Union, the rights which were imperfect before became perfect

by means of the last resort of nations. But by entering into the security for their enjoyment which was furnished by that instrument, the power to regulate commerce, whether with "foreign nations," with "the Indian tribes" or "among the States," belongs to Congress.

For the purpose of protecting this power and right from embarrassment, it has been vested in Congress exclusively. A learned commentator on the Constitution informs us that the object of the power was "the relief of the states which import and export through other states from the levy of improper contributions by the latter," and he states that "it has been settled upon the most solemn deliberation that the power thus granted is *exclusive* in the government of the United States." (Story sec. 515.) A determination to preserve in perfect freedom the right of passage, and the commercial intercourse among the states, free from the confusion which would result from a separate action of the several states, has been constantly manifested on all proper occasions.

Our government has in regard to the navigation both of the Mississippi and of the St. Lawrence, maintained the right of free passage to be a natural right, and the rights of passage by land and by water are of the same character.

There was then nothing wrong in connecting with the Great West, and with the state of New York.

The numerous accidents which have occurred to steamboats on the lake, the perils of night traveling in vessels badly managed, and not capable of accommodating that immense trade and travel, the periodical interruption by the elements of this method of conveyance, the immense sacrifice of human life which constantly occurs on the lake, by means of storm and fire, and other causes, demand with an energy which never can be resisted that the right of passage along the lake shore shall not be violated. In despotic governments the people are denied the privilege of leaving their country and "pursuing their own happiness." But in this free Commonwealth they enjoy the inalienable right of "pursuing their own happiness" and the power of prohibiting emigration from the state, is expressly withheld from the government. To obstruct the right of passage, is to deny the citizen the means of emigration, and to deny the means is to prohibit the right.

It is also clearly shown that the company have selected the best route in their power, having in view "advantage and expediency."

Where the direct line between the two points would lead through a barren desert, or a trackless wilderness, and a deviation of five or six miles in forty or fifty would lead through a densely settled country, covered with manufacturing establishments, rich with agricultural productions, and filled with inexhaustible mineral resources, the "advantages" of the latter route are legitimate considerations which might properly influence the decision, and which the charter authorises the Co. expressly to secure.

No one in this case would imagine fraud, if he could clear his mind from prejudice—connections of a similar kind with those in question might just as well be deemed fraudulent when they are effected between plank roads or roads of any kind.

It is an error to suppose that the defendants' road commences at Erie. This is contrary to the affidavits of the president and treasurer, and other evidence. A location has also been made between the present depot of the company, in the south part of the city of Erie, and the harbor of Erie—a distance of about three quarters of a mile; and it is proposed to construct this part of the road at the joint expense, and for the joint use, of the Sunbury and Erie and the Northeast and Franklin Canal Companies. Thus there is no evidence of a design to abandon this important point of communication with Lake Erie.

What, then, is the great "peculiar" and "irreparable" injury, which makes it necessary to grant this injunction, before the merits of the case are heard? It is alleged, that the railroad complained of will "divert the trade and travel of the country from the great line of public improvements constructed by the commonwealth, to the diminution of the public revenues." But the affidavits in support of this allegation show that the trade and

travel referred to, is chiefly that which is driven out of its natural channel by the elements, and which is compelled, during the winter, while the navigation on the New York canal and on Lake Erie is closed, to take, at great cost and expense, the circuitous route of the Pennsylvania public works. The Lake Shore railroad remedies the obstructions created by the elements, and accommodates this trade, without causing any material departure from its proper channel. And we are gravely asked to treat this as an "irreparable" injury to the commonwealth!—and to put a stop to the travel and commerce passing along this railroad! The bare statement of the proposition is its own best answer. As the commonwealth has no just right to drive trade out of its natural channels, she cannot be injured by any improvement which only keeps it within them. When she constructed her public works, she passed no enactment that she intended them as a monopoly, so extensive as to prohibit the construction of others throughout the whole length and breadth of her territory. As she claims no monopoly, she is not injured by competition. And the attempt now made in her name to block up the road in question, for the purpose of driving the trade and travel out of its natural direction, into what may be called a tax-trap, to increase her revenues, is elevated but one degree above the morality which would throw obstructions in the highway to impede the traveller, or hold out false lights to lure the mariner from his course, for the purpose of profiting by the misfortunes thus occasioned. The revenues of the State, instead of being increased by the taxes which might be levied upon the travel thus thrown, for a short period of the year, upon her works, or upon the Pennsylvania railroad, would be greatly diminished by stopping the use of the Lake Shore railroad. That road draws from the lake navigation, and from land transportation through the adjacent British territory, an immense trade, which would continue through all seasons of the year, and which, if the commerce between the states be a fair subject of taxation, would produce ten times the amount of revenue more than that, which would be derived from the small portion of trade temporarily driven out of its channel during the winter season.

Railroad Accidents.

THEIR CAUSES AND PREVENTIVES.

From the Report of the Select Committee of the Senate.

OFFICE OF THE SYRACUSE AND UTICA R. R. CO. }
SYRACUSE, 1852.

HON. H. E. BARTLETT, Chairman, etc. :—

DEAR SIR—I have received yours, with the copy of the resolutions of the Senate, which constituted the State Engineer and yourself a committee to examine and report to the next Legislature, upon the subject of railroad accidents, in which you ask for a copy of the road regulations, and time tables of this company, and for such information and suggestions with regard to the police and management of railroads, as may be calculated to assist the committee in their duties under the resolution referred to.

Herewith you will receive a copy of the regulations and time tables of this company.

The subject of accidents upon railroads, is a very important one. The causes should be truly understood, in order to consider properly the remedy.

I beg leave in the outset, to say that the accidents upon railroads bear but a small proportion to those in any, and all other modes of transportation.

While the number of persons carried by railroads very far exceeds the numbers carried by water, the accidents thereon are far less. The destruction of life upon the western lakes and rivers, is perhaps a hundred fold greater than that upon all the railroads in the Union.

The amount of accident, by explosion of engines in factories by the falling of buildings, and in the various mechanical employments, though the number of persons employed are quite limited, and are skilled in their business, is believed to be much greater than upon railroads.

Indeed, I think it will be found, on careful examination, that the railroad is actually the safest known means of transportation; and that the same number of persons that have been safely carried

upon some of our railroads, would not have been otherwise moved, either by their own or by any other agency, with equal immunity from accident.

I have no doubt that accurate statistics will show the truth of these remarks.

1. There are some classes of accident that arise from our legislation, from our want of capital, and from a sort of general necessity to have this great improvement as quick as we can, and wherever it is possible.

2. There are those which arise from want of legislation, and from an unsound sentiment in respect to the railroad.

3. There are others which arise from imperfect structure, from want of care, and from mismanagement.

1. In this State, we authorize the construction of railroads, wherever they can by any means be made, without any limit or restriction as to height of grade, as to curvature, as to speed, as to weight of engines or trains or as to track.

A railroad that is *straight and level*, and is well laid with *double tracks*, and is built upon *capital*, and that costs with its motive power and appurtenances, from seventy-five to one hundred thousand dollars per mile, will, in all probability, be very free from accident.

This rate of cost, great as it seems, is not half the cost of railroads in Europe.

We build them here, with grades of 50, 75, and 100 feet rise to the mile, with curves of very small radii, with single track, of course with heavy engines to surmount such grades, and then to meet the public demand for high speed, we run them 30 or 40 miles an hour.

To be very safe, the railroad should always be of double track, if trains are to be run on it at high speed, and more than one way at the same time.—Yet we have not the means to make them of double track in this country, and very many routes will not justify it.

The entire structure of a railroad should be thoroughly complete before passengers are carried upon it; yet the public here would be restless to be excluded after it is possible to run over it.

The proportion of accidents is greater upon new roads than upon old ones; because they are constrained to be opened before they are really ready, or from lack of capital, are unable to construct them as they should be made.

It is very obvious, that heavy trains cannot as safely be run down steep grades and around sharp curves, as upon level and straight lines.

Yet, extensive as our country is, we must have such railroads, and with them, must expect the hazards which are necessarily incident.

The occurrence of sleet or frost, upon such roads, at particular points, may sometimes render human control of a train powerless.

Our severe winters often cause the breaking of an axle, a rail, or a wheel; and this is most likely to occur on the severe grades or sharp curves of railroads, which our necessities require to have made, and which the Legislature authorizes.

This is a class of accidents which arise from the authority to make railroads, where there seems to be a great necessity for them, but where they must, of course, be subject to hazard.

2. The accidents which arise from want of legislation, and from unsound sentiment in regard to the railroad, so far as my experience enables me to judge, are of far the most numerous class.

Many more people are hurt or killed from walking and being upon the railroad, than from all other causes. In the reports of this company for some years back, this has been urged as an important matter. Persons not connected with the company should never allow themselves or be allowed to walk or be upon the railroad. It will be no more than kindness to them, to prohibit this by severe penal enactments. In England, all persons are rigidly prosecuted for going upon the railway tracks. Here, all persons claim the right to travel upon them. During the last session of the Legislature, a bill upon this subject, at the suggestion of the undersigned, was introduced into the Assembly. It was met by a proposition to require the railroad companies to make a foot-path along their tracks. It is scarcely possible to suggest stronger evidence of unsound sentiment in respect to the railroad than this.

Within three years past we have killed, upon the tracks of this company, nineteen persons, who were improperly thereon.

This great destruction of life goes on, because we cannot keep people off the tracks.

— We have put up signs the whole length of the railroad to caution all persons against it; still it seems to do no good. We dare not drive them off for fear of injury. This is cited as an evidence of unsound sentiment.

There is, in my judgment, no legislation more immediately necessary, than the proper provisions to prevent all persons disconnected with the railroads, from walking and being upon the tracks.

There is another class of accident often resulting in personal injury, which is the effect of want of discipline, or unwillingness to submit to it, on the part of passengers.

Passengers will not keep their seats; they expose their safety by standing upon the platform of the cars; by getting on and off the trains when in motion; by exposing themselves upon the tracks when trains are approaching; by riding upon the engines and baggage cars. The rules of most companies, doubtless, forbid this; still there are from these causes, I think, more personal injuries to passengers in our State, than from all others. They are often very unwilling to submit to the discipline necessary to their safety. The government of a railway train should be firm, strict, and absolute in its managers; yet the attempt to enforce such discipline, is very often followed by restlessness and complaint on the part of passengers. There is still another class of accident of similar character; this occurs at road crossings. Signs are put up generally, that are conspicuous; bells are rung, or the steam whistle sounded on approaching road crossings, yet the attempt is very often made to cross roads before an approaching train. There is great error in the public practice in this respect. The velocity of a train at high speed, cannot be properly estimated. The train cannot be stopped or checked at every road crossing; if it is, then the rate of speed will be so reduced, as that the usefulness of the railroad will be essentially impaired. There is a claim often set up, that any traveller upon the common highway, has the same right to its use at the same moment, as the railway trains have. The exercise of only reasonable care by those using the common road, at the crossing, will always save from accident. Litigation as to this right of crossing, often ensues, and it quite generally results against the railroad company, because this seems to be the tendency of public sentiment. As we must have railroads, and as they must be run at high speed, it would be far better to encourage in the community a just appreciation of all proper considerations. This kind of accident will certainly continue, until more care is exercised by those crossing the tracks of railroads; such care will be more likely to be exercised, if a just sentiment is entertained by the community generally.

Another class of accident that frequently occurs, arises from cattle and other domestic animals straying upon the track. This is considered a very important matter, and subsequent experience fully confirms the suggestion upon this subject, made in the annual report of this company, for the year 1850. I cannot more fully present the matter, than is contained in the following extract from that report:—

One cause of accident, it is believed, is in the power of the Legislature to remove. It is well known that cattle are often run over upon the tracks, and the trains are thereby thrown off. They stand in the crossing of public roads; they either will not get out of the way or they very often go, deliberately, in front of the engine. Where every precaution is taken by the company they will get upon the tracks. This results from their being allowed to run at large. It is not possible to fence against them. It is not infrequent that they are found upon the tracks, at night, where the owners of adjacent lands have been fully paid for making and maintaining fences, they neglect to build them.

Whenever cattle are killed the owner presents his claim for them, and it is quite generally found to be better to submit, and pay for them, rather than to contest the question before a local tribunal. This really only increases the difficulty and makes

the owner unmindful of taking proper care of his cattle. The ground is assumed by the owners of cattle, that their animals have as good right to occupy a public highway at a railroad crossing, at the same moment when a train of passengers is passing them, that they have. If this is to be maintained it will be seen at once that a very serious obstacle is interposed to safe and rapid travelling. In Massachusetts, the owners of animals may not allow them to run at large without incurring a penalty. Hence there is far less of this kind of accident there. If the like provision was adopted here, travellers would be more safe.

I believe that under the two foregoing heads, the most common cases of accident have been alluded to, and their true causes stated. Proper legislation will help to establish sound public sentiment upon all these matters, and then there will be far less hazard upon the railway, and we shall learn to sustain it as one of the great and useful improvements of the age.

The accidents from imperfect structure, and from want of care, and from mismanagement, are most likely to occur upon new roads, because they are first tested when they come into actual use, and because their management has to be learned as a practical working system.

There may be defects in the plan or execution of bridges, trestle work, &c. Here again the item of want of capital comes in. We desire to get along as well as we can with the means we possess, and hence have not the ability on all roads to build the most stable bridges and the most perfect structure. If it were provided by law, that before any railroad was opened for public use the State Engineer should examine the structures upon it, and give a certificate of fitness, there would be better assurance that the roads will hereafter be perfectly constructed.

A large portion of the service upon railroads is purely mechanical. It is quite common to see or hear the remark, that men should be better paid and then there would be better service. As a general rule, I think that the men are better paid upon railroads than for any other equivalent service. Hence employment is sought all over the country. The managers seek to employ the best men. Sometimes they are mistaken in their selections,—sometimes they must employ new men, and these not having the experience for every emergency, make mistakes.

It is a business to be learned by practice and by discipline. The operatives who are the most successful, and those who have learned their duties mechanically, and who have little variety of employment, can therefore do their respective duties in the best manner.

Upon a single track road, over which much business is transacted, the construction of the switch, and the management of it, are very important matters. This is often changed,—sometimes inadvertently, at others from design to do injury, and again left wrong by negligence.

Until we have all double track railroads, we shall be liable in some degree to these hazards. They will be less and less in proportion as the roads are longer used, and the men employed become more skillful in their business. It is not reasonable to expect that new men can be as safe as those who have become familiar with the business by long practice.

Whenever accident does occur to a train, those engaged in its management are most likely to be injured. They know the hazard in proportion as they have learned the business, and they will, by the exercise of their skill and judgment, endeavor to guard their own lives, and their limbs, which to them are almost as important.

When, however, their misconduct is the cause of injury to passengers, or when they disobey the prudent regulations made for their guidance, then they should be personally liable to such penal provisions as may be deemed necessary to insure care and obedience.

The public constantly expects increased speed upon the railroads, and this expectation is stimulated by the press and by competition. If we could be contented with a speed of twenty miles an hour, and if the roads are well constructed, that rate can be accomplished with but small liability to accident.

The tendency, however, is in a contrary direction; higher speed is constantly demanded, and this, with the stimulus of rivalry and the imperfect character of roads, in some degree increases the liability to accident. The accidents arising from the failure of wheels and axles upon the engine and cars, though not of frequent occurrence, are those most difficult to guard against. It is not possible always to detect incipient fracture in these parts of the rolling stock. I think that great care and much thought is bestowed by those having the charge of railroads, in the procuring of the best axles and wheels that they can obtain. The size and strength of them have been increased, and the best forms for safety have been sought. Still they will sometimes fail. We have used wrought wheels at a cost of three times that of the cast wheel. There are however objections to these. The flange wears sharp, and there is then danger that it will catch upon the rail, and thus throw the car off the track, and on the whole, it is by no means certain, that they are better than the cast wheels though the popular sentiment might favor them. We use safety beams by which the axle is held up in its place, if a wheel or journal breaks, and thus guard against injury as far as possible. These ought generally to be used.

But I repeat iron will sometimes break suddenly, and I do not believe that any scrutiny can always prevent it. Passengers do not like to change cars often, hence there is a tendency, in order to accommodate them, to run the cars as long distances as practicable. While the convenience of the passengers and perhaps economy is favored in this arrangement, it is in some degree less safe than if more frequent changes were made, whereby there can be more supervision of the cars, and less service of them, and of course less liability to accident. This is a point which will hereafter engage more attention than is now given to it.

Our cars are heavier, and each carry more passengers in number, and more weight of property than those of other countries, so that the dead weight of our trains is much greater in proportion to the paying load. In order to afford equal accommodation to all passengers, we use large or 8 wheel cars. These are of necessity very heavy, always exceeding the weight of their load. Our passengers carry, perhaps, more baggage than any other people, as goods and merchandise are very commonly carried in their trunks claimed to be their baggage. We are not strict to limit the weight of baggage, and to charge for over weight. From all these causes while our roads are not as straight, level and as well constructed, as in other countries, we actually put greater weight upon them, and expect and do receive more service, and generally far less compensation.

Collisions, or the running together of trains, occur upon all roads, and they probably will never entirely cease, any more than vessels will cease to run into each other, or wagons to run together; still I think this kind of accident will not be as frequent as heretofore. They occur most frequently upon single track railroads, but they are by no means confined to them. There is the greatest care necessary upon double track roads to prevent one train running into another ahead of it.

Of course this accident must always arise from the fact that one of the trains is out of time. There are so many causes to throw them out of time, that rules are generally prescribed for the government of trains so situated. Something may occur to the engine, or to the cars, or to some passenger, to cause a loss of time; or a flood, or frost, or wind, or some other circumstance, may so delay a train that it cannot reach a place of meeting in season, and they must, therefore, be very often out of their time. There is no safety but to follow the rules which are provided in such cases. Passengers, where they greatly desire to advance in their journeys, will sometimes interfere, and urge conductors and engineers to go on, in violation of rules.

There is no safe way but to leave this matter to the wise and prudent regulation of the managers of the railroads, who having knowledge of all the circumstances, can best provide for emergency.

All the matters alluded to, severally and combined, have much weight upon the proper understanding of the subject.

We cannot compel the construction of double

tracks upon all our railroads. We cannot limit the speed to a low and therefore entirely safe rate of travel. We cannot raise the amount of money, in the construction of our railroads, necessary to make the most thorough and perfect works. These are all essential for the most complete safety.

There is a mutuality of interest between the public and the railroad company, and when all their relations and duties are well considered, there cannot fail to be such improvements as will insure a progressive exemption from accident.

Very respectfully,
JOHN WILKINSON.

Wilmington and Manchester Railroad.

The fifth annual report of this company was presented by the president, Gen. W. W. Harlee, at the annual meeting held on the 26th ult., at Wilmington, N. C. From it we gather the progress and condition of the Co., during the past year. The receipts from all sources have been... \$626,338 70
The disbursements..... 760,775 08
Assets now applicable to construction and equipment..... 473,111 89
In hands of agents and cash on hand.. 33,668 80
\$506,780 69

This last sum is made up as follows:
Amount of stock subscription due and to be called in..... \$201,296 78
2100 shares Wilmington and Raleigh railroad stock par value..... 210,000 00
400 shares South Carolina railroad stock par value..... 50,000 00
Bills receivable, good..... 11,815 11
473,111 89
In hands of agents, cash in bank..... 33,668 80
\$506,780 69

In addition to this, the amount due on subscriptions of stock considered doubtful..... \$55,706 70
It is believed however, that a proportion of this amount, set down as doubtful, may yet be realized.

The gross expenditure thus far including all disbursements on the work and other outlays, amounts to..... \$1,212,415 37
The payments for iron the past year and expenses attending it, amount to..... \$416,682 74
All the iron has been received, except about 200 tons, and paid for except the duties, on which the company have an extension of credit by act of congress for five years.

The four hundred shares of South Carolina railroad stock, the last instalment of the subscription from the state of South Carolina was not received until October last, in consequence of the failure to receive the iron from Charleston.

On the 2100 shares of the stock held by the Co., in the Wilmington and Raleigh railroad Company, a dividend of six per cent per annum was paid in November last, and with a spirit of commendable liberality, that company advanced \$30,000, interest being allowed at six per cent. per annum, till by the terms of the subscription it becomes due and payable.

The par value of this stock it is believed the company will realize eventually, or by a pledge obtain a fair proportion, while the accruing dividends will indemnify the company, for whatever interest they pay on the loan they may obtain. With reference to the interest paid on the first mortgage bonds of \$600,000 it is stated that the whole interest paid on bonds and other loans on pledge of stock, as well as the bonds of the town of Wilmington, only exceeds the dividends received on stocks accepted as subscriptions to the capital stock by \$5,454.11.

During the past year 800 shares of South Carolina railroad stock was disposed of, also the remainder of the bonds of the town of Wilmington, and the 1st mortgage bonds of the company. The issue of these bonds at the time was a fortunate circumstance, as the prices paid for the iron show a saving nearly equal to the sum paid on the purchase.

The action of Congress in extending a credit for duties has enabled the company to apply that amount of funds to the prosecution of the work, while it is made by the same bill the duty of the Postmaster General to place the through mail on the road as soon as it is in a situation to receive it.

Operations were suspended at the Pee Dee during the summer in consequence of the difficulty of retaining a force there on any terms, in the mean time the necessary preparations were carried on, and the work will now be pushed with despatch. While feeling the importance of urging the track over Eagles' Island it was deemed more desirable to extend the track from the eastern terminus to Whitesville where it now is, as on reaching that point a business would at once open, remunerative in point of income to the company, and facilitating the securing of the Southern Mail, whereas to have waited and expended the Company's resources on the Island before proceeding farther, would have delayed the track for at least six months, and deprived the company of its advantages. In this opinion they have not been disappointed, as with the facilities they have of connecting with the track at Brunswick river by steamboats, one of which is now in the company's use, freights and travel can be brought to and from Wilmington without serious interruption or expense.

The work across the Island will soon be in vigorous prosecution. In view of the risk and expense of keeping the ferries and causeway the company have sold it, reserving the privilege of crossing the Island with travel and freights by the road, and also a portion of the land for 1,400 feet along and west of the causeway. The sale was made for \$3,500 at 12 months credit.

The legislature of South Carolina have granted authority by an act to extend the road so as to connect with the South Carolina railroad, and it is believed an amicable arrangement can be made to carry out this design.

The extension of the track on each end has been considered of the highest importance, as every mile gained either way tends to increase the receipts from travel and freights, especially at the eastern end, which has only been opened during the month of January.

An early and an efficient application of funds is deemed necessary, and from the expensive character of the Pee Dee bridge and Eagles' Island an issue of second mortgage bonds to the extent of \$200,000 is recommended. This amount has been already authorized by a two-third vote of the stockholders, as only \$600,000 were issued under the authority to issue \$800,000 in April, 1851.

A line to the coal fields of North Carolina and a railroad communication with Fayetteville is strongly insisted on.

The report concludes by saying the immense impulse given to every branch of trade and industry by opening a cheap communication to these mines cannot now be estimated, and the increased business on a portion of the road can scarcely be calculated. By our charter we have the authority to construct branches in North Carolina, and it is well worth firm attention to consider its advantages at the proper time.

One just duty however; is to build our road; stock it and put it in operation. To this all other considerations should yield, and it will be fortunate indeed for us, under all our past difficulties, if we shall do this in as short a period as circumstances now promise.

From the report of the Chief Engineer, L. J. Fleming, Esq., we learn that the road has been opened on the western division to Hills' 47 miles from its junction with the Camden branch, on the eastern from Brunswick river to the western side of the White Marsh, a distance of 41 miles, making 88 miles of road laid and in operation, of which 79 miles have been completed during the year. On the western division the road is graded and cross-ties laid 15 miles from Hills', and the remaining distance to the Great Pee Dee trestle work will be in readiness for the rails by the 10th of February, and if the iron can be delivered as rapidly as required, the road can be opened to the Pee Dee Swamp by the 15th of May next. The timber of the trestle work is contracted for, and will be framed and transported on the road to the Swamp. The driving of the piles is also contracted for and will be commenced as soon as the water falls. The high water at the Pee Dee has delayed the work at that river, but the process of sinking the cylinders will be commenced as soon as it is sufficiently low. The engine and nine sections of the cylinders have been received, and the remaining sections are shipped, or ready for shipment at Georgetown. On the eastern division but little graduation remains between Whitesville and Fair Bluff. Between this latter point and the Little Pee Dee detached portions are completed, and the whole will be finished in due season. Between the Little and Great Pee Dee rivers the graduation is nearly completed.

Since the commencement of the road the price of good pine lands on the line of the road have advanced from 50 cents to \$4 per acre, and heavy investments have been made for the production of naval stores and timber. It is believed that 50,000 barrels of naval stores and 20 million feet of timber and lumber will be placed on the road during the current year. Mr. Fleming insists on the policy of fostering the local business.

In a staple country three-fourths of the crop seeks a market between the 1st of September and the 1st of January, a period of four months, and the return supplies follow immediately, requiring a large outfit of machinery which cannot be profitably employed during the remaining 8 months. At present the principal production in South Carolina is cotton, which is cultivated on the ridges adjacent to the streams, and the table land between the streams is an untapped pine forest, the products of which will give more uniform and steady employment to the machinery.

In reference to the coal beds on the Deep river Mr. Fleming observes:

"At the late session of the Legislature of North Carolina, a charter was granted for the construction of a railroad from Fayetteville to these coal fields: and measures will soon be adopted for its construction. An examination of the map with a view to the selection of a route for a railway from the sea board to the coal fields, will point out the Ridge route on the Western side of the Cape Fear river, and passing through or near Fayetteville, as the shortest and best natural route. The road occupies this route for a distance of about 30 miles, and the remaining distance of 50 miles or less, to a connection with the proposed road from Fayetteville, will pass over an almost unbroken ridge between the waters of the Cape and Lumber rivers. This traffic would only encounter maximum grades

of 15 feet per mile, and it is believed these grades may be extended to the mines.

These coal fields cannot be reached by any other route within the same distance, and by no other route can as light grades be used. In addition to this, the terminal arrangements, with a water front of nearly $1\frac{1}{2}$ miles in length, on which, at a small cost, wharves can be constructed to water of sufficient depth for the largest class of vessels which can enter this port, render it peculiarly adapted to this species of traffic. While the construction of this work, from the inexhaustible quantity of Coal supposed to be in the mines, will not damage other works already projected and commenced, it will add materially to the resources and receipts of the company, on a comparatively unproductive portion of the road, and unite by the indissoluble tie of mutual interest, the largest and most prosperous towns in North Carolina."

Morris and Essex Railroad.

The annual statement of the Morris and Essex railroad, as presented to the New Jersey legislature shows the following results—

Capital stock	\$1,022,420 00
Funded debt	128,000 00
Contingent fund.....	69,905 66
	<hr/>
	\$1,220,325 66
Cost of road and its appendages between Newark and Hackettstown.....	\$980,918 03
Cash and bills receivable..	239,407 57
	<hr/>
	1,220,325 00
Income from passengers, freight and other sources:	
Passengers	\$88,418 24
Freight	49,073 77
Mails	2,324 75
Rents and sundries.....	337 25
	<hr/>
Paid for repairs, rights of way, motive power, and contingencies.	\$80,351 53
Interest	7,921 14
	<hr/>
	88,272 67

Total.....\$51,881 37
Dividends for the year amount to \$38,492 98, payable in cash.

Great Wire Bridge.

It is known that there is no regular bridge communication across the Potomac between the Dist. and Alexandria. A proposition for the erection of an immense wire suspension bridge has just been submitted to the corporation of Georgetown by Charles Ellet, Esq., civil engineer.

The bridge Mr. Ellet proposes is a *wire suspension bridge*, of such size and weight as to be competent to the uses of railroad, as well as ordinary travel. At the preferred point, at the Three Sisters; the river is 1,030 feet wide, which would be the length of a bridge there. This distance Mr. Ellet proposes to span with a single arch, declining to use the granite rocks which lie in the river in the line of the proposed structure. The cost of this structure he sets down at \$297,870, but says that if the bridge be divided into two spans by a pier on the aforesaid rocks, the cost would be only \$240,000. He prefers the single span, however, on account of its handsome appearance. This bridge he states would be four times heavier and stouter, and therefore four times stronger than the Wheeling suspension bridge, (of which Mr. Ellet was constructor,) and would more than sustain the simultaneous pressure or weight of two locomotive engines with their tenders, forty loaded freight cars, one hundred loaded carts on the carriage ways, and one hundred horses, enough to occupy the bridge from end to end and in all amounting to 600 tons weight.

Touching the objection that has been and may again be made to the detour of a railroad track, round and above Georgetown, Mr. Ellet remarks that, in fact, time will be gained by the proposed route, inasmuch as it would not subject a train to the delay of opening and shutting the draw at the Long Bridge, nor the slow motion necessary to its passage through a thickly inhabited portion of Washington. As for the increase of distance, it

would be only three miles more than the way by the Long Bridge.

American Railroad Journal.

Saturday, February 19, 1853.

Ohio.

Cleveland and Pittsburgh Railroad.—The annual meeting of the stockholders in this company was held at Cleveland on the 5th January last. The report of the President and directors states that the road during the year was completed from Lake Erie to the Ohio river. On the 4th day of March last, the first train passed over the entire road to Wellsville, and on the first of April it might have been considered in efficient operation. Since this extension two locomotives have been employed for most of the season in ballasting the road. This labor is drawing to a close, and a fine solid road bed is now provided through the entire length of the line.

The surveys for the Wheeling extension have been completed and considerable progress made in obtaining the means of construction. The Beaver extension has also engaged the attention of the engineering corps. The Tuscarawas extension has been steadily prosecuted during the year. The entire line from Bayard to New Philadelphia has been put under contract. The portion of six miles from Bayard to Oneida Mills is with a slight exception ready for the superstructure, and the work on the remainder of the line to be completed by the first of May next.

The items of expenditure are as follows:

Right of way, engineering and contingencies.....	\$133,640 82
Graduation, masonry and bridging....	928,743 07
Iron rail.....	506,798 51
Superstructure.....	345,526 97
Equipment, including depot grounds, real estate, &c.....	506,164 32
Discount and interest on bonds and stock	452,885 35

Total expenditure.....\$2,963,756 04

From this amount should be deducted for surplus iron rail and other material on hand, the sum of \$56,170, leaving as total cost of work \$2,907,586. 04. Included in this total is the amount paid for real estate, which is now valued at \$164,823.

The aggregate of charges on the sale of bonds is \$221,650, less than 12 per cent. on the total amount issued. Of the bonds a considerable amount have been converted into stock. The resource accounts now stand thus:

Original issues of stock..	18,709 shares	\$935,450
Bonds converted.....	6,060 shares	304,000
Present amount of stock..	24,789 "	\$1,239,450
Bonds issued.....		1,675,000
Of which converted into stock as above.....		304,000

Amount outstanding.....1,371,000
Temporary loans and other liabilities.. 353,306 04

\$2,963,756 04

The company now own 15 locomotives, 14 first class passenger cars, 2 second class passenger cars, 105 house freight and baggage cars, 128 stock, platform and gravel cars, nearly all in good order.

The connections are with the Cleveland, Columbus and Cincinnati, and the Cleveland, Ashtabula and Painesville roads at Cleveland, the Akron Branch at Hudson, and the Ohio and Pennsylvania at Alliance. In conjunction with the Cleveland, Columbus and Cincinnati, and the Ohio and Pennsylvania an important passenger business be-

tween Pittsburgh and Cincinnati has been done by the company. The Akron Branch it is expected will be in operation to Millersburgh during the coming season, opening to the Cleveland market the productive wheat fields of Wayne and Holmes county, and the coal beds along the Chippewa. Advantageous arrangements for an interchange of business have been made with the Ohio and Pennsylvania railroad, and by the Ohio river an easy intercourse will be maintained with the Baltimore and Ohio railroad now completed to Wheeling.

The amount of business since the opening to the Ohio has justified the largest expectation of the friends of the road. Two trains have been run daily each way, one from Cleveland to Wellsville, and the other from Cleveland to Alliance, for the last half of the year. During that time the whole number of passengers carried was 103,398, and the receipts.....\$118,677 73
Gross receipts from freights..... 68,787 64
And from mails..... 6,964 00

Total.....\$194,429 37
The expenses have been for the same time..... 71,122 69

Net earnings.....\$123,306 68

The board in June last declared a dividend of 8 per cent. on the stock, from the receipts prior to 1st of January 1853, and 6 per cent. on the receipts to 1st of July. These, as the company were still under the necessity of borrowing money for construction, were paid in stock. At the present meeting a further dividend of 6 per cent. was declared, to be paid in cash on the 20th January, 1853.

No serious injury to any passenger or damage to property has attended the working of the road, and much credit is given to the Superintendent, J. Durand, Esq., and the other officers of the company for this result.

The following is the list of directors and officers of the company for the year 1853:

President.—Cyrus Prentiss.

Directors.—Zalmon Fitch, Henry W. Clark, Selah Chamberlain, Ellery G. Williams, Moses Kelley, James K. Hitchcock, A. C. Brownell, of Cleveland; James Butler, Henry N. Day, of Hudson; Cyrus Prentiss of Ravenna; James Farmer of Salineville; John S. McIntosh of Wellsville; Samuel Foljambe, Secretary; W. H. Stanley, General Treasurer; Isaiah Linton, Chief Engineer; John Durand, General Superintendent.

The Iron Business in Tennessee.

The Nashville Whig gives a tabular statement of the capital and product of the iron interest on the Cumberland river, together with the number of hands employed, and the amount of iron consumed per annum at the 21 furnaces, 9 forges, and 2 rolling mills therein enumerated. The following is the recapitulation: 19 furnaces, 29,200 ton of metal; nine forges, 10,600 tons blooms; two rolling mills, 4,700 tons of iron. Total, 44,500 tons; 1,400 kettles. Capital, \$1,216,000. Value of products, 1,678,000. They employ 1,395 white men and 1,810 negroes.

North Carolina.

Weldon and Gaston Railroad.—The Norfolk (Va.) Beacon, of the 26th ult., says we are requested to announce on good authority, that the railroad between Weldon and Gaston will certainly be in running order by the 22d of February. There are between 450 and 500 men employed on the road, which is all graded, the iron being also ready for laying on the track.

Pennsylvania.

Pennsylvania Railroad Company.—The annual meeting of the stockholders of this company was held on the 7th inst. in Sansom Hall, Philadelphia. The meeting was called to order by A. J. Derbyshire Esq., on whose motion John P. Wetherill Esq., was called to the chair, and George Boldin, Esq., acted as secretary. The President, John E. Thompson, Esq., then submitted the annual report. The report congratulates the stockholders on the opening on the 10th of January last of a continuous line of railroad between Philadelphia and Pittsburgh. The business of the present year has been encouraging, the gross income being \$1,943,827, and the net profits \$617,025, leaving after paying interest to stockholders \$577,007, a surplus of \$40,018.

The hope is entertained that the inclined planes on the Portage railroad will be entirely removed during the coming autumn. The difficulty has been much reduced by the avoidance of three out of the ten inclined planes, and no effort has been spared in pressing forward the work on the remaining. In February last it was found necessary to make a further expenditure of \$4,000,000 on the road, and the great question was how to raise these means so as best to accomplish the great object of all, the earliest completion of the whole route. The subscriptions obtained from individuals, together with those from the city and districts, made available by increased individual subscriptions, afforded relief from the pressing demands on the Treasury and enabled the Board to go on in the uninterrupted prosecution of the work. A loan of \$5,000,000 was also authorized, and \$3,000,000 of this, required for the completion of a single track from Harrisburgh to Pittsburgh, was disposed of on favorable terms.

The statement of the Treasurer of the company shows the total receipts from stockholders, in instalments on the 200,000 shares of the capital stock of the company, to be up to the 31st of December last,

\$9,768,155 00
Receipts from \$3,000,000 loan..... 1,906,666 67

Total.....\$11,674,821 67

The total present resources of the company are \$13,355,308 56.

It is the intention of the Board to double the track from the Susquehanna Bridge, from Millerstown to Lewistown, from Altona to Johnstown, and from Latrobe to Pittsburgh, during the coming year, and the remainder of the whole line as fast as the iron can be obtained. The whole line will be completed in 1854. The means required for the completion of the road, it is proposed to raise by the further issue of \$2,000,000 of bonds of the company, and the sale of additional stock.

The whole road when completed with a double track to Pittsburgh, will not exceed the original estimate of the engineer, and may fall below it, but will probably reach \$13,600,000 exclusive of outfit.

The road is now taxed to its utmost capacity. Imperfect as has been the condition of the road, the business done on it has been fully equal to the means of transportation provided over the State road. The company have now on hand 51 locomotives, and have contracted for 60 more sufficient to move 1,000 tons daily each way, between Philadelphia and Pittsburgh exclusive of local freights. From the report of the Superintendent we learn that there are 62 passenger cars on the road, 26 emigrant and 890 burden cars. Three hun-

dred and twenty additional burden cars have been contracted for, and are in course of delivery.

John B. Myers, Esq., offered a resolution authorizing the directors of the Pennsylvania railroad company to subscribe to 15,000 shares of the capital stock of the Marietta and Cincinnati railroad company, payable in stock or cash at such times as may be agreed upon, provided the Marietta and Cincinnati railroad company, pay the interest of six per cent. on the stock issued by the said company, and do not sell the stock of the Pennsylvania railroad company, at less than its par value.

To this resolution, Gen. Robinson, of Allegheny, offered as an amendment the following:

Provided a like amount of 15,000 shares be subscribed by other responsible sources.

John M. Read, Esq., offered an amendment which was accepted by General Robinson, that the subscription be made when the directors are satisfied sufficient means are secured to complete the work. The substitute was lost and the original resolution as offered by Mr. Myers carried. General Robinson on behalf of the stockholders in Allegheny county offered a protest against the subscription.

A resolution authorizing a subscription of \$300,000 to the capital stock of the Ohio and Indiana railroad company, was then acted upon, and after discussion passed; as also a resolution authorizing a subscription of \$100,000 to the capital stock of the Springfield, Mount Vernon and Pittsburgh railroad company.

An attempt to refer the above resolution to the board of directors failed, and the meeting adjourned.

Toledo, Norwalk and Cleveland Railroad.

We had no idea says the Norwalk Expositor, of the amount of business done on the Cleveland, Norwalk and Toledo road, until we passed over it as far as Norwalk. The train we went out on carried at least 275 persons. The train we met at Gratton was crowded, and on returning every seat was full and many persons were obliged to stand for want of room. The average number of persons who pass over the road is about 500 per day, since its completion. At \$2.50 each the receipts of the 87 miles from Grafton to Toledo, is \$1,250 per day, or \$400,000 per year. Supposing the receipts of the road for freights, mails, &c., will meet the current running expenses, the receipts from travel will reach 28 per cent. on the cost of building and equipping the road. The stock is already above par.

New York.

Oswego, Northern and Eastern Railroad.—The directors of this company have organized by electing D. C. Littlejohn, president; A. P. Grant, vice president, and Charles Rhodes, secretary and treasurer *pro tem*.

Committees have been appointed for the transaction of business and the collection of subscriptions. At the recent meeting in the city of Oswego, \$30,000 was subscribed, and there is no doubt that it will be increased in a short time to secure the building of the road. The distance from Oswego to the village of Pulaski, and thence to the Watertown and Rome road, is from 24 to 27 miles according to the point aimed at, this will make the distance between Oswego and Rome from 64 to 66 miles. Favorable terms of connection have been guaranteed by the Watertown and Rome railroad company.

Indiana.

Lafayette and Indianapolis Road.—This road has been opened but a short time, mainly for passengers, and has been doing a very good local business. Last week they carried through from Indianapolis and Lafayette 352 passengers and 558 way passengers, averaging 151 a day, yielding \$1105. The travel is on the increase, and will increase more rapidly when the line is run by Union and Greenville to Cincinnati, and will be largely increased next summer when the connecting lines East through Ohio, and North to Michigan City, Chicago, &c., are completed. A large amount of freight is ready for the road, though nothing will be attempted in freight business until the road is more completely ballasted.

Erie Railroad Loan.

We would not be understood in our article upon the Erie railroad, to say anything prejudicial to the recent loan effected by that company. On the contrary, with the basis of \$8,000,000 of stock, and \$10,000,000 unsecured bonds, we regard it as one of the best loans ever offered in this market.

Stock and Money Market.

We have no particular change to note in Wall street. The stock market continues heavy from an over supply of the fancies. Money however, is plenty, with an active demand for first class securities.

The sale of the bonds of the Cattawissa, Williamsport and Erie railroad, on Wednesday last, were made at the following rates, viz:

\$15,000.....at.....94	\$155,000.....at.....92½
10,000.....at.....93½	610,000.....at.....92
10,000.....at.....92½	
Total.....	\$800,000 averaging 92 10-100.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE

AMERICAN RAILROAD JOURNAL.

NEW YORK, FEBRUARY 19, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853.....	100½
U. S. 6's, 1856.....	108½
U. S. 6's, 1862.....	115
U. S. 6's, 1862—coupon.....	115
U. S. 6's, 1867.....	120
U. S. 6's, 1868.....	120
U. S. 6's, 1868—coupon.....	120½
Indiana 5's.....	101½
Indiana 2½.....	57
" Canal loan 6's.....	96
" Canal preferred 5's.....	37
Alabama 5's.....	98
Illinois 6's, 1847.....	90
Illinois 6's—interest.....	61½
Kentucky 6's, 1871.....	110½
Maryland 6's.....	110½
New York 6's, 1854-5.....	108
New York 6's, 1860-61-62.....	116
New York 6's, 1864-65.....	119½
New York 6's, ½ y., 1866.....	119½
New York 5½'s, 1860-61.....	111
New York 5½'s, 1865.....	112
New York 5's, 1854-55.....	106
New York 5's, 1858-60-62.....	108
New York 5's, 1866.....	113
New York 4½'s, 1858-59-64.....	101
Canal certificates, 6's, 1861.....	—
Ohio 6's, 1856.....	104½
Ohio 6's, 1860.....	109½
Ohio 6's, 1870.....	116½
Ohio 6's, 1875.....	117½
Ohio 5's, 1865.....	106
Ohio 7's, 1851.....	105½
Pennsylvania 5's.....	98½
Pennsylvania 6's, 1847-53.....	101
Pennsylvania 6's, 1879.....	99½
Tennessee 5's.....	94½
Tennessee 6's, 1880.....	106½
Virginia 6's, 1886.....	110½

CITY SECURITIES—BONDS.

Brooklyn 6's.....	106
Albany 6's, 1871-1881.....	107½
Cincinnati 6's.....	103½
St. Louis.....	101½
Louisville 6's 1880.....	98½
Pittsburg 6's, 1869-1871.....	102½
New York 7's, 1857.....	108
New York 5's, 1858-60.....	101½
New York 5's, 1870-75.....	103½
New York 5's, 1890.....	104
Fire loan 5's, 1886.....	—
Philadelphia 6's, 1876-90.....	107
Baltimore 1870-90.....	108
Boston 5's.....	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867.....	116
Erie 2d mortgage, 7's, 1859.....	110½
Erie income 7's, 1855.....	99
Erie convertible bonds, 7's, 1871.....	98½
Hudson River 1st mort., 7's, 1869.....	105½
Hudson River 2d mort., 7's, 1860.....	99½
New York and New Haven 7's, 1861.....	105½
Reading 6's, 1870.....	92½
Reading mortgage, 6's, 1860.....	95½
Michigan Central, convertible, 8's, 1860.....	111
Michigan Southern, 7's, 1860.....	102
Cleveland, Col. and Cin. 7's, 1859.....	123
Cleveland and Pittsburg 7's, 1860.....	102
Ohio and Pennsylvania 7's, 1865.....	109½
Ohio Central 7's, 1861.....	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Feb. 17.	Feb. 10.
Albany and Schenectady.....	114	114
Boston and Maine.....	105	105½
Boston and Lowell.....	105½	106
Boston and Worcester.....	103½	103½
Boston and Providence.....	89½	89½
Baltimore and Ohio.....	89	90½
Baltimore and Susquehanna.....	31	34
Cleveland and Columbus.....	125½	125
Columbus and Xenia.....	—	—
Camden and Amboy.....	150	150
Delaware and Hudson (canal).....	130	130
Eastern.....	96½	98
Erie.....	90½	92
Fall River.....	—	104½
Fitchburgh.....	102	102
Georgia.....	—	—
Georgia Central.....	—	—
Harlem.....	68½	69½
" preferred.....	115	115
Hartford and New Haven.....	129	129
Housatonic (preferred).....	35	35
Hudson River.....	66½	68
Little Miami.....	118½	120
Long Island.....	38	39½
Mad River.....	99	99
Madison and Indianapolis.....	104	105
Michigan Central.....	107½	107½
Michigan Southern.....	126	124
New York and New Haven.....	112½	116½
New Jersey.....	129	129
Nashua and Lowell.....	—	—
New Bedford and Taunton.....	117	117
Norwich and Worcester.....	52½	52½
Ogdensburg.....	27½	28½
Pennsylvania.....	50	49½
Philadelphia, Wilm'gton & Balt.....	40	40½
Petersburg.....	—	—
Richmond and Fredericksburg.....	105	105
Richmond and Petersburg.....	35	35
Reading.....	90	87½
Rochester and Syracuse.....	129	126
Stonington.....	57	57
South Carolina.....	122½	122½
Syracuse and Utica.....	140	146½
Taunton Branch.....	115	115
Utica and Schenectady.....	156	149
Vermont Central.....	20½	21½
Vermont and Massachusetts.....	19½	20½
Virginia Central.....	40	40
Western.....	100½	101½
Wilmington and Raleigh.....	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

New York and Erie Railroad.

We give, in another column, the returns made by this company to the legislature, under date of Sept. 30, 1852; and in calling attention to them, we deem it a fitting opportunity for a more extended notice of the acts and policy of this company.

The report to the legislature states the cost of the road at the above date to be..... \$27,551,205 71
Total cost as per report of 1851..... 24,028,858 20

Increased cost of the road during the year..... 3,522,347 51

The above aggregate is represented by stock and debt, as follows:

Equipment..... 1,000,000 00
Stock..... \$7,766,991 17
Funded debt..... 18,003,868 90
Floating "..... 1,323,053 55

Total..... 27,093,913 62
Items of cost not specified..... 457,292 15

27,551,205 77

The extraordinary increase of the construction account naturally led us to expect the usual report at the commencement of the year. We have waited some time in such expectation; but, as we understand that no annual report is to be made, we consider the acts of the company as now fairly open to comment and criticism. We can account for the omission, only on the ground that a full exposure of the affairs of the company is feared by the leading directors—as convicting them either of unwise and imprudent expenditure, or incompetence: and that one or the other of these suppositions are true, we think the history of this company for a few years past fully proves.

The present party in management assumed their trust in the early part of 1845. On the 2d of September of that year, the company issued an address to the public, signed by Mr. Loder, in which he states:

"To complete a single track to Lake Erie, six millions of dollars are required. The cost of the work to the stockholders will then be \$7,350,000; and adding a liberal amount to provide for cars and engines for the commencement of business, the road, with a heavy T rail, estimated at \$65 per ton, will be brought into use for less than \$20,000 per mile. The actual cost of the road will be over \$25,000 per mile, but the liberality of the State, and the surrender of half of the stock by the present holders, reduces it to this very low rate.

"In reference to the estimates, it may be proper to state, that responsible contractors have offered to take the whole work, at prices nine per cent. less than those assumed in the calculations on which they were based."

To the above sum of \$7,500,000, \$1,000,000 was added for equipment, making the entire cost of the road \$8,500,000, which sum was made up as follows:

Old stock..... \$750,000
Floating debt..... 600,000
Bonds issued..... 3,000,000
" to be issued..... 3,000,000

\$8,350,000

It will be borne in mind, that there had been expended upon the road at the above date, in addition to the items in the estimated aggregate cost, \$3,000,000, donated by the State, and \$755,000 of surrendered stock—making the entire estimated cost of the road to be \$12,100,000. It will also be recollected, that at the above date the road had been in progress 6 or 8 years—an ample period of time for obtaining the most accurate information as to the physical characteristics of the route—the best engineering talent of the country had been in the employ of the company, and there could have been

nothing wanting to a correct estimate of the final cost of the work.

In 1848 the company published a further report, in which they state that—

"From two to three millions of dollars will be required to complete the road to Lake Erie. And within six months after the road shall have been extended to Elmira, we hazard little in saying that such results will follow one half year's working the road, as will make the stock of the company a desirable investment, and sought after, at or above par.

The company at that time will, by their charter, have a balance of stock not issued, and the privilege of issuing from four to five millions of dollars, which will secure the completion of the road to the lake, and make ample provision for machinery, cars, &c., for running the road.

This road, when completed, will cost the stockholders less, per mile, than any other road in the country, and not exceeding half the cost per mile of the Western Railroad from Albany to Boston. Massachusetts has in operation within her limits, seven hundred and twenty-eight miles of railroads, costing about \$35,000,000, or about \$50,000 per mile."

The above estimate would bring the cost of the road, completed, to about \$11,000,000.

On the first day of February 1851, the company being pressed for money issued a further exhibit from which we quote as follows:

"The whole cost of the road, with ample depot grounds and buildings and equipments for operating the road, together with the Newburgh branch, and valuable and extensive grounds and docks at Dunkirk, Newburgh, Piermont and New York, with extensive machine shops, barges, steamboats, etc., will be, at the time of reaching the lake, about \$20,500,000; or, after deducting the value of the equipments, \$2,500,000—\$38,706 per mile—a cost by no means large, when compared with other important railroads in the country.

The average cost of railroads in New England is about \$50,000 per mile.

The financial condition of the company is stated as follows, viz:

FUNDED DEBT.

Mortgage bonds issued in lien of State loan..... \$3,000,000
Second do., redeemable in 1859..... 4,000,000
Certificates of old indebtedness..... 500,000
Income bonds..... 3,500,000
Total amount of funded debt..... \$11,000,000
Add to this the present floating debt... 2,988,045
And the probable cost of opening the road to Lake Erie, exclusive of materials now on the ground..... 300,000

And the entire debt of the company will be..... \$14,288,045

To fund the floating debt of the company, to provide the necessary machinery and cars for working the road (the remaining unissued capital stock of the company, \$4,710,000, not being available for that purpose) the directors will issue bonds, transferable on the books of the company, for \$3,500,000 bearing interest at the rate of 7 per cent. per annum, payable semi-annually, with interest warrants attached; the principal redeemable 20 years after date, and convertible into the stock of the company at the option of the holder.

The liabilities of the company will then be:

Funded debt, as before given..... \$11,000,000
Bonds redeemable in 1871, and convertible into the stock of the company, at the option of the holder (present issue)..... 3,500,000

Amount of capital stock issued..... \$14,500,000
To which add for contingencies..... 5,790,000
210,000

Making..... \$20,500,000
the amount expended and to be expended in opening the road to Lake Erie. At least \$2,500,000 of which is chargeable to equipment account.

Increased cost during the year \$3,220,100. At

the date of the above exhibit, there were only forty miles upon which the rails had not been laid, and it would be supposed that with the road so nearly completed, its cost could have been accurately determined.

The following are the reasons given for the increased cost of the road over estimates:

"This road, like other kindred works of the present day, has cost more than was originally estimated, but not more than others of less importance and value, as will fully appear by reference to their official reports.

The cost upon the western division has been augmented largely, if not mainly, by adopting a new line, other than that upon which the estimate of last year was made; by which a grade of 60 feet to the mile continuously, for 14 miles, has been reduced to 40, and the distance shortened six miles. This has been done on the 50 miles nearest Dunkirk, and will save the company annually in working the road the interest upon four times its extra cost. Other important changes have been made in the line of the road, by which many miles of a continuous grade of 60 feet have been reduced to 50 feet per mile.

The right of way contingent upon a change of line has been expensive, and the extra cost rendered necessary in hastening the work, in compliance with the requirement of the law of the State, to finish it within a prescribed time, together with the fact that the company have added about \$1,000,000 in value to the stock of their locomotives and cars, within the last year, will doubtless satisfactorily account for the cost of the work over the estimate."

On the 24th December, 1851, the company still wanting money, published a further report in which they stated the cost of the road up to that date to have been \$23,580,000, instead of \$20,500,000 as previously estimated, and in explanation stated that—

"The engineers in submitting their report to the directors for constructing the road from Hornellsville to Dunkirk, western division, estimated the cost for building 128 miles at \$2,123,389, and for right of way \$50,000. It proved on a final settlement of accounts to be \$3,526,657 38.

Difference..... \$1,353,368 38
The convertible bonds issued last spring for \$3,500,000, sold at 90 per cent, making a difference of..... 350,000 00
Locomotives and cars over estimate. 500,000 00
Buildings in New York..... 90,000 00
Wharves and buildings in Dunkirk. 109,000 00
Fences built during 1851, 300 miles. 200,000 00
Subscription to Buffalo and State line road..... 250,000 00

2,852,368 38

The chief part of the discrepancy is accounted for, however by the company's being obliged in order to get the road through in time, to incur increased expense, in driving the work day and night amid frost and snow; in being compelled to assume work which the contractors were unable to perform; and in the heavy expense attending the transportation of materials for the superstructure. The propriety or policy of doing in one year what it has taken other roads two or three to accomplish, will not be doubted when it is considered that the loss of interest alone would be 14 per cent, to say nothing of having two years' benefit of earnings to the treasury. The total cost of the Erie railroad, including 60 miles of double track, sidings and turnouts, wharves, locomotives, cars, stations and property of every description (excepting \$250,000 Buffalo and State line stock) is \$50,172 per mile, or exclusive of engines, cars, steamers, stations, etc., \$43,333 per mile. Although this is more than the directors hoped and believed it would be, it is still about the average cost of all the railways in the state of Massachusetts, which by last year's report was stated at \$49,573 43 per mile.

The company have leased from the corporation of the city of New York, the square at the foot of Duane street, on which they have erected a large block of buildings, in a portion of which their offices are now located. The whole building will in

a few years be required for their business. These buildings cost, including fixtures, about 80,000 dollars.

To pay this floating debt, and to aid in building 100 miles of double track from Great Bend westward, the company propose to issue bonds payable in ten years (the remaining unissued stock, 4,500,000, being as yet unavailable) convertible into stock, and bearing 7 per cent interest.

The portion of double track which the company propose to build is of easy grade and construction, and can be built at the rate of about ten thousand dollars per mile; and is imperatively required by the increasing business of the road.

The directors are able to state to the stockholders that for the construction of the 100 miles of double track, they can make available, and on terms advantageous to the company, a sufficient portion of the capital stock to insure its immediate completion.

At this point then we lose sight of the company, as far as all voluntary exhibitions of their affairs are concerned. Having obtained the loan, to secure which, was the object of the exhibit, the company hoist colors, and start anew upon a voyage into the regions of the unknown. Having obtained supplies, there was no further occasion for an appeal to the public. The \$10,000,000 of unsecured bonds not only enabled the company to carry on its operations for the past three years, but these paid in their turn became the basis for new loans, which take precedence of the former. This act is exactly parallel to the case of a man's borrowing money without security, for the purpose of making it the basis of a new loan.

The next we hear of the company is the report made to the legislature on the 30th of September, 1852. During the nine months that had elapsed since the previous report of the company, already quoted, the construction account had increased \$3,551,205 71! In the mean time the company have paid two dividends amounting to 7 per cent. out of the net earnings of the company.

While we have given the several estimates from time to time, we have also been careful to give the explanation offered for the discrepancy between the prediction and the result. We believe the above extracts present all that is material in the several reports of the company.

The statement will show the several estimates that have been made by the company of the cost of the road since 1845.

Estimated cost	1845.....	\$8,350,000
" "	1848.....	11,000,000
" "	1850.....	17,178,000
" " Febr'y. 15,	1851.....	20,500,000
" " Dec. 24,	1851.....	23,750,000
" " Sept. 30,	1852.....	27,551,203

We have endeavored to state the substance of the several reports of the company since 1845. Meagre as these reports are, they are the only published reports of the doings of the company.

In commenting upon the above, we are utterly at a loss to know where to begin, or what to say. In the reports of other companies, the salient points in their management are distinctly presented to us in the reports of the chiefs of the several departments; the engineer, superintendent, treasurer, etc., a direct issue is made, either to be controverted or assented to.

Take for example the annual reports of the Baltimore and Ohio road. In addition to the report of the president, giving a general view of the state of the company's affairs, are those of the chief engineer, superintendent and treasurer, all presenting in great detail the condition of his own department, with careful and circumstantial explanations of all discrepancies between the present and preceding

statements; and together providing a mass of evidence that carries conviction to the mind of the reader that he is possessed of an accurate knowledge of the condition and state of the company's property. On the other hand the reports published by the Erie company, are unaccompanied as far as we have been able to ascertain, by any reports either of the chief engineer or superintendent. At any rate, such has been the case for years past. All that we have from the company are a few brief general statements, the correctness of which are totally disproved by those next succeeding. The vast sums which this company have absorbed seems to yield no other result than that which follows the plunging of a huge rock into the ocean. A tremendous splash, followed by a few convulsive throes, and no trace is left behind.

Although we have no published reports of engineers, there can be no doubt that the various estimates of the company were based upon those of their engineers in their employ. There is no doubt too, that with the exception of the first, that the road could have been built at the cost of each succeeding estimate; and in reference to the first, Mr. Loder states—

"In reference to the estimates, it may be proper to state, that responsible contractors have offered to take the whole work, at prices nine per cent. less than those assumed in the calculations on which they were based."

As nothing authentic is known of the physical characteristics of the Erie R. R. we must make up our opinion of its real cost from the best secondary evidence at hand, which is, of course, the statements of the directors, which were probably made upon competent evidence withheld from the public. The earlier statements are asserted in the same confident tone as those of later date, and we have of course much better reason to suppose the former to have been correct, as to what should have been the cost of the road, than the latter.

Another mode of determining the true cost of the Erie road, is to compare it with other works. That presenting the nearest parallel is the Baltimore and Ohio. The Erie road with its branches is 464 miles long, the Baltimore and Ohio about 380. As far as the characteristics of the two routes are concerned there is no comparison between them. We have no doubt the work actually done on the latter to be at least one third greater than on the former. Upon the Baltimore and Ohio there are twelve tunnels, having an aggregate length of 10,500 feet; 114 bridges, and more than thirty-three miles have grades of over 100 feet to the mile. As far as difficult and expensive obstacles in the way of construction are concerned, those encountered on the Erie sink into insignificance compared with the other. Yet the Baltimore and Ohio railroad, graded and bridged for a double track, while the Erie is not, has cost only a little more than \$17,000,000, against \$27,551,207 71, the cost of the former!

But all such modes of reasoning in the present case are superfluous. As before stated, the directors stand convicted by their own statements either of an improvident or improper expenditure of the money gone into construction. From this dilemma there is no escape. Which they will be compelled to take, the public must make up its own judgment.

The Erie company have never voluntarily made a public exhibition of their affairs, unless forced to do so by the want of money. This is the reason why no report was made at the commencement of the present, as of the two previous years. We sub-

mit whether it be not an outrage upon all decency for this company to go into the market and borrow \$10,000,000, which with other loans is in fact some \$25,000,000 in advance of the original estimate of the cost of the road, without the slightest authentic statement as to the objects for which this vast sum is wanted, and without furnishing any evidence to enable the public to judge whether the previous conduct of the directors has been such as to entitle them to have the expenditure of so much money.

We contend, too, that for a company like the Erie to declare a dividend, without accompanying it with a financial statement of its affairs, to enable the public and the stockholders to judge whether the same has been earned or not—carries with it a badge of fraud. The directors may be entirely mistaken. Take the case of the dividend paid by this company in July. The increased cost of the road from January to September 30th last, was \$3,551,205 71. Assuming this increase to have been uniform, on the 1st day of July the construction account had increased \$2,367,470 46! Yet, in the face of this vast increase, with a knowledge, which the leading directors must have had, that a dividend was not earned, one was declared, without the publication of a syllable, showing the condition of the company. Can fatuity, or incompetency, or dishonesty even, parallel such effrontery as this?

The company has never earned a dividend. All that have been declared have been in violation of the rights of the bondholders. A considerable portion of the money to pay both these and the accruing interest on the company's debt, has been borrowed. The earnings of the company from January, 1851, to September, 1852, embracing a period of only a year and nine months, have been only \$5,358,712 91, while the construction account has increased during the same time \$7,001,205 71; showing that, instead of a dividend being earned, \$1,642 492 80 has been borrowed, to pay the interest and dividend.

But it is useless to multiply proofs of the misconduct and contradictory statements of this company. Every subsequent act is a denial of some previous affirmation. Each succeeding statement disproves the preceding, and we have no better reason for trusting the present, which may be denied to-morrow, than the past. Even the report to the legislature furnishes no evidence of what has become of the company's means. By adding together the cost of all the items set out in the report to the legislature, (to be found in another column,) and these amount to only \$20,828,945, leaving \$6,722,260, not accounted for. In the reports to the legislature, wide and important discrepancies, unaccompanied by the slightest explanation, occur so that the voluntary and compulsory reports of the company, only serve to involve us in still greater doubt as to the real condition of affairs.

We contend, that the course of this company is not only most culpable in itself, but most injurious in its influence upon the action of others, and the public sentiment. Here is a company, with double the capital of any other in the United States, located in the great commercial emporium of the Union, having the longest and most conspicuous road in the United States, and in fact, in the world, numbering in its direction some of our leading and most influential citizens—pursuing a policy, which is in violation of all the established rules that govern business transactions, of the rights of the stockholders and the public, of good faith, and the respect which should be due to themselves. Suppose that all other companies should follow the

example set them by the Erie, what would be the result? We should be afloat, without chart or compass, as far as the value of all railroad securities were concerned. A wide door would be opened to every kind of fraud and imposition, which could have no other result, than of completely destroying public confidence, of paralyzing the movement of all our companies, and of prostrating our whole railroad system. Is it right that the Erie Railroad should pursue a policy so culpable in itself, and fraught with such injurious consequences?

But these things cannot go on at this rate. The infatuation which has long supplied this company with money, must have an end; the moment it is unable to borrow, a crisis must come. Dividends can no longer be paid. The company will be truly fortunate, if it can make good its interest account. Every dollar lost must be felt in the future operations of the road; for it must compete, for its business, with roads cheaply built and economically managed. The sooner, therefore, the alarm be sounded, and the present abuses be met and corrected, the less disastrous will be the reverses which must, with certainty, overtake this company.

Indiana.

Terre Haute and Indianapolis Railroad.—The 4th annual report of this company under date of January 17, 1853, presents the following statement of its financial condition at that date, viz:

DR.	
Capital stock.....	\$632,387 10
Seven per cent bonds....	600,000 00
Six " " ".....	63,100 00
Balance of transportation, amount.....	45,860 05
Sundries.....	11,672 80
	\$1,353,019 95

CR.	
Construction account..	\$1,311,672 49
Union track at Indian- apolis.....	5,408 40
Union depot.....	7,817 87
Due from other roads..	7,561 76
Sundries.....	20,669 43
	\$1,353,019 95

The earnings for the past year have been as follows, viz:

Received from pass.....	\$64,707 26
" " freight.....	36,463 54
" " mail.....	4,773 07
	\$105,943 87

The expenses of operating the road for the same period, have been..... **\$34,497 82**

Showing the net earnings of the year to be..... **\$71,446 05**

Which have been applied as follows:

Interest on 63,100 six per cent. bonds.....	\$3,786
Interest on 600,000 7 per ct. bonds, (6 months.).....	21,000
Extra interest.....	800
	\$25,606 00

Current expenses..... **\$34,437 82**

Balance to construction ac- count.....	45,860 05
	\$105,943 87

This road was opened on the 16th day of February, 1852, but owing to the severity of the winter, and the difficulty in getting the track in good running order, but little business was done till the opening of the spring.

The entire road-bed has been well ballasted at considerable cost, from the difficulty of obtaining suitable material at convenient points, and is now in good condition. It was not injured by the recent floods, which proved so disastrous to the railroads throughout the West. The road has a sufficient

equipment for its present business, but this is to be increased to meet the anticipated increase of traffic for the coming season.

The company have ample depot grounds at Indianapolis and Terre Haute, and also machine and repair shops and engine houses at both of these places, and which are well stocked with the necessary machinery and tools.

This, in common with other railroad companies, the roads of which terminate at Indianapolis, is a part owner of what is termed an *Union track*, which unites all the companies, and brings them to a common depot, now in course of construction, and which, together with the common track, must prove of great advantage to all the companies that are parties to it. The depot, it is expected, will be completed in June next.

The road has been operated during the past year with great regularity and safety. During this period there have been carried over the road 17,501 through, and 39,888 way passengers, without the slightest accident to a single individual. The business of the road, which is now almost of a local character is large and is steadily increasing. The company expect to be able to divide seven per cent upon the cost of the road, from receipts from this source. A large revenue is anticipated from the carriage of coal, which is found in great abundance on the line of the road, and from which, a large portion of the State must draw its supplies, of this most important article. Measures are now in progress for working this coal on an extensive scale.

A large accession of business is anticipated from other roads now on the eve of completion, or in progress, with which the above road will be connected. The Terre Haute road forms the only extension west, of all the roads concentrating at Indianapolis. From Terre Haute a road is in progress to Evansville, an important town on the lower Ohio. To St. Louis two roads are proposed, the Mississippi and Atlantic, and the Terre Haute and Alton. Upon the former of these, surveys are in progress, preparatory to placing it under construction. The latter is in progress. The completion of these roads will add immensely to the business of the Terre Haute and Indianapolis. A dividend of four per cent was declared at the date of the report from the earnings of the past year.

The above company sustains a high credit, and both its stock and bonds command a large premium in the market. It is regarded in this city as one of the most promising of the Western railroad projects, and an active inquiry for its securities, united with the flattering prospects for the future, have carried its stock and bonds to a much higher figure, than most of our Western securities command.

We see by the report that the former President of the company, Mr. Rose, to whom the high character, as well as the success of the road is mainly owing, has retired from the active management.—His place is filled by Samuel Crawford, Esq.

Kentucky.

Danville and McMinnville Railroad.—We learn that the engineers have commenced the survey of this important railroad, a sufficient amount having been subscribed. There has been much spirit manifested by the citizens of the counties through which this road passes. Private and county subscriptions have been liberal and promptly made, and they will be amply paid for their public spirit. We wish this enterprise success—there was a time when it was apprehended, that the making of the McMinnville road would supersede the road from Knoxville to Danville—but it is not now so considered—but on the contrary, has had the effect to induce our citizens to have more faith in themselves

and to excite a more general railroad feeling among them. They now see what her sister counties, whose means and resources are no better than their own, have undertaken, and they will have courage and do likewise.—*Some-set Gazette.*

New York.

Albany and Schenectady Railroad.—The directors of this company held a meeting on the 17th January last, and declared a dividend of four per cent. out of the net earnings, for the six months ending on the 31st of January, 1853, and further requested a statement of the affairs of the company during the year, to be made by the President, and printed and distributed to the stockholders. From this statement, we learn that two semi-annual dividends of 4 per cent. each, have been made during the year, after paying which there remained a surplus of \$43,895 39.

Which has been applied:

To contingent fund.....	\$5,000
Freight accommodations.....	5,000
On account of depot lot.....	3,679
Locomotive engine.....	8,250
Double track.....	8,000
Settlement of suits.....	5,000
Cash on hand.....	8,966 39
	\$43,895 39

The receipts at the time of the last annual report for the year ending 31st January, 1853, were estimated at \$290,000. They amounted in fact to \$316,487 60.

The contingent fund now amounts to \$50,350.—At the date of the last report the funded debt was \$750,000, and the capital stock \$1,000,000. A large number of bonds have since been converted into stock, so that at the present time, the funded debt is \$460,400, and the capital stock \$1,289,600. The probability is that the remainder of the convertible debt, about \$305,000, will soon be turned into stock.

The receipts were:

From passengers.....	\$168,505 22
" Freight.....	123,540 09
" Mails.....	4,250 00
" Rents.....	2,150
Estimated receipts for January.....	18,042 29
	\$316,487 60

Expenses..... **174,076 13**

Interest.....	\$38,992 74
August dividends.....	41,416 00
February dividends.....	49,772 00
	\$130,180 74

Surplus..... **\$43,895 39**

The Southern Michigan Railroad

The Toledo Blade of the 14th ult gives a statement of the business of the Southern Railroad, terminating at Toledo and Monroe, during the past season, as follows:

Merchandise, etc., forwarded from Toledo, tons..... **13,712**

From Monroe..... **3,396**

Produce, etc, received at Toledo, tons..... **40,638**

At Monroe..... **18,701**

59,339

The number of bushels of grain received at the two ports in 1852, was..... **1,822,591**

Dayton and Michigan Railroad.

The line north of Troy to Toledo, on the Dayton and Michigan road, has been all let to Toledo, including the equipment, station houses, etc., Mr. Doolittle, the efficient contractor on the line has the whole contract, but the terms have not yet transpired.

North Carolina.

Raleigh and Gaston Railroad—The Raleigh, N. C. Star states that the laying of the Raleigh and Gaston railroad has been completed in the most approved and substantial manner, and new engines and cars are now being placed upon it.

To Railroad Companies, Car Builders, Machinists, etc.

SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.

Warehouse Nos. 169 Water, and 140 Front sts.

HANING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled. are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc.

1517*

Devlin's Patent Oil Manufacturing Co.,

12 BROADWAY, NEW YORK.

THIS Oil is extensively used on Railroads and Steamships, and other Machinery, and is worthy the attention of every individual or company that uses Oil for Lubricating purposes. It is cheaper than the best Spermin, because it answers the same purpose and is more durable, thereby making a saving of from 40 to 50 per cent. The best of testimonials establish that fact, but cannot be given in this notice. All that is required is to test the matter, and if it will not answer as recommended, it will be taken back and money returned.

New York, Feb. 9, 1853.

2w

Iron.

200 Tons Fishkill Charcoal Iron for sale on reasonable terms, also from 1000 to 5000 tons Fishkill Hematite Ore—delivered at Poughkeepsie or New York. Samples of the ore may be seen at the store of Messrs. Hoffman, Bailey & Co., No. 62 Water st., New York. Enquire by letter to
NORMAN M. FINLAY,
Poughkeepsie, Dutchess county, N. Y.
July 10, 1851.

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,**
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

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To Contractors.

SEALD Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1853, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,
THOMAS B. STEVENSON, President.
CHAS. B. CHILDE, Chief Engineer.
JAMES A. LEE, Secretary.
January 20, 1853.

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,

HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of
LOCOMOTIVE AND CAR BUILDERS,
AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,
Feb. 16, 1853. 90 Beekman st., N. Y.

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

Notice to Contractors.



Alleghany Valley Railroad Lettings.

SEALD Proposals will be received at the Company's Office, in Fourth street, Pittsburg, until the 22nd day of February, 1853, for doing the Grading, Masonry and Bridging on the portion of said road, between Pittsburg and Kittanning, Armstrong County, a distance of 42 miles. The line will be divided into Sections of about one mile in length, and bids may be made for one or more or all of said sections.

Plans, Profiles and Specifications will be ready for inspection on and after the fifth day of February.

Proposals will be received for the Grading, Masonry and bridging, and also for the superstructure, and finishing said 42 miles, complete, (except furnishing iron.)

Bids will be received and considered, for the entire work, (except furnishing iron,) from Pittsburg to the New York State line.

Satisfactory references will be required from bidders not personally known to the Company.

For further information, application may be made personally, or by letter, to Hon. William F. Johnston, President of the Company, or to George R. Eichbaum, Esq., Associate Engineer, or to the subscriber,

W. MILNOR ROBERTS, Chief Engineer.

By order of the Board of Managers.

Office of the Alleghany Valley Railroad Company, Pittsburg, December 20th, 1852.

To Contractors.



**CLEVELAND AND MAHONING RAILROAD
LETTING.**

SEALD PROPOSALS will be received at the Office of the Company, on Superior street, Cleveland, until the first day of March, 1853, for the Grading, Masonry and Bridging of the portion of said road from Cleveland to Warren, a distance of 53 miles.

Plans, Profiles, and Specifications, may be seen at the Company's Office, in Cleveland, and the line will be ready for inspection by Contractors, 2 days previous to the letting.

The line is divided into sections of about one mile each, and bids will be received for each section separately, or for the whole line.

Estimates will be made monthly, and the payments made in cash.

Further information may be obtained on application to Jacob Perkins, Esq., President of the Company, George C. Beckham, Esq., resident Engineer, Cleveland, or to the undersigned.

The remainder of the line from Warren will be let as soon as the location can be completed.

By order of the Board.

EDWARD WARNER, Chief Engineer.

Blake & Parkin, MEADOW STEEL WORKS, SHEFFIELD,

INVENTORS OF

CORE-ANNEALED CAST STEEL,
A most Important Improvement in CAST STEEL, originating with B. & P. for SCREW TAPS, PISTON RODS, ENGRAVERS to CALICO PRINTERS, SILVER and GOLD ROLLERS, etc., etc., warranted to harden by ordinary process without breaking, being soft in the centre to any required diameter, and hard to any specified depth from the outside.

HARD CENTRE CAST STEEL,
For DIES, LATHE CENTRES, MINT PURPOSES, etc., etc., warranted to harden the inside without breaking, (the outside remaining soft.)

HARD AND SOFT SURFACE CAST STEEL,
In Bars and Sheets, hard on one or both sides, and soft in the centre; or soft on one or both sides, and hard in the centre, and adapted for a variety of purposes, as MACHINE KNIVES, SLIDE BARS, PLOW KNIVES, PLANING KNIVES, ROLLER BARS for Beating Engines for Paper Makers, etc.

This peculiar Steel is quite SOLID, and it is quite malleable, and draws down under the Hammer, still retaining the difference of hardness. When hardened, the hard part is left very hard, while the soft is left just harder than common iron.

THE REPORT OF THE JURY OF THE
"EXHIBITION OF ALL NATIONS."
Class 21, Page 486:

"The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE & PARKIN, of SHEFFIELD, consisting of the union of Two qualities of Cast Steel, hard and soft, in the same article; manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors."

A PRIZE MEDAL WAS

AWARDED TO

MESSRS. BLAKE & PARKIN.

N. B.—The Inventors mark all their Goods with their CORPORATE MARK—X. L. ENT.

Also, Cast Steel, German and Spring Steel, warranted Cast Steel Files, Saws, etc.
February 9, 1853.

IRON SAFE WAREHOUSE.

Silas C. Herring,

Manufacturer and Sole Proprietor of
HERRING'S PATENT FIRE PROOF SAFE,



Which received the
MEDAL

at the
WORLD'S FAIR,

Also,
Manufacturer of
HERRING'S

(Wilder's Patent)
Single and Double
Salamander SAFES.

And dealer in
all kind of Iron Safes,

Vault Doors,
Express Boxes,

AND
Money Chests.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,

135 Water street, corner of Pine,
November 19, 1852. New York.

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.

HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York, January 28, 1853.

PATENT

Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re-bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

Orders Forwarded for Railroad Iron, etc.

THE undersigned will receive and forward orders for the purchase of Railroad Iron, and Metals generally, through the medium of his friends in London.

JOHN H. HICKS,

Jan. 27, 1851.

90 Beaver st.

3,000 Tons Railroad Iron.

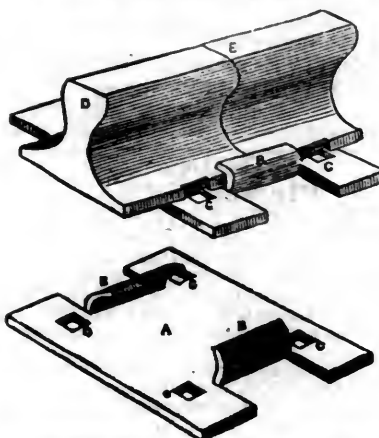
THE undersigned is prepared to contract on behalf of the manufacturers in England, for the above quantity of T Rails, to be delivered at a port in Wales.

For terms, apply to

JOHN H. HICKS,

Jan. 27, 1853.

90 Beaver st.

The American Railroad Chair Manufacturing Co.
IN POUGHKEEPSIE, N. Y.,

ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga, "
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennbec and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.



HENDERSON AND NASHVILLE R. R.

SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure,

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

By a compact between the Henderson and Nashville Railroad Co., and the Edgefield and Kentucky Railroad Co., their roads are to be united at the Tennessee and Kentucky State line, and then form a continuous line of Railroad from Henderson on the Ohio, to Edgefield, on the Cumberland river immediately opposite to Nashville, a distance of only about one hundred and forty miles. When it is considered that at Nashville, through the Nashville and Chattanooga Railroad, this road connects with the whole system of Railroads and rivers leading to Charleston, Savannah, and the South Atlantic seaboard, and from thence by a Southern route of Railroads to all the Eastern and Northern cities, and that at Evansville, Indiana, only ten miles of perpetual navigation on the Ohio river distant from Henderson, it connects with the systems of Canals, Railroads and Rivers which penetrate and drain the valleys of the Mississippi and the Lakes, and extend by a Northern route to the Eastern and North-eastern cities, it cannot be doubted that this is a most important road. But if it be taken into the account that it presents much the shortest, and owing to the remarkably favorable profile of the country, for the cheapest route for a railroad designed to connect these Northern and Southern Systems, that it penetrates the richest beds both of bituminous coal and iron ore heretofore valueless because land-locked—that it passes through an agricultural region of great fertility and remarkable beauty, and opens in the South Atlantic States by the shortest, speediest, cheapest and best route, a market comparatively new, for the teeming products, especially provisions of the valley of the Mississippi and the Lakes, its value and importance cannot be over-estimated—that it will pay and pay richly, both in dividends to the stockholders and in indirect profits to those whose residence gives them an interest in the means of transportation and travel which it will afford cannot be doubted.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President,
Henderson and Nashville R. R. Co.

Wilkinson's
EXPLOSIVE
RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

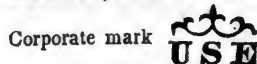
THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable. They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
Iron, Chairs and Spikes.
Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.
Office next door to the Custom House, Main st.
January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF
WARRANTED Cast Steel of superior quality for
Tools, Machinery and Engineering purposes.
Single and Double Shear, Blister, German, Spring
and Sheet Steel of every description; also, Cast Steel
Files of high reputation, specially adapted for the use
of Machinists, and Saws and Edge Tools of all kinds.



CHAS. CONGREVE, Agent,
58 Maidenlane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

SISCOE BLAST FURNACE For Sale.

THIS FURNACE, situated in Westport, Essex
Co., N. Y., on Lake Champlain, is capable of
producing 3000 tons Pig Iron per annum. It is
blown by a powerful steam engine, and another
engine raises the stock, etc., etc. There are eight
Kilns, which can make 500,000 bushels Charcoal
per annum, connecting by Railroad with the Fur-
nace, and nearly an acre of sheds for seasoning
wood. One large Brick Mansion House, with ex-
cellent Farm, one Brick Cottage, seventeen Houses
for workmen, commodious Blacksmiths' and Car-
penters' Shops, etc., etc., and about 1500 Acres of
Land. The Furnace is situated on a large and
convenient Dock; Wood for making Charcoal can
be obtained cheaply in the neighborhood, and An-
thracite coal from Rondout can be delivered at low
rates. By the proposed Ship Canal from Lake
Champlain to River St. Lawrence, coal could also
be brought with great facility from Erie. The rich
Magnetic Ore of Essex County, particularly that
from the famous Port Henry Bed, can always be
procured cheaply and in great abundance. The
property will be sold on reasonable terms. Inquire
of Messrs J. & L. TUCKERMAN, 69 West street,
New York, or of F. H. JACKSON, No. 5 Liberty
Square, Boston. 1m2

LOW MOOR IRON.

WM. BAILEY LANG, 9 Liberty Square, Boston,
and 24 Broadway, New York, Sole Agent in
the United States and Canada for the Lowmoor
Iron Co., is prepared to receive orders for this justly
celebrated Iron, and offers for sale an assortment
of the Round sizes which he now has in store, and which
for strength, soundness and uniform quality, stands
without a rival.

Superior Cast Iron Gas and Water Pipes.

THE Subscriber is prepared to contract for the sup-
ply of CAST IRON PIPES required by Gas or
Water Companies, Corporations, etc., delivered in any
Seaport in the Union, on reasonable terms. These
Pipes are cast on the most approved principle by the
best Founders in Scotland, from a superior quality
of Pig Iron remelted, are guaranteed to resist a pres-
sure of 300 lbs. to the square inch, or greater if neces-
sary, and to be soft enough to drill easily and freely.
Full information regarding price, and references to
parties in the United States now using the Pipes, can
be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Kenfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st., New York. 1y50

Railroad Iron.

2000 TONS Railroad Iron, weighing about 59
lbs. per yard, "Erie" pattern of G. L. and
"Crawshaw" manufacture, now on the way from the
shipping ports in Great Britain to this port, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.

December 4, 1852.

SIMEON DRAPER, No. 46 Pine-st., offers for
sale, a variety of RAILROAD BONDS and
STOCKS; also CITY, TOWN and COUNTY
BONDS, among which are—

1st Mortgage Convertible Bonds: Payable in

7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R.R.	" 1861-71
7 per ct.—Tioga R.R.	" 1872
8 per ct.—Peoria and Oquawka..	" 1863
6 per ct.—Maysville and Lexing- ton	" 1870
6 per ct.—Dauphin and Susque- hanna Coal Co.	" 1877
1st Mortgage Bonds:	
7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City	" 1866
7 per ct.—Mansfield & Sandusky	" 1860
7 per ct.—Toledo, Norwalk and Cleveland	" 1861
7 per ct.—Vermont Valley	" 1861
7 per ct.—New Jersey Central..	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington. Troy, N.Y.	1862

Also, second mortgage bonds of many of the above
companies, and—

7 per ct.—Saratoga & Washing- ton R.R. bonds.	New York, 1862
7 per ct.—Troy and Boston	" 1864
7 per ct.—Muscooke Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford.	New York, 1862
10 per ct.—Mansfield and Sandus- ky R.R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R.R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
10 per ct.—City of Milwaukee.	" 1857
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wiscon- sin for improvement of Fox River.	" 1862

Troy and Rutland railroad Stock, with guarantee
of 4 per cent. dividend and one half surplus profits
of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of
7 per cent. dividend by Saratoga and Washington
Railroad.

Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York
R. R. Co.
Stock in the Mansfield and Sandusky R.R. Co.
Stock in the Chemung R. R. Co.
Stock in the Southern Bank of Kentucky.
Stock in the New York and Virginia Mail
Steamship Company, paying 20 per cent.
dividends.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ash-
croft's Steam Gauge, would recommend their
adoption by those interested. They have been exten-
sively used on Railroads, Steamers and Stationary
Boilers, where, from their accuracy, simplicity, and
non-liability to derangement, they have given perfect
satisfaction. In fact, for Locomotives, they are the
only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.
Aug. 28, 1851. 5m*

A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels
for Cars and Locomotives. Also furnish Wheels
fitted complete on best English and American Rolled
and American Hammered Axles. 31tf

Pease & Murphy,
FULTON IRON WORKS,
FOOT of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B.—Engines and Boilers repaired. 6tf

Toledo, Norwalk and Cleve- land Railroad.

OPEN through, completing the last link in the chain
of Railroads between New York and Boston and
Chicago.

On and after Monday, January 24,
1853, Passenger Trains will run
daily (Sundays excepted) as follows:

Leave Toledo at 7 A. M.
Leave Cleveland at 1:30 P. M.

Connecting with Cleveland, Columbus and Cincin-
nati Railroad at Grafton, with Sandusky and Mans-
field Railroad at Monroeville, Mad River and Lake
Erie Road at Bellevue, and with Michigan Southern
Road at Toledo.

Early in February two trains will be run, connect-
ing directly with trains from West at Toledo, and at
Cleveland with those from East.

E. B. PHILLIPS, Sup't.
Office T. N. & C. R. R.,
Norwalk, O., Jan. 22, 1853. }

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for
the highly respectable manufacturers, Messrs.
Allen, Everett & Son, of Birmingham, is prepared to
take orders for Brass Tubes of all diameters for Ma-
rine and Locomotive Engines, which will be supplied
on the most favorable terms, and from the established
reputation of the above Firm for superior quality and
workmanship, he has no doubt entire satisfaction will
be given. These Tubes are found to answer well, and
are now in most general use in England, they last
much longer than iron, and when worn out, realize
fully half the amount for old metal. For further par-
ticulars and inspection of patterns, please apply to
JOHN H. HICKS,
90 Beaver st.
Jan. 27, 1853.

The Cold Spring Iron Works, INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-
setts, manufactures CAR AXLES, and all kinds
of WROUGHT IRON used in the manufacture of
LOCOMOTIVES and CARS; also, BAR IRON of
all descriptions. Particular attention is paid to the
manufacture of CAR AXLES, and the Works being
situated in a region of WOOD and CHARCOAL,
with which their Axles are exclusively made, the Com-
pany feel confident they can furnish an article equal,
if not superior, in quality and finish to any in the
market. They solicit the orders of RAILROAD
CORPORATIONS and CAR BUILDERS, and prom-
ise they shall be promptly attended to: and execut-
ed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Rail-
road, Salem, Mass.
A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad Riv-
er and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder,
Address HENRY MELLUS, Agent,
Boston, Mass.
or, GEO. W. PRESCOTT, Sup't.
Otis, Mass.
November, 12, 1852. 1y

Etna Safety Fuse.

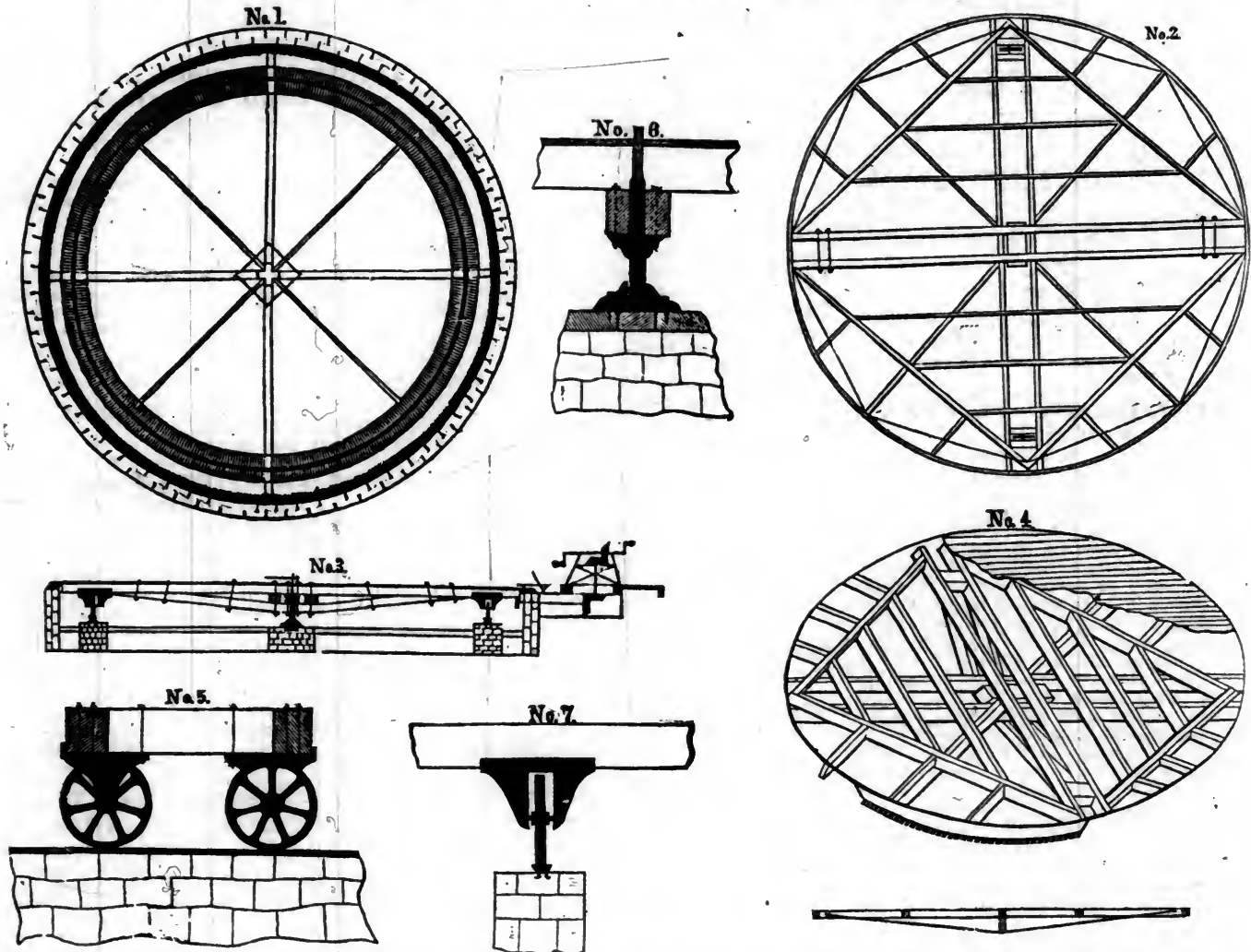
THIS superior article for igniting the charge in wet
or dry blasting, made with DUPONT'S best pow-
der, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
Sole Manufacturers,
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.
The Premium of the AMERICAN INSTI-
TUTE was awarded to the Etna Safety Fuse at the
late Fair held in this city.
November 3, 1849. 1y

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in 25 SECONDS.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcass Framing.
Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address
D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent - WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. 1y*

E. DEWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.
JAS. PRENTICE,
Feb. 9 1853. 315 Broadway, N. Y.

Railroad Iron.

2000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.
December 4, 1852.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,
Sole Agents, 23 Platt st., New York.
New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 9.] SATURDAY, FEBRUARY 26, 1853. [WHOLE No. 880, VOL. XXVI.

PUBLISHED BY J. H. SCHULTZ & CO., 136 NASSAU ST.

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American Railroad Journal.

Saturday, February 26, 1853.

"The Crystal Palace."

The great exhibition which is usually spoken of under the above title, and which is to be opened early the coming season, is exciting some attention, more without the city, we think, than within; and the probable success of, and the results that are to follow this scheme, are looked forward to with much interest. That it will accomplish much good we have no doubt, but little, however, compared with what might be effected; while at the same time, we presume it will be productive of much injustice, and no little dissatisfaction to parties furnishing articles for exhibition, and to the public. The whole affair will have a *New York* character; that is to say, everything will be made subservient to *money making*. This is to be expected. Its patrons and getters up are men distinguished more for their devotions to the shrine of *mammon*, than the *muses*; excellent men, and good representatives of New York merchants, but who are not wont to engage in enterprises that have not *money* in them. A pretty penny has been secured already, by a *judicious* representation of the immense expected profits of the exhibition, the *stock* has been carried some sixty per cent. above its par value; so that a person who a few months ago subscribed \$10,000, only a portion of which, we

presume, has yet been paid in, has already cleared \$6,000! This fact shows the *object* of the scheme, and we presume that all other considerations will yield to *this*.

As far as these objects are concerned, any advice from us, showing how the gains might be increased, would be superfluous. The managers sufficiently well understand this business. It strikes us as exceedingly unfortunate that they should have taken this turn. We hold that art is higher than money, and that to attempt to make money out of this exhibition, is to prostitute it, to ignoble ends.—The directors should have adopted, and inflexibly adhered to, the purpose of taxing the contributors and the public only to that extent as would have paid expenses; and should anything have been left after they were defrayed, we contend that it should be set apart as a *fund* to reward meritorious contributors, or to alleviate such cases of hardship as are always numerous on such occasions. If *art* makes anything, *art* should profit by it, not persons already sufficiently well off, and whose patronage may be based more upon what *art* will bring, than what it is.

Now we protest against all such things. If, for example, the artists and mechanics of Massachusetts send specimens of their work to this city, we contend that they should be allowed to do this, and that the public should be allowed to visit such works, at *cost*. To attempt to convert this into a money making affair, clearly proves to our mind a total want of appreciation of the ends and objects of true art.

The directors of the exhibition having set the example, others will not be slow to imitate it. The exhibition and everything connected with it, will be looked upon as a fair game for plunder. We understand that a party have obtained permission to take copies of the interior of the "Palace," upon the eve of its opening, for general exhibition, and are preparing to turn their privilege to the following account. Having obtained this right, they say to A. B., "hand over to us \$500 or so, and your contributions shall be properly represented upon the Panorama that we are getting up," A. B. has an article which he wishes to advertise, and he hands over the \$500. B. C. on the contrary, is contumacious, and his contributions, however well they may show in the "Palace," will be sure to make a sorry appearance on *canvass*. This is the way

things will be done, New York will tax her ingenuity to wring the utmost penny out of the exhibition, and our people are not novices in such business.

We think it unfortunate that the objects of the exhibition should have taken such a turn. We think too, that its managers have committed a great error in not associating with them, some gentlemen favorably known to the country as artists, inventors and mechanics. Such a course would have secured the confidence of the public, not only in the support and co-operation of the above classes, but that the rights of the contributors would also be properly guarded. But as it is, the whole affair has a commercial aspect, which of course cannot fail to inspire, as it has already in many quarters, a great degree of distrust. Even among the principal engineers and architects we discover no American names. What is the reason? Have we no home bred persons capable of filling these places?

Notwithstanding all these objections, we think the exhibition will effect much good. It will undoubtedly collect samples of the best work in every department of industry throughout the country.—To accomplish this, and to place the whole before the public at one time and at a comparatively slight cost, will effect a great deal of good. The getting up of the exhibition is likely to be a *job* throughout. The exhibition itself will be a vast advertising concern. Emulation and rivalry will undoubtedly secure a good display of contributions, but a long purse, friends at Court, and a comfortable degree of modest assurance, will be likely to exert a much greater influence in adjusting the claims of contributors than merit, and we advise parties proposing to furnish articles, to see that their pretensions are well backed by all the conditions above stated; otherwise they will probably get their labor for their pains.

Since the above was written we understand that the company has increased its capital stock to \$3,000,000. This is doing the thing up *brown*. Three millions of dollars! By whom, and for what objects, is this vast sum to be paid? A pretty stiff tax upon art we should think. But \$3,000,000 is not all. To this sum is to be added the profits, which are probably estimated at \$3,000,000 more. This is patronizing the *fine arts* with a vengeance. One of the favorite modes of making money in N.

Y. is to start some project no matter what, and issue a quantity of stock, the price of which, by puffing and blowing, is carried to a high figure. When this is effected, the company very quietly make further issues of stock, which is partitioned out among its original members. If the bait takes well, this new stock is not only cash, but is often cash at a high price, while it cost only the paper that it is written upon. Whether the new issue by the "Crystal Palace" has this object in view, we leave it for our readers to judge.

Buffalo and Rochester Railroad.

Return of the Buffalo and Rochester Railroad to the Legislature.

Capital stock as by charter.....	\$1,825,000
Amount of stock subscribed.....	1,825,000
Amount paid in by last report.....	1,825,000
Total amount now paid in of capital stock.....	1,822,000
Funded debt as by last report.....	169,903
Total amount now of funded debt.....	184,903
Floating debt, as per last report.....	
The amount now of floating debt.....	150,000
Total amount now, of funded and floating debt.....	334,903
Average rate per annum of interest on funded debt.....	6½ per ct.

COST OF ROAD AND EQUIPMENT.

	As per last report.	To present time.
For graduation and masonry.....	\$382,440	\$593,326
Bridges.....	52,938	61,141
Superstructure, including iron.....	1,101,445	1,201,106
Passenger and freight stations, buildings and fixtures.....	46,637	52,822
Engine and car houses, machine shops, machinery and fixtures.....	19,004	34,723
Land, land damages and fences.....	423,132	443,140
Locomotives and fixtures, and snow plows.....	145,407	160,773
Passenger and baggage cars.....	74,544	84,084
Freight and other cars..	57,350	73,350
Engineering and agencies	25,415	32,544
Total.....	\$2,228,320	\$2,737,114
Deduct 23 miles sold to Buffalo, N. Y. city R. R. for.....		322,000
Total balance.....		\$2,415,014

CHARACTERISTICS OF ROAD.

Length of road.....	76
Length of road laid.....	76
Length of double track, including sidings.....	1½
Length of branches owned by the company, laid.....	6
Length of double track laid on same.....	1
Weight of rail per yard on main track.....	62
Number of engine houses and shops.....	6
Engines.....	17
Rated as 8½ Passenger cars, 1st class.....	32
wheel cars. { Freight cars.....	145

DOINGS OF THE YEAR IN TRANSPORTATION.

Miles run by passenger trains.....	253,892
Miles run by freight trains.....	130,745
Rate of fare per mile charged to passengers; in respective classes.. 1st, \$1 50; 2d, 68c.; 3rd.....	57c.
Number of passengers (all classes) carried in cars.....	469,125
Number of miles travelled by passengers or number of passengers carried one mile.....	25,627,086
Number of tons, of 2,000 pounds of freight carried in cars.....	81,364
Total movement of freight, or number of tons carried one mile.....	5,981,865
Average rate of speed adopted by ordinary passenger trains, including stops, (miles per hour).....	19

NOTE.—Twenty-three miles of the old track of this company, and whose cost is included in the above aggregate of \$2,737,014 29, has been sold and transferred to the Buffalo and New York City railroad company for \$322,000, of which \$3,000 has been paid, and for the balance have given their bonds to the company.

Rate of speed of same when in motion..	32
Average rate of speed adopted by express trains, including stops.....	27½
Rate of speed of same, when in motion..	30
Average rate of speed adopted by freight trains, including stops.....	13½
Rate of speed of same, when in motion..	16
Average weight in tons of passenger trains, exclusive of passengers and baggage.....	64
Average weight in tons of freight trains, exclusive of freight.....	20
The amount of freight in tons:	
The product of the forest.....	7,975
" of animals.....	25,291
Vegetable food.....	17,000
Other agricultural products.....	3,275
Manufactures.....	4,849
Merchandise.....	18,185
Other articles.....	4,789

EXPENSES OF MAINTAINING ROAD.

	Amount.	Pass. transportation.	Freight transportation.
Repairs of road bed and railway, excepting cost of iron.....	\$29,087	\$29,391	\$9,675
Repairs of buildings.....	2,046	1,364	682
Repairs of fences & gates.....	1,295	863	431
Taxes on real estate.....	12,080	....	....
Total.....	\$44,509	\$29,672	\$44,816

EXPENSES OF REPAIRS OF MACHINERY.

Repairs of engines and tenders.....	\$18,240	\$12,160	\$6,080
Repairs of passenger and baggage cars.....	4,489	4,489	
Repairs of freight cars.....	7,221	....	7,221
Repairs of tools and machinery in shops..	1,392	928	464
Incidental expenses, including oil, fuel, clerks, watch men, &c., about shops.....	1,545	1,030	515
Totals.....	\$32,889	\$18,608	\$14,280

EXPENSES OF OPERATING THE ROAD.

Office expenses, stationery, &c.....	\$2,512	\$1,256	\$1,256
Agents and clerks.....	10,041	5,020	5,020
Labor loading and unloading freight.....	8,053	....	8,053
Porter, watchmen & switch tenders.....	7,166	4,777	2,388
Wood and water station attendance.....	5,554	4,003	1,551
Conductors, baggage and brakeman.....	12,753	9,565	3,188
Enginemen and firemen.....	21,186	14,124	7,062
Fuel, cost and labor preparing.....	38,130	25,420	12,710

Oil and waste for engines and tenders..	\$4,589	\$3,059	\$1,529
Oil and waste for freight cars.....	2,294	1,529	764
Oil and waste for passenger and baggage cars.....	2,294	1,529	764
Loss and damage of goods and baggage.....	2,360	766	1,533
Damage for injuries to persons.....	1,861	1,241	620
Damage to property, including damages by fire and cattle killed on road.....	1,639	1,089	544
General superintendence...	2,499	1,466	833
Contingencies...	4,381	2,920	1,460
Totals....	\$127,254	\$77,971	\$49,283

EARNINGS AND CASH RECEIPTS AND PAYMENTS.

1st. Earnings:			
From passengers.....	\$431,357	29	
From freight.....	166,098	12	
From other sources.....	22,521	23	
			\$620,976 64
2d. Receipts:			
From passengers.....	\$431,357	29	
From freight.....	166,098	12	
Sale of road to Buffalo and New York Railroad Company.....	300,900	00	
From other sources, including for sale of bonds and for mails.....	\$24,000		47,409 78
			\$674,855 19
3d. Payments other than for construction:			
For transportation expenses.....	\$204,653	06	
For interest.....	10,297	08	
For dividends, 10 per cent.....	182,581	55	

Journal of Railroad Law.

COLLISION ON THE LONDON AND NORTHWESTERN RAILWAY.

The coroner's jury in this case, have rendered a verdict to the following effect:—"The deceased persons, whose deaths lately occurred on the London and North Western railway, at Oxford, were killed by a collision which occurred between a passenger train and a coal train, on the Bucks' branch of the said railway. The collision took place in consequence of the passenger train being started without orders from the Station Master; and they find a verdict of *manslaughter* against the guard of said passenger train, on whom the responsibility of starting the said train devolved; and they think the engineer worthy of blame for proceeding at a more rapid rate than is safe when such a press of travel occurs upon a road. Under such circumstances a pilot engine is very useful, and the close proximity of the road in question and the Oxford and Rugby line, make it desirable that some signal should be used to show upon which road a train is approaching. There should also be a communication between the guard and engineer."

RAILROAD LEGISLATION IN NEW HAMPSHIRE.

The law imposed at the November session of the New Hampshire legislature, provided—

1st. That rates of fare and freight shall be posted up in depots, and not increased without thirty days previous notice to be posted up in like manner.

No person shall be exempted from paying fare, except stockholders going to or returning from meetings of said road;—the officers of the company and of connected roads; mail and express agents,

population, and still more on the wealth of the small towns in the neighborhood of Boston, is seen in the next statement:

Name of District.	No. of commutation passengers, 1810.	Population, 1850.	Assessed valuation, 1810.	1850.	per cent. Increase
Brookline.....	300	1123	\$713,843	\$5,892,000	623
Brighton.....	75	1405	458,485	1,446,212	150
Dorchester.....	150	3157	1,218,518	3,509,180	188
East Boston.....	156	1539	511,518	1,463,551	161
Lyngdon.....	294	3027	586,136	1,461,456	188
Malden.....	293	3027	1,075,195	2,128,470	100
Mattapan.....	600	3037	897,255	3,753,081	334
Newton.....	116	2303	1,069,171	2,973,750	178
Waltham.....	100	2331	987,388	2,241,144	157
Woburn.....	100	2331	987,388	2,241,144	157

It appears that there are no less than 4,560 commutation passengers who transact business in Boston and reside along the lines of railroad being 1-30 of the population of that city, it is deemed that an equal ratio of the citizens of Philadelphia would avail themselves of similar facilities for the enjoyment of health and comfort in a country residence. A large share of this business would devolve on the Philadelphia and Westchester road as is apparent from the beauty, fertility and salubrity of the country it traverses.

Ohio and Mississippi Railroad.

There is good reason for believing that so much of this road as lies within our own State will be completed at the earliest day heretofore named.—The entire road, it will be remembered, was let to Messrs. Seymour & Co. of New York, who afterwards sub-let to Messrs. Sanger, Camp & Co. that portion lying between Illinois town and Vincennes. These contracts were made before the late advance in iron had occurred, and this latter event had given rise, in some quarters, to the expectation that the parties making them would be compelled to abandon them. Quite recently we learned that Messrs. Sanger, Camp & Co. would hold on to their contract, but that they would insist upon the extreme limit of time (five years) which it allowed, instead of completing the work in three years, as they originally designed doing. This matter having come before the board of directors, they have agreed to pay a bonus of \$354,000 to the contractors, conditioned that the road shall be completed within three years—the only reservation being that floods or epidemic sickness among the hands, shall not prevent them.

By the terms on which the city of St. Louis became a stockholder in this road, in the sum of half a million of dollars, it is necessary that the above action shall receive the sanction of the Common Council before being absolutely binding. The board of delegates have already affirmed it, and at our last dates from St. Louis, the subject was pending before the board of Aldermen with fair prospect of meeting their approval also.

Some three weeks ago, there were about two thousand laborers engaged upon this road between St. Louis and Salem; and we were informed that forty miles of the road between those points would

be ready for the superstructure early in February next.

This is the first case we have knowledge of in which an amicable arrangement has been made between a railroad company and its contractors relative to the advanced price of iron. The directors have certainly acted in a liberal and handsome manner, but not more so than the advantages to be gained by having the use of the road two years earlier than they otherwise would, seem fully to justify.—*Chicago Daily Press.*

New Orleans, Opelousas and Great Western Railroad.

We have before us the first annual report of this company, under date of January 24, 1853. It is an interesting document, not only in showing the purposes and condition of the company, but the influence which the sentiment in favor of this and similar works, has exerted upon the legislation and policy of the state. Below we copy such portions of the report as have an especial interest to the public.

The New Orleans and Opelousas and Great Western Railroad Company, says the report, was chartered in April, 1852, with a capital of three millions of dollars, for the purpose, as expressed in its charter, "of constructing a railroad from Algiers to the opposite bank of the Mississippi river from New Orleans, westward near Thibodeaux, across Berwick's bay to Washington, in the parish of St. Landry; thence to a point on the Sabine river, most favorable for the purpose of constructing said road through the state of Texas, to El Paso on the Rio Grande, and thence to the Pacific ocean. The road to be made on such a scale, as to serve for the main trunk of railway between New Orleans and the Pacific states.

The amount of capital was fixed with reference to the probable cost of the road through this state, to its western boundary, to be increased subsequently, as the extension of the road beyond that limit, or other contingencies might demand.

This enterprise, the first in magnitude and important results to this city and state, for more than twelve months under the auspices of organized committees of its early friends, had been posted and promoted. Through their efforts, money was obtained from the respective municipalities of New Orleans, from several of the parishes along the proposed route, and from public-spirited citizens, adequate to defray the expenses of preliminary surveys, required to determine the practicability of the proposed route from this terminus to Berwick's bay, and for other contingencies.

The explorations and surveys thus obtained, proved the entire feasibility of the project, and inspired such a degree of public confidence in it, that upon the formation of the company, and the opening of the stock books, early in April last, an amount of stock was taken, more than double that required by the charter as a preliminary to the election of directors.

A new epoch had evidently come in the history of this state. It could no longer be disguised that this city and state were laggards in the march of improvement, compared with their neighbors.

While the city, relying in fancied security upon the advantages of her commanding natural position, was daily losing her commerce and trade, through the energy of her more enterprising rivals, the great agricultural districts of the state, measurably isolated, remained ingloriously content with the precarious, difficult and hazardous means of travel and transportation, afforded by a long and intricate interior navigation. Both interests, at length, were awake to the imperative necessity for prompt and energetic action.

The two great trunk roads, the western and the northern, had attached to their respective standard men of devoted zeal and untiring energy, who, by their characters and efforts, inspired confidence at home and abroad, in the successful accomplishment of the enterprises to which they had zealously devoted themselves for the public good.

The convention of the friends of the northern road in May, and of the western road in June, 1851, and the great southwestern convention, in January, 1852, composed of delegates from all

the southwestern states,—men, distinguished for ability and usefulness at home, gave irresistible impulse to the popular feeling in favor of these and similar works.

The legislature at their session, immediately succeeding, reflecting the opinions, and in compliance with the well understood wishes of the people, made all the legislation in favor, and for the promotion of such enterprises, allowable under the then existing constitution. By enacting laws for the organization of corporations for works of public improvement and utility—for the expropriation of lands for railroads and like works—for the subscriptions by the parishes and municipal corporations of the state to the stock of companies undertaking works of improvement—for the payment and disposal of stock so subscribed; and, lastly, for taking the sense of the people on the expediency of calling a convention to change the organic law, so as to permit the state to adopt for the future a less restrictive policy, in regard to works of general utility and advantage.

This latter proposition was submitted to the vote of the qualified electors, of the state, and decided affirmatively. Delegates were elected, the convention met and formed the present constitution of 1852, which has since been ratified by a large vote.

The Constitution of 1845, denied to the Legislature the power to pledge the faith of the State for the payment of any contracts or obligations for the benefit of any person, corporation or body politic, limited the amount of debt to be contracted by the State to \$100,000—except in cases of war, invasion or insurrection, unless in the enactment creating the debt, the ways and means by taxation for its payment are also provided, and not then, until the next Legislature returned by a general election should have re-enacted it—and prohibited the State from subscribing to the stock of any corporation or joint stock company, and from the creation of corporation by special laws, except for political or municipal purposes, and limited the tenure of all corporations constituted under general laws (except those enumerated in the preceding exception) to twenty-five years.

Those restrictions, bearing upon enterprises of this description—for we have only reference to them—were subjected to radical changes by the present Constitution. Among the recognized powers of the Legislature by that instrument is that of granting the aid of the State, exclusively to works of internal improvement to the extent of one-fifth of the capital of Associations organized for such purposes, by subscriptions of stock; loan of money, or public bonds; under the limitations that the grant of such aid by the State shall only be available in the proportion of the capital actually paid in by the stockholders; and in case of loan, adequate security to be given—and that the amount of such liability shall never at any one time exceed the sum of eight millions of dollars.

This series of popular movements and legislative action is referred to as indicating, in the judgment of the Board, a settled policy in reference to this great modern system of railway communication; and it is hoped and believed, not only by this Board, but by other and higher interests to be benefited and developed by it, composed of almost the entire portion of western Louisiana that the approaching Legislature, to whom the important duty of carrying out the provisions of the constitution are allotted, will foster and sustain the efforts of the people towards the accomplishment of these valuable lines of road, projected and in course of construction.

The popular estimate of the importance and value of this road to New Orleans, and to the rich and productive portion of the State, to be traversed by it, is clearly shown by the character and amount of subscriptions to its capital stock. The private subscriptions thus far amounted to seven hundred and fifty-nine thousand, eight hundred and thirty-five dollars; and, under the act of the legislature already referred to for subscriptions by corporations and parishes, (a copy of which is appended to this report,) the city of New Orleans, through its municipal authorities, subscribed sixty thousand shares, amounting to one million five hundred thousand dollars, to meet which, payable in six equal annual instalments, commencing on the third

Monday of June next, a tax of two per cent. was levied on all its landed estates, one third of one per cent. annually.

The following are the amounts of tax subscriptions made to the road by the several parishes along its line:

Parish of New Orleans, (right bank).....	\$75,000
" St. Mary	156,600
" St. Martin	103,775
" La Fayette.....	33,400
" St. Landry	105,625
" Natchitoches.....	250,000

These several tax stock subscriptions, amounting in the aggregate to the sum of two millions, two hundred and thirty-four thousand four hundred dollars, were submitted, according to law, to the vote of the qualified electors in those different localities, and by them were approved and ratified, generally by large and commanding majorities.

This tax subscription is secured by a landed property of nearly one hundred millions of dollars, as estimated for the ordinary purposes of state and parish taxation. Such a system of raising stock on voluntary assessments of landed property, possesses at once the attributes of equality and uniformity.

It is subscribed by the representatives of the people, and is sanctioned and ratified by the taxpayers themselves, who are to be the beneficiaries of such improvements, and entitled as stockholders to their proportion of the eventual dividend that may be declared.

An entire line of road, thus traversing an extent of country, whose inhabitants are, in right of their stock, joint proprietors, must rest, for its success and fortune, upon influences superior and more reliable than any other safeguard or guarantee that can be thrown around it.

The total amount of subscriptions, tax and private, is thus \$2,984,235.

In addition, the company have prospectively the tax subscription of De Soto parish, recently voted of \$100,000, with its private subscription of \$53,325, and the offer of an increase by its citizens to the sum, of \$200,000, on condition that the road be located through the parish. The western portion of the parish of Avoyelles tenders \$74,000, on condition that the road run through their territory, a distance of about 7 miles, along the valley of the Bayou Boeuf.

On the private subscriptions, in addition to the 5 per cent. payable at the time of making the subscription, three calls of 10 per cent. each have already been made. From these sources, the sum of \$140,361 88 have been collected.

Two lots of land have been purchased at eligible points opposite the city of New Orleans, for depots.

The upper tract adjoining Gretna has a front on the river of four arpents, by the ordinary depth of forty arpents, equal to one hundred and sixty superficial arpents.

The lower one, or terminus of the road, fronts on the river three hundred and seventy-five feet, by a depth of twenty-four arpents, between parallel lines; superficies, forty-eight arpents, with streets of fifty feet each on its upper and lower lines, to the extent of its depth.

This property has a large and increasing batture with two wharves and a bulkhead, ample for all the purposes of the company. Those grounds were purchased at a cost of sixty thousand dollars, and have a form and superficies adapted to, and ample for, all the future purposes of the company.

In the latter part of July last surveys were commenced, under the direction of Jas. G. Gibbs, Esq. as chief engineer. Four hundred miles of levels have been run, and in a few days, the entire route to two points on the Sabine boundary, between Louisiana and Texas, will have been completed. The right of way for the entire distance from New Orleans to Washington, with few exceptions, (and

those in the case of successions, where the authority of executors, &c., was doubtful,) has been cheerfully conceded.

The first division of the road, 82 miles to Berwick's Bay, has been located; and the location of the second, to Washington, 96 miles, will be completed and ready for contract on the 1st of March next. On the first division, the clearing and grading of the first fifty-five miles is under contract, twenty miles of which is ready for the superstructure, and the remainder is in progress.

The following statement shows the present financial condition of the company:

Receipts on account of capital stock.....	\$140,361
Disbursements	64,156
Balance on hand.....	\$76,205
<i>Prospective means for current year.</i>	
Due on instalments called for to date of report	\$125,580
Instalments on tax stock, payable in or before June, by the city of New Orleans and six parishes.....	395,188
Balance on hand.....	76,205
20 per cent. assessed at meeting of stockholders: 10 per cent. 1st April, and 10 per cent. 1st October—say	140,000
	\$736,971

The fifth of capital paid, if allowed by the state, will give—say..... 160,000

The contracts for grading, superstructure, iron, locomotives, etc., not yet completed, amount to..... 555,000

Contracts have been made for locomotives and cars, and for 4,000 tons of iron, at \$55 per ton, with the required quantity of spikes, chains and wood, for the superstructure; and the belief is entertained, that the entire line to Berwick's bay will be completed and in operation within 12 months, and in time to bring out the crops of Lafourche and the Teche.

The line of road to Washington has only a deflection of 9 per cent. from a straight line, and this curvature was rendered unavoidable, from the extent of sea marsh which lay on the more direct route. The trunk line traverses and develops, in the state of Louisiana, 12,000,000 of acres, the larger portion of which is unpeopled and untitled.

It passes through nearly three degrees of latitude, and over four distinct geographical formations. The first is the Delta proper of the Mississippi river, a distance of eighty-one miles to Berwick's bay. It is exclusively a sugar-growing region, producing, in 1851, a crop of fifty-eight thousand five hundred and eighty-four hogsheads of sugar, and four million two hundred thousand gallons of molasses.

The second district, beginning on the western shore of Berwick's bay, which may be regarded as an estuary of the gulf, is the commencement of that belt of prairie, which skirts the gulf coast westwardly to the Rio Grande, and ranging from ten to thirty miles in width.

The parishes within which it is embraced, and through which the road runs to Washington, in the parish of St. Landry, produce both cotton and sugar, and annually export to this city about forty thousand head of cattle. Their crop of sugar, in 1851, was forty thousand hogsheads, two million eight hundred thousand gallons of molasses.

The third division, from Washington to the point of intersection with the valley of the Red river, embraces the entire alluvian to the village of Natchitoches—a section of country unsurpassed for its adaptation to the production of both sugar and cotton.

The crops of sugar of Avoyelles and Rapides in 1851, which had but recently and partially entered into its culture, was thirteen thousand five hundred hogsheads of sugar, and nine hundred and fifty thousand gallons of molasses. The cotton crop of the same parishes and of Natchitoches, may be estimated at fifty thousand bales.

The fourth division embraces the table lands between the Red river and Sabine, and is composed of the parishes of Sabine, De Soto and Caddo, the crops of which may be set down at forty thousand bales of cotton. By a comparison of the crop of sugar and molasses of 1851, produced in the parishes traversed by this road, amounting to one hundred and twelve thousand and eighty four hogsheads, and seven million one hundred and twelve thousand nine hundred and fifty gallons of molasses, with that made in the balance of the state, it will be perceived that the difference in favor of the latter is but small—although that culture has been but partially gone into in the parishes of St. Martin, Vermillion, La Fayette, St. Landry, Avoyelles, and Rapides, whose capacity for increased production is immense.

The line of road running westwardly along the parallel of 32°, traverses the most fertile portion of the state of Texas, adapted for the production of both cotton and grain, and offering no obstacles to the construction of a road. The distance across this state to the Rio Grande, allowing for probable deflections, is estimated at 700 miles; and thence to San Diego, 693 miles, making the entire distance from New Orleans to the Pacific 1747 miles.

Col. Graham, of the Topographical Engineers, in his report to that bureau, says:

In crossing the Sierra Madre, no difficulties are presented. It is done by a rise so gradual, that were we not admonished by the fall of the mercury in the barometer, we would be unconscious of its elevation from five to six thousand feet above the level of the sea. The climate along the whole belt of country traversed, is particularly favorable to such enterprise. It is open all the year round. There are no frosts, to upheave the foundations of such a road, and disadjust its superstructure; no deep snows remaining for months, to obstruct a passage.

The charter of the road permits the construction of a branch through the northwestern parishes of Louisiana, to the state line of Arkansas. To retain the ebbing tide of the commerce of the Mississippi valley, requires extraordinary efforts on the part of New Orleans. The Mississippi Valley Railroad, connecting New Orleans with St. Louis and Minnesota, has become a necessity as manifest as that of any of the great thoroughfares now finished. The line from New Orleans to Alexandria, would be in the track of the great western trunk, and for some years would use the track now commenced.

The construction of the road to that point is very easy, without grades, and with the exception of the Lafourche and Berwick's bay, comparatively without bridges.

From Alexandria northward, the line must diverge. The topography of the country, as well as population and productions, point out the route up the valley of the Ouachita, as the most direct and preferable within the state of Louisiana. The census returns of 1850 will show the superior claims of this route.

It would traverse the parishes of Rapides, Winn, Caldwell, Ouachita, and Morehouse, securing the entire contributions of Jackson and Union, and a large portion of that of Catahoula, Franklin and Claiborne.

Parishes.	Population.	Cotton.	Corn.
Rapides.....	16,561	22,172	536,182
† Catahoula....	7,131	2,784	31,450
Caldwell.....	2,815	2,537	56,590
† Franklin.....	1,625	1,553	35,965
Jackson.....	5,556	2,465	130,066
Ouachita.....	5,008	5,776	135,005
Union.....	13,700	5,760	174,650
Morehouse.....	3,913	4,764	128,830
† Claiborne....	3,175	2,250	100,000
	59,494	52,042	1,335,132

By the construction of this branch from Alexandria to the southern boundary of Arkansas, a distance of one hundred and twenty miles, where it will be met by the line of road from St. Louis and

the north, you will have extended to almost the entire interior of Louisiana west of the Mississippi, the advantages of railway communication with their market. Already has the state of Missouri projected and commenced south, to the Iron mountain, a distance of about forty miles, and north from St. Charles to her northern boundary, a distance of two hundred and thirty miles; a line of road, which, when connected and extended, will form an important part of that magnificent national project of opening and establishing commercial and social intercourse, between the inhabitants of the extreme northern and southern states and territories of this great confederacy.

Missouri, though, like Louisiana, late in commencing her railroads, is yet in advance of us in the great Mississippi Valley road. Their travel and their trade, belonging naturally to our seaport, we can, by an early and energetic movement, seconded as we are by that state and Arkansas, permanently command and secure that vast territory, with its varied and incalculable productions.

When we reach from the Gulf of Mexico to Minnesota, uniting these now distant extremes of the great west with iron bands that will then link us together, we shall bring the productions and luxuries of 18 degrees of latitude within forty hours of each other, rendering climate homogeneous, and giving increased impulse to the success of longitudinal railways.

This branch of our road, from the northern boundary of Louisiana, through the states of Arkansas, Missouri, Iowa, and Minnesota, which unquestionably possess the energy and means to accomplish their portion of the works, irrespective of other considerations, is socially and politically national in its character, and eminently calculated to harmonise all sectional prejudices, and, it may be, to unite in favor of the great southern route to the Pacific, all antagonistic and conflicting interests."

Flour and Wheat from Western States.

The following statement shows the whole amount (reduced to barrels) of flour and wheat delivered at tide water, from the Erie Canal, in each of the last eighteen years—distinguishing between the product of this State and the product of Western States:

	From Western States.	From this State.	Total bbls. arr. at tide water.
1835.....	283,571	899,106	1,182,677
1836.....	347,254	802,580	1,149,834
1837.....	318,642	753,075	1,071,717
1838.....	625,480	598,855	1,224,335
1839.....	762,560	384,523	1,147,083
1840.....	1,135,951	1,116,778	2,252,729
1841.....	1,359,677	492,834	1,852,511
1842.....	1,241,084	592,691	1,833,775
1843.....	1,700,767	588,008	2,288,775
1844.....	1,871,942	684,397	2,556,339
1845.....	1,658,208	1,290,051	2,948,259
1846.....	3,020,626	837,540	3,858,166
1847.....	4,470,013	601,072	5,071,085
1848.....	3,340,630	630,466	3,971,096
1849.....	3,416,696	580,188	3,996,884
1850.....	3,468,409	779,976	4,248,385
1851.....	3,905,409	304,731	4,210,140
1852.....	4,837,893	468,408	5,306,301

The toll on a barrel of flour from Buffalo to Albany, was 35 cents from 1835 to 1845; 31 cents from 1846 to 1850 inclusive, and 23 cents for 1851 and 1852.

As the productive power of the "west" is unlimited, the third column must, of course, be considered as indicating the demand for flour at tide water. It is interesting to see how much of this demand has been met by our own State, and how much by western States. Sixteen years ago, this State supplied twice as much as the western States. While the surplus production of this State since that time is rather diminished with the increased demand at tide water, the western States delivered at tide water last year ten times as much as this State.

The important fact in the statement is this:—That the increased delivery of flour and wheat, last year, at tide water, is more than 1,000,000 of barrels, or 25 per cent. over the preceding year, more than nine-tenths of which increased delivery was from western States—a larger increase in one

year than ever before, except in 1846 and in 1847, the year of the famine in Ireland.

Flour and wheat pay about \$1,000,000 in tolls or about one half of the \$2,000,000 tolls on produce going to market. Merchandise going from tide-water, pays about \$1,000,000—making up the \$3,118,000, which were the tolls of the last year of navigation.

As the interior population of the State increases, there is, of course a larger demand for interior consumption, but with a demand at the sea board for ten times the amount delivered in the last year from the product of this State, there can be little question that the delivery from the State could be trebled or quadrupled, but for the competition of the cheap and fertile lands of the west, which can answer a demand through our canals at so much less cost than our own more expensive lands.

In connection with the fact of the increase of 25 per cent. in the last year in the barrels of the great staples of flour and wheat from western states, is the fact that all other grains and agricultural productions follow these leading articles, and contribute to swell the volume of increase.

Ohio.

Akron Branch, Cleveland and Pittsburgh Railroad Company.—The annual meeting of this company was held in Akron on the 12th of January, 1853. From the report of the President and Directors we gather the present condition of the road. On the 5th of July last the road was opened to Akron, and this portion of the line is now in fine order. The grading and masonry from Akron to Millersburgh is now under contract and in progress, to be completed to Clinton by the 15th of April next, and to Millersburgh by the 1st of August following. Cross-ties for the entire track have been contracted for, and the iron for the portion from Akron to Orrville was purchased before the advance. The line between Millersburgh and Zanesville has been surveyed and found to involve but a moderate expense for construction.

Suitable passenger and freight station buildings have been provided, and repair shops, and car and engine houses are in progress.

The rolling stock consists of three 1st class locomotives, two passenger cars, five baggage and house freight cars, eight platform and thirty-two gravel cars.

The total expenditure up to 31st Dec. 1852 has been \$408,457 32.

This has been derived from the following sources:

Stock.....	\$261,224 35
Bonds.....	128,197 61
Road receipts, bills payable, &c.....	19,035 36

Total.....\$408,457 32

The whole receipts from the road to December 31st, inclusive, were for

Passenger business.....	12,760 00
Freight and Mails.....	3,097 77

Total gross receipts.....\$15,858 27
From which deduct expenses.....5,240 06

And we have as nett earnings.....\$10,618 21

Out of this amount the directors have ordered to be paid in stock a dividend of five per cent. upon \$187,750, the amount of full paid stock applicable to the portion of the road from Hudson to Akron.

There have been carried over the road 36,404 passengers, without accident causing injury to the person of any one.

The average receipt from each passenger is 35 cents; which is two and one-half cents from each per mile; the whole length of road in operation being fourteen miles.

The local passenger business on the extended line is not relied on so confidently as that to be ob-

tained from the connections with the Ohio and Pennsylvania, the Steubenville and Indianapolis, the Ohio Central and the Cincinnati, Wilmington and Zanesville roads.

The local passenger business north of Millersburgh is estimated at.....\$90,000
Freight from agricultural products.....160,800
Freight from coal at 400 tons per day.....60,000
Freight from merchandize.....23,512

Forty per cent. for expenses.....133,724

The total estimated earnings for the road north of Millersburgh.....\$200,588

When the road shall have been extended from Millersburgh to Zanesville, connecting it with the Steubenville and Indiana, the Ohio Central, and the Cincinnati, Wilmington and Zanesville railroads, and opening a communication by the most favorable route between the Northern thoroughfares to the Atlantic cities as well as to our Northeastern territory on the one hand, and a large portion of the State, embracing some of its richest agricultural and mineral lands, with a present population of 420,320 on the other, the additional amount of freight and travel can not reasonably be supposed to fall below the proportionate increase of distance and of cost.

The estimates of the several divisions of the line and the characteristics of the road are presented in detail in the report of the Chief Engineer, Wm. H. Grant, Esq. The most favorable line from Akron crosses the Ohio Canal about three miles southwest of that place, following the line of the Canal to the village of Clinton. From this point it pursues a westerly direction crossing the Chippewa and the gorge of Red Run, the latter at an elevation of 55 feet, and approaching Bristol it encounters a deep cut of 45 feet in extreme depth, and 2,700 feet in length. Passing Bristol about a mile south the road crosses the summit of the main ridge and proceeds south along the alluvial ground at the source of the Little Chippewa and Newman's Creek crossing the Ohio and Pennsylvania railroad at Orrville, 23 miles from Akron. After passing the head waters of Sugar Creek and Apple Creek it follows Salt Creek past Fredericksburgh and Lafayette, and from the latter place it pursues the Killbuck valley and bottom lands to Millersburgh, a distance of 47½ miles from Akron. All the work is comparatively light except the deep cut at Bristol and the crossing of Red Run. In order to lighten the work at the latter, the construction of a trestle bridge of 2,300 feet long and 25 feet high, which can be erected several months sooner than the entire embankment could be made, is rendered necessary.

The shortest radius used is 1,910 feet, the other radii vary from half to three-fourths and one mile in length. Reverse curves not separated by an intervening straight line have been avoided. The maximum grade in the direction of the heavy traffic from south to north is 40 feet to the mile.

The bridges consist of one of 50 feet span across the Ohio Canal. One of two spans of 48 feet across Wolf Creek, one of 48 feet across a high water channel of the Chippewa, one of three spans of 48 feet across the main stream, and three bridges of 60 feet span across Salt Creek. All the above consist of a well braced truss of timber cased in and protected from the weather.

A stone viaduct of two arches of twenty-five feet span crosses Apple Creek near Edinburgh.

Excellent materials for ballasting is found along the line of the road. The superstructure consists

of white oak ties 8½ feet long, six by 8 inches placed two feet apart and surmounted by a J rail of 58 pounds to the yard.

The continuation of the line from Millersburgh to Zanesville follows the continuous bottom lands of the Killbuck and Muskingum. Along the former valley for about twenty miles, a distance of five bridges of about 110 feet span will be necessary, and a tunnel of 1,000 feet in length. The crossing of the Walhonding will require a bridge of two spans of 115 feet each, and one over the Walhonding Canal of about 60 feet span. From this point it will follow for some distance the Canal as far as Roscoe. And hence as far as Zanesville it pursues in the main the bottom lands of the Muskingum valley. Near Dresden the line crosses Wakatomaka Creek by a bridge of 100 feet span, and in that place the Dresden branch of the Ohio Canal is crossed by a bridge of 50 feet span. The highest grades will not exceed 30 feet per mile, and these for short distances only. A large portion of the line will be straight and the curves with few exceptions, of large radius.

The following is the general estimate of the cost.

Right of way, including depot and station grounds, land, damages and fencing.....	\$130,800
Grading, bridging and masonry, including ballasting of track, (114½ miles).....	\$876,800
Contingencies and engineering..	78,000
	\$954,800
Superstructure, including 10 per cent. for sidings.....	944,711
Depot and station buildings, and machinery for repairs.....	115,842
Equipment, (rolling stock).....	300,000
	2,446,153

Total amount, say.....\$2,500,000

The following are the officers of the company for the year 1853.

President—Simon Perkins.

Directors—Simon Perkins, M. W. Henry, J. W. McMillen, of Akron; H. A. Miller, of Cuyahoga Falls; James Butler, Henry N. Day, of Hudson; J. Cary, of Millersburgh; H. N. Day, Secretary; J. W. McMillen, Treasurer; James Butler, General Superintendent; W. H. Grant, Chief Engineer.

Nashville and Chattanooga Railroad.

FIFTH ANNUAL REPORT

The directors of the company take pleasure in making this, their fifth report, in conformance to the charter, showing the progress of the work and the state of affairs of the company.

The stockholders, at the last meeting, authorized the issuing of three hundred and fifty thousand dollars of Company's bonds at thirty years, and requested the guarantee and endorsement of the State. The consent of the Legislature was obtained and authority given to endorse these bonds, and 175,000 dollars of them have been disposed of at 1050 dollars for each thousand dollars; thirty dollars on each bond of 1000 dollars of this fifty dollars was premium, and twenty was interest that had accrued on the coupons up to the time of the sale of the bonds. The State required before they endorsed 175,000 dollars of these bonds, that twenty five miles of the road, in addition to the eight already mortgaged, should be finished and mortgaged, and that when twenty-five miles more was finished and mortgaged the Governor should endorse and guarantee 175,000 dollars more of bonds.

The company have finished and mortgaged the first twenty-five miles and received and sold the bonds, as above stated, and will have finished the next twenty-five miles, entitling them to the State's endorsement and guaranty upon one hundred and seventy-five thousand dollars more, by the first of February next or soon afterwards, depending upon the weather.

With this addition to the company's means, the sum total with which to finish the road and equip it, is made up as follows, viz: Stock taken by individuals.....813,814 00

Stock taken by city of Charleston.....	500,000 00
Stock taken by Georgia railroad and B. company.....	250,000 00
Stock taken by city of Murfreesboro'.....	30,000 00
Stock taken by city of Nashville.....	500,000 00
	2,093,814 00
This company's 30 year bonds, endorsed and guaranteed by the State of Tennessee, already sold..	675,000 00
Yet to be sold.....	175,000 00
	850,000 00

Total.....\$2,943,814 00

Balance to complete freight houses, water tanks, wood sheds and interest on bonds amounting in all to one hundred and thirty-six thousand dollars, which it is thought is as much as can be easily realized within the next six months from the 229,128 and 38 100 dollars, made up as it is, mostly of the odds and ends of the whole aggregate of the company's transactions for four years.

This, it is thought by your directors, presents a most favorable state of affairs at the closing of the construction and equipage of so important an enterprise.

The outfit of the company, it is thought, will, at the completion of the road, say at the end of six months, consist of 15 good locomotives, 210 cars of all kinds—passenger, baggage, box, open, gravel and repairing cars—good brick freight and passenger houses at all the principal stations except Chattanooga—say twelve freight and passenger houses, all good brick buildings—a passenger house at Nashville, 300 by 60 feet; an engine house, holding seventeen engines; with wood sheds and seventeen stations, and water tanks enough to supply the utmost demands of the business of the road as far as built.

The depot grounds, building and outfit, here estimated, is more than the original estimate, made by Mr. Thompson, and the iron is from 5 to 25 tons a mile heavier, and yet after taking off interest paid to stockholders and loss in collecting, we find the road will cost less with this heavier iron and greater outfit than Mr. Thompson's estimate, at which the stock was taken, 330,000. Mr. Thompson's estimate was \$3,130,000—actual cost \$2,800,000.

The income of the company has now reached to five hundred dollars per day, and when the road is finished to Stevenson, which will be probably by the 20th of December, and certainly this year, it is thought it will go up to 700 dollars a day, and 900 dollars a day when finished to the Tennessee river, which will be soon after the 1st of February next, with reasonable weather.

The directors hope to be able to divide two or three per cent. out of the profits of the last half of the year 1853, and will, they think, if the demands of trade do not make it necessary to add materially to the machinery of the company, which already is as large as it was thought they could get along with until the road was finished, but the business is larger than was expected, and may continue to exceed their calculations, in which case it will be the duty of the directors and the interest of the company to buy additional machinery, and consume the profits for the whole year. In the latter case the road will be in a better condition to make good dividends in the following year, 1854.

It will be seen from the report of Mr. James H. Grant, Chief Engineer of the company, that the road will most probably be finished within the next six months. In this opinion the board concur.

Of the balance of 205,340 and 98-100 dollars, stated by Mr. Grant as necessary to pay for the grading, bridging, back money on contracts, etc., etc., there is already paid in advance over \$30,000 of the back money. So that the amount actually to be paid to finish the whole road and unite the tracts is less than \$175,000.

The directors have every confidence in the business of the road paying a good interest on the stock.

The rise in lands and town lots near the road has been double the cost of the whole road. In view of these statements it is hoped that so far the road has met the expectations of its early friends.

The stockholders owe much to their late Treasurer, Mr. O. Ewing, whose industry, ability and vigilance was always equal to his arduous duties as Treasurer and a member of the executive committee.

It will be seen from the Superintendent's report, here annexed, that of the 66,716 and 21-100 dollars made by the road the past fiscal year, twenty-eight thousand, eight hundred and forty-nine and 61-100 dollars have been paid out in equipping and building the road, and thirty-seven thousand, eight hundred and sixty-six and 60-100 dollars expended in carrying the iron and timber forward and other company's service necessary in building the road.

The directors feel that it is due to say to the stockholders that the successful prosecution of their work has been greatly promoted by the industry, ability, and harmony of the officers in charge of the different departments in the constructing and working of the road.

All of which is most respectfully submitted.

V. K. STEVENSON, President.

Nashville, Dec. 14, 1852.

The report of the Chief Engineer, James H. Grant, Esq., describes in detail the progress of the construction. This has been retarded by sickness among the laborers, the unusual rains of the last fall and the physical obstacles encountered in the crossing of the Cumberland mountains.

The work has advanced so that the Tennessee river was to have been reached about the 15th of February. The graduation on the Chattanooga division is completed with the exception of several bridges and the cuts at the summit on Rackoon mountain and its vicinity. The superstructure is completed for 7 miles from Chattanooga, and the cross ties delivered for about 12 miles more. Allowing the track to progress at the rate of a mile a week until Rackoon mountain is passed, and a mile and a half subsequently, and trains will reach the Tennessee river by the 1st of June next.

The masonry for the portion of the bridge over the Tennessee west of Long Island, is completed. Three piers are in progress in the narrow channel leaving but two to be commenced. The iron work is nearly all delivered and about half the timber for the bridge. A draw, leaving a clear span of 65 feet for steamboats has been ordered to be constructed in this bridge.

The aggregate of expenses up to 1st December, 1852, as far as the engineering department are concerned, has been:

Graduation and bridging.....	\$1,208,970 61
Superstructure.....	893,530 37
Depot buildings, etc.....	64,309 63
Rolling stock.....	96,214 47
Platforms, sheds, tolls, etc.....	21,073 54
Engineering.....	71,146 16

Total paid.....\$2,355,244 78
leaving a balance of \$205,340 98 to complete the work.

The business operations of the current year as reported by the Superintendent for the year ending 30th November, are:

For passengers.....	\$65,819 51
Freight.....	40,912 74

	\$106,732 25
Expenses.....	77,882 64

Net profits.....\$28,849 61

The estimated cost of transporting materials for the road.....	37,866 60
Fuel.....	2,136 10

Total net earnings.....\$68,852 31

The rolling stock consists of 7 locomotives—4

passenger and 94 baggage, freight and platform cars.

At the annual meeting the following gentlemen were elected directors:

Vernon K. Stevenson, Alexander Allison, Samuel D. Morgan, Jno. M. Bass, J. B. Knowles, Francis B. Fogg and Andrew Ewing, of Davidson Co.; Lewis Garner and William Spence of Rutherford county; Jeremiah Cleveland and Jno. T. Neil, of Bedford county; Peter S. Decherd, of Franklin county; and James A. Whiteside, of Hamilton county.

American Railroad Journal.

Saturday, February 26, 1853.

Railway Exhibits.

In the administration of the railways in this country, one of the most important defects is the want of full and lucid exhibits, showing their condition and management. The necessity and importance of such exhibits will be readily admitted by all, when the immense amount of capital invested in these enterprises is taken into consideration. The cost of our railways when those in progress shall be completed, will probably exceed \$700,000,000. By far the greater number of the companies are not required to make any returns of their doings to their respective legislatures. We are therefore compelled to rely upon their reports voluntarily made for a knowledge of their affairs. Where reports are made to the Legislature, they are frequently stated in such a manner as to confuse, rather than enlighten the public, as is the case with the returns of the Erie railroad instanced the past week. What we want, and what the public should demand, is, that every company should annually and upon the payment of every dividend, present such a statement of the condition of its affairs, as shall enable its stockholders and the public to form an accurate opinion of its condition, management, and future prospects, etc., of their property. Such reports we must have, and such we, for one, shall insist upon.

The report of the President of a company is of little value in itself. At best it is based entirely upon representations made to him by the several departments in the management of the road. These departments are, or should be as independent of the President as he is of them. The former by virtue of his office, has nothing to do with the departments of treasurer, engineer, or superintendent. What he tells us about either, has no value unless appropriately vouched. When a road is under construction, we look to the report of the engineer for a statement of its cost. His report properly prepared not only shows this, but gives the data upon which his estimate is based; so that should he err in his judgment, he furnishes the proper evidence for the correction of his mistakes. So too with the superintendent. It is to his report that we look for a statement of the operations of the road, the amount and condition of the rolling stock, etc., etc. The reports of these officers are not only indispensable in showing the exact state of a company's affairs, but when regularly made, they serve as a most wholesome check upon imprudent and unfaithful service. Where it is understood that an officer of a road will be called upon to report annually the condition of matters under his charge, he will be very careful that his report shall reflect credit upon himself, which can only happen when his duties have been well performed. Where

on the other hand no such report is expected, it is inevitable that indolence, inattention to duty, and finally, that insubordination should be the result.

Again, where reports are made by the several departments in the management of a road to the directors, these should always be published as the directors may, and very often do, entertain very erroneous ideas as to the proper management of a road. The publication of such management will be likely to provoke argument and discussion, which in the end will result in indicating the true policy to be pursued. Directors should always court the public censure upon their acts, and should always stand ready to adopt any useful hints and suggestions which such censure may call forth.

A dividend too, should always be accompanied by a statement showing it to have been earned, and to have been properly paid. It may turn out that it has not been earned when declared. It may be unwise and imprudent policy to declare one when apparently earned, but when the money is needed for construction. In such case it may be the better policy to apply such apparent surplus in the liquidation of existing debts, which often cannot be carried unless by the payments of high rates of interest.

We have only time to allude to this subject in our present number,—we shall follow up this matter in our next issue, in which we shall give samples of some of the best and most complete reports, published by our best managed roads. In the mean time we solicit the co-operation of capitalists, and of all parties interested in railroads, and who wish to know the value of what they have, and what they are purchasing, in our endeavors to accomplish this most needful of all reforms—full lucid and circumstantial reports from all our railroad companies.

New Railroad Car Works at Buffalo.

By an advertisement in another column, it will be seen that an establishment for making railroad cars is about to go into operation at Buffalo, the proprietors of which are Messrs. Townsend & Coit. These gentlemen state in their circular, that "their works are intended to comprise all of the improvements and conveniences known to the business, and will be ready for operation by the 15th of May next."

"The commanding location of their establishment, the nature and extent of their facilities and business arrangements, added to their determination to excel in the execution of their work, will, as they believe, entitle them to an equitable share of the business."

"A track from the works will connect with the Buffalo and Lockport railroad, and with Lake Erie and the Erie canal, thus enabling them to forward cars to any desired point."

As above stated, the location of these works is exceedingly favorable for forwarding cars to almost any portion of the United States and Canada.

Stock and Money Market.

Since our last issue both the stock and money markets have been in an uneasy state, with a considerable fluctuation in the latter. Money has been more in demand, but the stringency is principally confined to operations in Wall street. The demand is owing chiefly to the fact, that an increasing distrust is felt toward the innumerable fancies now crowded into the market, which causes the loans based upon them to be called in. To this cause is mainly attributed the decline of prices the

past week. Money for all legitimate purposes is sufficiently abundant. The wants of the mercantile classes and railroad companies are liberally supplied.

It cannot be denied, however, that during the past fortnight there has been considerable apprehension of a more stringent money market for some time to come, which has led many parties to curtail their operations somewhat. Others are forced from necessity to do the same. Speculation in stocks has received a check which we should not be sorry to see extended to operations in real estate.—We regard this check as a very favorable indication that the public mind is in a sound state, and that it only needs that the threatened evils should be pointed out, to secure the application of the necessary correctives. We have been going on at a rapid rate for some time past, and it is now a good time to pause, to look around, and see how we stand.

As far as the railroads are concerned, we believe this interest to be in the aggregate in a healthy condition. Still the need of caution becomes greater every day. So long as the success of these enterprises was looked upon as problematical, we felt ourselves called upon to devote a considerable portion of the *Journal* to the elucidation of the objects and uses of railroads, and to show their probable productiveness as investments of capital. All these propositions are now generally admitted. The result of the operations of our roads has demonstrated their correctness. Railroads are now received into universal favor, and their stocks and securities are the most attractive objects to capitalists and the public.

Confidence having been secured to these works, the real danger to the community has just commenced. Because most of our roads have turned out well, we are in danger of acting upon the conviction that all proposed will be equally fortunate. Acting upon this idea, projects are now being got up and pressed upon the public attention, the object of which is not the completion of the proposed work, but to impose upon the public a large quantity of stocks and securities, that have no real basis. The counterfeit always follows in the steps of the true; and the reputation acquired by one project or class of projects, is sure to be made use of to give currency to others. There can be no doubt that such will be the case with our railroads; and hence the necessity of greater caution, and greater scrutiny into the standing, condition and management of companies. As far as these matters are concerned, the public should insist upon full, lucid and detailed statements of affairs not only annually, but upon the payment of all dividends.

While our railroad system is in a healthy state, there can be no doubt these works indirectly promote a speculative feeling. They add, in an extraordinary degree, to the wealth and resources of the country, and to the business of the places which become their termini. The condition of things in the city of New York furnishes a good illustration of the correctness of the above statement. New York, thus far, is the city that has most profited by the construction of railroads throughout the country. It is the great market for its products. It is the terminus of more important lines than any other city. The result is that our merchants, manufacturers, and in fact, all classes, find their business double what it was a year or two since. This extraordinary increase, beyond all precedent or expectation, is producing the result that might have been anticipated. It is exciting our people

to extravagance, to speculation, and, in fact, to all the consequences that follow an extraordinary degree of real or supposed prosperity. The prices of real estate have risen to an extravagant height, and most kinds of merchandise sympathize with the upward movement of real property, rents, etc. It is in the manner pointed out, that railroads excite speculation, but the evils indicated are such as are always sure to result from an extraordinary degree of prosperity in any department of business. It is this tendency which has been manifested, where there has been a sudden and large accumulation of railroads, that we desire to see checked. In other particulars, we believe the public sentiment as well as the business of the country, to be in a sound state.

Although we are apparently investing so much in railroads, yet, when we take into consideration the low cost at which they are built, the immense wealth and resources of the country, and the slight burdens that the *general and state* governments impose upon our people—the money that these works absorb, is but trifling, compared with what the leading European governments annually waste upon their civil and military establishments. The actual expenses of our general government will not exceed \$35,000,000; those of Great Britain amount to \$250,000,000—all, or a greater part of which, is *lost*, as far as the question of reproduction or investment is concerned. Yet this vast annual expenditure excites neither alarm nor distrust. Why, then, should the expenditure of one-third this sum in *useful* enterprises, by a nation having nearly the same number of people, possessing vastly greater *natural* resources? When properly viewed, it will not. Although the high rates which we are paying for money, attract a good deal of capital from abroad, yet by far the greater amount of money that goes into any road, is furnished by our own people, affording convincing proof of the confidence felt in these works at home, and the ability of our people to construct them.

One of the most serious evils felt in Wall street at the present time, is the great number of new and worthless *fancies* that are constantly being introduced, such as coal, mining, land and other stocks; the very fact of their introduction upon the stock board proves their worthlessness. What is *good* is reserved for private enterprise. It is only such schemes as are good for nothing, that are forced upon the public. The only check to such gambling is a stringent money market, and we are not sorry to see this check occasionally applied.

The receipts of the Harlem railroad company for January show a very large gain over January of last year. A considerable portion of this increase is in through freight, which is taken over the branch at Morrisania to the East river, and brought to the lower part of the city by the People's line of boats. The figures are:

January, 1853.....	\$73,792 66
“ 1852.....	45,949 55
Increase—60 per cent.....	\$27,843 11

The earnings of the Macon and Western railroad company in Jan. 1853, were:

Passengers.....	\$9,815 37
Mail.....	1,080 04
Freight.....	18,341 27

Total.....	\$29,236 68
Corresponding month last year.....	25,783 20

Increase, 13½ per cent.....	\$3,453 48
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The receipts for freight and passengers trans-

ported on the Pennsylvania railroad, for the month ending January 31, 1853, were.....\$233,536 26
Same period in 1852..... 92,172 50

Increase.....\$141,363 76

The earnings of the Galena and Chicago railroad for the month of January are as follows:

Freight.....	\$20,895 35
Passengers.....	11,010 29
Mails.....	766 67

Increase..... 32,672 31

The earnings of the Michigan Central for the first two weeks in Jan., 1853, compare as follows:

	Freight.	Passengers.	Total.
Two weeks, '53..	\$7,924 77	\$8,263 18	\$16,187 95
Two weeks, '52..	5,042 27	5,695 63	10,738 20

Increase.....\$2,882 50 \$2,566 55 \$5,449 06

The bids at Baltimore, on Saturday, for \$500,000 bonds of the York and Cumberland railroad, guaranteed by the city of Baltimore, were as annexed. Bids were received to the amount of about \$3,000,000.

Z. Barnum & R. W. Magraw	\$100,000 at 101.01
J. Lee & Co.....	500,000 at 100.25
W. A. Stebbins.....	500,000 at 100.01
R. D. Gaither.....	10,000 at 101.05
Z. Barnum.....	50,000 at 100.50
T. Scott & Son.....	5,000 at 101.05
T. Scott & Son.....	5,000 at 101.05
T. Scott & Son.....	5,000 at 101.00
T. Scott & Son.....	5,000 at 100.50
T. Scott & Son.....	10,000 at 100.25
T. Scott & Son.....	5,000 at 100.37½
T. Scott & Son.....	5,000 at 100.20
Gittings, Donaldson & Graham	500,000 at 102.66 to 103.07
Greenway & Co.....	500,000 at 103.53
Eutaw Savings Bank	46,000 at 101.75 and 102.03

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, FEBRUARY 26, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853.....	100½
U. S. 6's, 1856.....	107½
U. S. 6's, 1860.....	115
U. S. 6's, 1862—coupon.....	115
U. S. 6's, 1867.....	120
U. S. 6's, 1868.....	120
U. S. 6's, 1868—coupon.....	120½
Indiana 5's.....	101½
Indiana 2½.....	57
“ Canal loan 6's.....	96
“ Canal preferred 5's.....	37
Alabama 5's.....	98
Illinois 6's, 1847.....	91½
Illinois 6's—interest.....	62½
Kentucky 6's, 1871.....	110½
Maryland 6's.....	110½
New York 6's, 1854-5.....	108
New York 6's, 1860-61-62.....	117
New York 6's, 1864-65.....	120
New York 6's, ½ y., 1866.....	120
New York 5½'s, 1860-61.....	111
New York 5½'s, 1865.....	112
New York 5's, 1854-55.....	106
New York 5's, 1858-60-62.....	108
New York 5's, 1866.....	113
New York 4½'s, 1858-59-64.....	101
Canal certificates, 6's, 1861.....	—
Ohio 6's, 1856.....	104½
Ohio 6's, 1860.....	109½
Ohio 6's, 1870.....	116½
Ohio 6's, 1875.....	117½
Ohio 5's, 1865.....	106½
Ohio 7's, 1851.....	105½
Pennsylvania 5's.....	98½
Pennsylvania 6's, 1847-53.....	101
Pennsylvania 6's, 1879.....	99½
Tennessee 5's.....	95½
Tennessee 6's, 1850.....	108½
Virginia 6's, 1866.....	110½

CITY SECURITIES—BONDS.

Brooklyn 6's.....	105
Albany 6's, 1871-1881.....	107½
Cincinnati 6's.....	103½
St. Louis.....	101½
Louisville 6's 1880.....	98½
Pittsburg 6's, 1869-1871.....	102½
New York 7's, 1857.....	108
New York 6's, 1858-60.....	101½
New York 5's, 1870-75.....	104
New York 5's, 1890.....	104½
Fire loan 5's, 1886.....	—
Philadelphia 6's, 1876-90.....	107½
Baltimore 1870-90.....	109½
Boston 5's.....	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867.....	117
Erie 2d mortgage, 7's, 1859.....	110½
Erie income 7's, 1855.....	98½
Erie convertible bonds, 7's, 1871.....	98½
Hudson River 1st mort., 7's, 1869.....	105
Hudson River 2d mort., 7's, 1860.....	98½
New York and New Haven 7's, 1861.....	105½
Reading 6's, 1870.....	92½
Reading mortgage, 6's, 1860.....	96½
Michigan Central, convertible, 8's, 1860.....	111
Michigan Southern, 7's, 1860.....	102½
Cleveland, Col. and Cin. 7's, 1859.....	123
Cleveland and Pittsburg 7's, 1860.....	102
Ohio and Pennsylvania 7's, 1865.....	109
Ohio Central 7's, 1861.....	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Feb. 17.	Feb. 24.
Albany and Schenectady.....	114	115
Boston and Maine.....	105	105
Boston and Lowell.....	105½	106
Boston and Worcester.....	103½	103
Boston and Providence.....	88½	89½
Baltimore and Ohio.....	89	90½
Baltimore and Susquehanna.....	31	34
Cleveland and Columbus.....	125½	125
Columbus and Xenia.....	—	—
Camden and Amboy.....	150	150
Delaware and Hudson (canal).....	130	130
Eastern.....	96½	98
Erie.....	90½	88½
Fall River.....	104½	105
Fitchburgh.....	102	102
Georgia.....	—	—
Georgia Central.....	—	—
Harlem.....	68½	68
“ preferred.....	115	115
Hartford and New Haven.....	129	129
Housatonic (preferred).....	35	35
Hudson River.....	66½	66½
Little Miami.....	118½	120
Long Island.....	38	38½
Mad River.....	99	99
Madison and Indianapolis.....	104	105
Michigan Central.....	107½	107
Michigan Southern.....	126	124½
New York and New Haven.....	112½	111
New Jersey.....	129	132
Nashua and Lowell.....	—	—
New Bedford and Taunton.....	117	117
Norwich and Worcester.....	52½	51½
Ogdensburg.....	27½	27
Pennsylvania.....	50	49½
Philadelphia, Wilmington & Balt.....	40	49½
Petersburg.....	—	—
Richmond and Fredericksburg.....	105	105
Richmond and Petersburg.....	35	35
Reading.....	90	89½
Rochester and Syracuse.....	129	130
Stonington.....	57	56½
South Carolina.....	122½	122½
Syracuse and Utica.....	140	140
Taunton Branch.....	115	115
Utica and Schenectady.....	156	149
Vermont Central.....	20½	20½
Vermont and Massachusetts.....	19½	19
Virginia Central.....	40	40
Western.....	100½	101½
Wilmington and Raleigh.....	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Pennsylvania.

Sunbury and Erie Railroad.—The annual meeting of this company was held at Philadelphia on the 14th inst., when the report of the president, Christopher Fallon, Esq., was submitted and adopted, together with a resolution that the capital stock be increased to \$6,000,000.

The report, after giving a brief history of the action of the city councils of Philadelphia, in reference to the road, announces the fact that committees of investigation were appointed to examine the subject, and that on their report, the councils by a large majority passed an ordinance, authorizing a subscription of \$2,000,000, in the stock of the company, in sums of \$1,000,000 each, upon the like subscription being made by other parties.

By the act of 1837, incorporating the company, the capital is limited to \$3,000,000, with liberty to the stockholders, by a vote, to increase the same to \$6,000,000. Such increase is now recommended.

The western terminus of the road, Erie, is considered the best on the lake for the transaction of large and heavy business. The city of Erie has agreed to convey to the company ample water accommodations for making piers. Erie, it is believed, will thus become the depot for a large amount of coal to be carried over the road. Satisfactory arrangements have been made with the Franklin Canal Company, owning a portion of the Lake Shore line, securing to the Sunbury and Erie a fair and open competition with rival lines.

The proper eastern terminus of the road may be said to be Philadelphia, while the actual terminus is Sunbury. From this latter point the Philadelphia and Sunbury railroad, terminating in the Reading, and the Susquehanna railroad, connecting, at Harrisburgh, with the Pennsylvania railroad, give a choice of routes to Philadelphia.

The increased trade thrown on the Reading road will probably induce that company to provide new tracks, to be laid in time for the completion of the Sunbury and Erie road. Another route to reach Philadelphia will be by a branch of the Easton and Water Gap road to Allentown, where connection will be made with a road, which may be considered an extension of the Catawissa and Williamsport road. The company have, likewise, the right to extend from Sunbury to the valley of the Schuylkill, forming there connections with roads terminating at Philadelphia; or, in case of the failure of the Susquehanna railroad company to construct their road, to extend so as to unite with the Pennsylvania road near Harrisburgh.

While considering the main object of the road—to secure the prosperity of the metropolis of Pennsylvania and its lake city—the report urges that this road, with the Catawissa and roads terminating at Easton, will present the shortest and most desirable route from the lakes to New-York. A line of road leading from Springfield, Mass., to Williamsport, Penn., will make this on the shortest line between Boston and Lake Erie. By the Susquehanna road, Baltimore is placed in the same relation with the lake.

Resting, as the road does, by means of its connections, on these four great cities, and having similar advantages in the west, and possessing, moreover, an advantage peculiar to itself, perhaps, in the means for a large return freight in the shape of coal, it will require nothing but a liberal and enlightened policy to give the road that preeminence to which its position so justly entitles it.

The policy of not commencing the construction until a subscription was procured adequate to com-

plete the road, has been in some measure departed from. It was understood that the Catawissa company had given instructions to survey a route from Catawissa to Williamsport, and that certain parties were in treaty for the purchase of the charter of the road leading from Mauch Chunk to Easton, and, in connection with others, were endeavoring to secure the means of controlling the affairs of this company. Had this design succeeded, it is easy to see how disastrous the consequences would have been to Philadelphia, in thus making it the interest of the owners of the road, between Mauch Chunk and Easton, to discriminate in favor of trade and travel passing by the point of divergence to Philadelphia, and going over their road on its way to New York. To defeat this object, a contract was made with the Messrs. Moorhead, to proceed at once to construct the road from Sunbury to Williamsport, and the fulfilment of the contract on the part of the company was guaranteed by four members of the board; and at the same time it was proposed to the Catawissa company, to connect with the Sunbury and Erie road, at or near Milton, a few miles above Northumberland. The effect of this course has been all that was desired. The Catawissa company will, it is believed, connect at Milton, and thus the entire freedom from discriminations, to the prejudice of Philadelphia, will be forever effectually secured.

The following is the board of directors chosen by the stockholders:

President—Christopher Fallon.

Managers—Charles Lennig, John Tucker, Henry Duhring, John Rice, Philip M. Price, James D. Whetham, John F. Cowan, James L. Gillis, David K. Jackman, John Galbraith, Morrow B. Lowry, James Miles.

Pennsylvania.

Erie and North East Railroad.—The first annual report of the directors of this company to the stockholders, dated 18th January, 1853, has been received. This road is about 20 miles in length, commencing at Erie, Pennsylvania, and running to the State line of New York, and is a link in the South Shore road between Buffalo and Cleveland. It was opened for business about one year since.—It is nearly straight, being but 47 feet longer than an air line with no grades over 15 feet to the mile, and is in perfect order. Since the opening in Jan., 1852, 73,476 passengers have been carried over it without any accident or injury.

Receipts from 10th January, 1852, to 1st July \$31,260
Expenditures for repairs and supervision. 10,007

Net earnings \$21,253

From which, after paying interest, a dividend of 3 per cent was made and paid.

Receipts from 1st July to 1st January, 1853 \$31,119
of which \$16,000 have been collected since the completion of the road to Cleveland. During the last six months there have been charged to repairs and supervision of new work about stations and ballasting \$23,689. Of this sum \$13,000 are chargeable to the two last items, and might have been placed to the account of construction. It is believed that the net earnings for the year, commencing 1st July last, will amount to 11 per cent. Capital stock all paid up is \$600,000
Indebtedness 131,950
Add for additional rolling stock and depot buildings 18,050

Cost of road and fixtures \$750,000

The bridges are constructed for a double track and exclusive of the superstructure it would not cost to exceed \$50,000 for the second track. The receipts from 1st January to 1st July next are estimated at \$66,000
Balance on hand 3,680

Expenses estimated 15,000

Net earnings \$54,680
sufficient to pay the interest on the debt and 8 per cent dividend on the stock.

The directors complain of the delays and increased expense consequent on the adoption of a gauge by the Buffalo and State line company, of 4 feet 10 inches, differing both from the gauge of the New York and Erie road and from that of the Central New York line; and compelling all freight and passengers to change cars both at the State line and at Dunkirk or Buffalo. The directors of the Erie and North East company disclaim all responsibility as to this connection, and lay the blame of the arrangement in no measured terms on the Buffalo and State line and Erie companies.

Connellsville Railroad.

The object of this proposed road is to connect Pittsburgh with the Baltimore and Ohio road, at or near Cumberland, and, through the latter, with Baltimore. The project, though chartered, and organized into a company a long time since, remained in abeyance, until the recent movement by the city of Philadelphia in favor of the Hempfield road, aroused the Pittsburghers to a spirit, perhaps of retaliation. At any rate, they are determined to have outlets to other markets than Philadelphia. They are, consequently, eagerly taking up the Connellsville road, in which they are warmly encouraged by Baltimore and the Baltimore and Ohio railroad; and with the efficient support thus enlisted, we see no reason to doubt the early completion of this enterprise. Independent of all local or private considerations, it is a project having sufficient inherent merits to justify its construction, and we hope to see it immediately commenced.

To show the spirit that prevails at Pittsburgh in reference to the project, we copy the following from a late number of the *Pittsburgh Gazette*.

It is something to rejoice over, that many of the heavy original stockholders of the Connellsville Railroad Company, who had withdrawn their stock when the project was suspended, yesterday renewed their subscriptions. Among those who thus opportunely stepped forward, we recall the names of General Robinson, who led off with five thousand dollars, James Wood, Frederick Lorenz, N. Holmes & Sons, who renewed heavily. There were many others, and some equally heavy houses, who did likewise, but we are not in possession of their names.

In addition to this most encouraging indication, we have that from the Allegheny City Councils, which promises to eventuate in a subscription of a quarter of a million from that city. Add to this again, that the county will assuredly subscribe half a million, and where is the room to doubt the full and immediate success of the Pittsburgh and Connellsville railroad?

And this railroad made, we shall not scruple to claim for Pittsburgh the distinction of foremost city inland of the United States. We shall then have direct railroad connections with New York, Philadelphia, Baltimore, the lakes, northwestern Ohio, Cincinnati, and southern Ohio, and a chain of lateral connections which it is bewildering to trace out off a map.

We begin now to realize, since the city subscribed her half million of dollars to the Pittsburgh and Connellsville Railroad, that Pittsburgh has shown a character her sons may be proud of.

The Board of Trade of the city of Baltimore have also resolved—

"That the close commercial affinities of Pittsburgh and Baltimore are clearly seen in the interest felt in both places in this important work, and the determination that it shall be speedily completed; and still more clearly seen, in the attempt of Philadelphia to deprive both Pittsburgh and Baltimore of their legitimate trade, by her active management of and subscription to the Hempfield road, for the purpose of intercepting trade not properly her own, at the city of Wheeling."

Ohio and Mississippi Railroad.

We copy from the Cincinnati papers the following communication addressed by the President of the above company to the city council of Cincinnati, showing the condition and progress of the work upon that road.

OFFICE OF THE OHIO AND MISSISSIPPI R. R. Co. }
CINCINNATI, February 9th, 1853, }
To the Hon. Andrew Giffin, President of the City Council of Cincinnati.

Sir—Herewith you will please find a statement of the expenditures of the Ohio and Mississippi Railroad Company, on the first 85 miles of said road, continuously west from Cincinnati, to the last estimate on the 4th inst. inclusive, which, if you think advisable you can lay before the City Council for their information.

At all times the affairs of the company are subject to the inspection of yourself or a committee of the Council.

I have the pleasure of informing you that we have a large force engaged, not only on this division of the line, but upon the larger portion beyond, to St. Louis, and that we have made arrangements to have this division completed and equipped so far as to form a railroad connection with Louisville by the 1st of January next.

Very respectfully,
ABNER T. ELLIS, President

MEMORANDUM 2.

Expenditure for Engineering, Construction and Rights of Way, by the Ohio and Mississippi Railroad Company, on the first eighty-five miles continuously West of Cincinnati:

Oct. 1, 1852. Amount paid for engineering and construction to this day.	\$ 54,464 57
Amount paid for right of way	40,759 50
Amount remitted to Europe for purchase of iron to date	100,000 00
	195,224 07
Dec. 2. Amount paid engineering and construction	120,524 49
Amount paid for right of way	35,232 00
	155,756 49
	350,980 56
Amount necessary to be expended to secure 100 bonds from city of Cincinnati, \$140,000.	
200 bonds received, requiring an expenditure of....	280,000 00
	70,980 56

Feb. 4. 1853, Amount paid out for engineering and construction, from 2d Dec. to date	96,454 41
Amount paid for right of way	38,435 68
Amount paid for real estate, to date	75,470 34
	210,360 43
	\$281,340 99

The above is a true statement of expenditures as taken from the books of this company.

SAMUEL R. BATES, Secretary pro tem.
Office of the Ohio & Miss. R. R.
Co., Feb. 9, 1853.

OFFICE OF THE OHIO & MISS. R. R. Co.

GENTLEMEN: I present for your information, the condition of the grading and masonry on the division of the Ohio and Mississippi railroad extending from this city to the Jeffersonville and Indianapolis railroad. You will perceive that the work is progressing on nearly all the separate sections throughout the whole distance of eighty-four miles. The sub-contracts limit the completion of the grading and masonry to the 10th October, 1853, and from the progress already made, I have no doubt that the work can be completed by that time, and that the road may be entirely finished and in running order by the 1st January, 1854. The figures in the column headed "grading," are tenths of the amount of work estimated on the section by the Engineers. The figures under the head "masonry," are tenths of the entire amount of masonry required for the section.

It will be seen that in the aggregate, there are now over twenty-seven miles finished and ready for the iron; not consecutive miles, but in amount obtained by the addition of the fractions now finished.

The remaining distance from the Jeffersonville railroad, is now all under contract, and we have every reason to hope that by the 10th July, 1854, we may pass by railroad from Cincinnati to Louisville, thence to New Albany, thence by the New Albany and Salem railroad to our road, thence by our own road to the city of St. Louis.

Respectfully submitted.

O. M. MITCHELL,
Cong Engineer and Fin. Com.

Rates of Postage.

It is not easy to keep always in mind the required amount of postage stamps on letters, &c., under the laws now in force. The following convenient table of rates, gives the information required at a glance.

Letters—

Each $\frac{1}{2}$ ounce, under 3,000 miles, prepaid, 3c; unpaid, 5c.

Each $\frac{1}{2}$ ounce, over 3,000 miles, prepaid, 6c; unpaid, 10c.

All Printed Matters in general—anywhere in the United States.

First three ounces.....1c
Each subsequent ounce.....1c

If not prepaid, double these rates. But—

Newspapers and Periodicals—paid quarterly, or yearly in advance—

First three ounces.....1c
Each subsequent ounce.....1c

And if weighing not over $1\frac{1}{2}$ oz., in the State where published, 1c each, and weekly papers in the country where published, free.

Small Newspapers and Periodicals published monthly or oftener, and Pamphlets of 16 octavo pages or less—when sent in packages, weighing at least 8 oz., prepaid, 1c an oz.

Books—bound or unbound, weighing not more than 4 pounds, may be sent by mail for each oz—

Under 3,000 miles, prepaid.....1c
Over 3,000 miles, prepaid.....1c

Under 3,000 miles unpaid.....1c
Over 3,000 miles, unpaid.....3c

Fractions over a single rate are charged as one rate. "Periodicals," in the sense used above, are publications issued once in three months or oftener.

Cotton by the Pennsylvania Route.

A late number of the Louisville Courier informs us that recent steamboat arrangements will make Louisville the great cotton mart of the West, and this great staple will find its way to the northern Atlantic seaports and markets cheaper by the Pennsylvania and Maryland routes than by way of New Orleans and the sea. In this manner large quantities of the products of Tennessee, Mississippi, Arkansas, and Northern Alabama will seek an outlet. Cotton may be sent here by way of the Pennsylvania railroad for one cent per pound, including all charges from its starting point to Philadelphia, while by the sea route the cost would be one cent and three quarters. Some small quantities have

already been sent by the new route, and large amounts it is said are beginning to arrive at Pittsburgh.

Toledo, Norwalk and Cleveland Railroad.

The earnings of passengers for the month of January were as follows:

Passengers.....	\$13,000
Express and mails.....	1,640
Freight	527
	\$15,327

For the month of February the receipts have averaged \$6,500 per week, and will reach just \$26,000 for the month, nearly all of which will be received from passengers. The road not yet being sufficiently prepared to accommodate more freight.

The earnings for January were made upon only a portion of the road, the whole line not being opened till the last of the month. For the future the company anticipate that the daily earnings will average from 12 to \$1,500.

The total cost of the road is as follows:

Grading, bridging, masonry, etc.....	\$628,755 37
Iron	377,703 68
Equipment.....	158,870 00
Discount of bonds sold, engine houses, etc.....	186,385 11

Capital stock subscribed.....\$1,351,714 16

The stock amounts to about \$560,000. There have been none, nor will there be any convertible bonds issued. This fact, together with the very large income of the road, ensuring large dividends, has caused the stock to be eagerly sought after for investment. Estimating the receipts at only \$1,000 per day, and the expenses at 40 per cent. This sum would give a net earning of over \$150,000 to be divided among the stockholders.

The ability which the company have displayed in the construction of the road, is a good guaranty that its affairs under the same management, will be efficiently and economically conducted.

Atlantic and St. Lawrence Railroad.

This road has been in operation for its whole length for some weeks past. The length of its line is about 150 miles. The terminus of this road is at Island Pond, in the Northeastern part of Vermont, and about 16 miles from the Canadian frontier. The recent extension has added materially to the receipts of the company. It is confidently expected that the Canadian portion will be completed on or before the first day of July, and that the formal opening of the whole line will take place at that time. The entire distance, by the line of the above road, between Portland and Montreal, will be 290 miles. The route through traversing the most mountainous portions of the Eastern States, and has remarkably easy curves and grades; the latter not exceeding 45 feet to the mile in direction of the business traffic. Sanguine anticipations are entertained by the people of Portland and Montreal that the road will engage in a larger and more lucrative traffic as soon as it shall be opened. We agree in this opinion. The State of Maine derives most of her breadstuffs, and a large amount of other kinds of food from the west, for which the above road will open the best outlet to the consumers. Provided the road can secure the carriage of the western produce consumed in the State of Maine, it will serve to command a profitable traffic, to say nothing of the business between the two provinces that will be thrown upon it.

The people of Portland have certainly good reason to congratulate themselves upon the comple-

tion of their portion of this stupendous enterprise, and are already being richly repaid for their outlay in the lucrative local traffic which the road as already secured to them.

Kentucky.

Lexington and Frankfort Railroad.—The following exhibit of the receipts of the Lexington and Frankfort railroad, has been kindly furnished us by the President of the company. It will be seen that it embraces a period of three corresponding months in the years '51-2 and '52-3, and shows a most gratifying result. The increase in receipts is the result of a legitimate and permanent increase in business. The following is the exhibit:

	1851-'52.	1852-'53.
November.....	\$7,150 34	\$8,753 14
December.....	6,901 49	8,628 90
January.....	4,806 29	6,951 98

\$18,858 12 \$24,314 02
18,858 12

Increase 30 per cent, or.....\$5,455 90
Louisville Courier.

New-York.

Buffalo and State Line Railroad.—The following is a statement of the earnings of this road, from its opening to the end of December. The cars commenced running from this place to Erie, Jan. 5, 1852, from Buffalo to Dunkirk March 8, and thence to Cleveland Nov. 23:

Passenger earnings.....	\$141,059 94
Freight earnings.....	53,254 75
Mail and other sources.....	6,582 76

Total earnings.....\$209,907 45

This road has been in luck during the year past, no accidents of any account having occurred, which may be accounted for in part by the watchfulness of its corps of conductors, who are well qualified, attentive to duty, and proverbially polite to those under their charge. They consist of Messrs Hudson, Parks, Hopper, Peck and Haight.—*Dunkirk Journal.*

South Carolina Railroad.

We learn from the report submitted by the president, H. W. Conner, at the late meeting of the stockholders, that the business of the road for the past year has been in a most flourishing condition.—We subjoin the following condensed statement of its affairs:

Gross receipts of the road.....	\$1,126,195 42
Expenses, current and extraordinary.	453,965 73
Net profit.....	\$671,229 69
Interest paid on foreign and other debts, damages, etc.....	165,958 48
Net income.....	\$505,271 21
Two dividends, 3½ per cent each....	271,600 00
Surplus.....	\$233,671 21

This shows an increase in the gross receipts over any previous year of \$124,480 44.

Hempfield Railroad.

We learn says the *Wheeling Gazette* that the borough of Greensburg, on Monday, subscribed \$50,000 to the Hempfield railroad, and the citizens have subscribed about \$100,000 more. The borough of West Newton has also subscribed \$40,000. This with the Philadelphia subscription, of \$500,000 made on Thursday last, makes up the entire sum of \$1,530,000 as the present stock of that road, the entire cost of which stocking and all cannot exceed \$2,900,000. This is a much larger proportion of stock than any other road has had which has been built in this country, and we have no doubt but that, under its talented and efficient president, it will be put under contract at once and pressed forward to completion as fast as men and money

can do it, and by the best route for the work and for commerce; without regard to any other questions

Indiana.

Indianapolis and Bellefontaine Railroad.—This road was completed to Union on the 20th of January, and the through line opened on the 1st of February. This is an important event in the progress of western railroads,—extending the lines from the east through the centre of the States of Ohio and Indiana to the Wabash, and opening the through lines from Lafayette, and Terre Haute through Indianapolis to Dayton, Cincinnati, Sandusky, Cleveland and Pittsburgh.

Hempfield Railroad.

We are gratified in announcing, that the directors of this company have elected the Hon. Robert T. Conrad, of this city, president. Judge Conrad possesses in an eminent degree the qualifications required in the place he has been chosen to fill. He is not merely a brilliant speaker and a most forcible writer—both of them advantages in any situation—but he has a singularly vigorous and accurate judgment, which will be found of great value in the affairs of the company. He is, moreover, a man of unconquerable energy, with a capacity for a large amount of labor, and a readiness of resources equal to any emergency. In addition to these traits of character, Judge Conrad has remarkably winning manners, and enjoys, as he deserves to enjoy, the good will of hosts of friends, who will be glad in every proper way to promote his interests. We regard his selection as a most fortunate one for the company, as we are sure that it is a most acceptable one to this community.—*Phila. North American*, 10th.

Vicksburg, Shreveport and Texas Railroad Company.

The organization of this company took place at Monroe, on the 24th ult. According to the terms of the charter, an organization could not be effected until stock to the amount of \$250,000 had been subscribed. On examination of the books returned, it was ascertained \$285,000 had been subscribed, and that representatives for that amount of stock were in attendance. Several books of subscription were not returned, although it was known that considerable amounts of stock had been taken in several parishes. The stockholders then proceeded to the work of organization, and elected the following gentlemen directors, to serve until October next:

N. D. Coleman, Thomas Whaley, of Vicksburg; E. B. Towne, of Madison Parish; J. W. Webb, of Morehouse Parish; H. Polk, of Jackson Parish; A. Lawson, of Bienville Parish; P. T. Harris, of Claiborne Parish; G. W. Rodgers, of Bossier Parish; H. L. Douglass, C. G. Young, of Caddo Parish; John Ray, R. W. Richardson, H. M. Bry, A. Lazarre, C. H. Morrison, of Ouachita Parish.

The board met on the 26th ult., and elected N. D. Coleman, of Vicksburg, President, J. H. Dinkgrave, Secretary, and John Ray, Esq., of Monroe, Treasurer.

Railroad from Western New York to Kingston.

A project for a railroad from the Western part of the State, say Canandaigua to Kingston on the Hudson river, is attracting much attention upon the line of the proposed work. It traverses a region of the State, and in a direction which has hitherto been regarded as impracticable for a railroad. It is confidently stated however, that an examination of the routes, shows that none of the anticipated obstacles exist. A good route has been found between the Hudson and the Delaware rivers, where the greatest difficulties were expected to be met with. After reaching the Delaware the entire route is said to be favorable. It is claimed that the

future line is 40 miles shorter than any existing road between New York city and the lakes.

The inhabitants of the Counties through which it will pass, take a deep interest in the improvement, and are possessed of wealth sufficient to furnish a large portion of the capital. A meeting will be held at Kingston next week, to give their local efforts efficiency and success, by organization, which will be followed by other meetings in the counties West.

Covington and Lexington Railroad.

This road, which is now well advanced towards completion, will connect central Kentucky—a district celebrated, the world over, for its extraordinary fertility, the immense amount and value of its productions, for the beauty of its scenery, and salubrity of its climate—with Cincinnati, the leading city of the Ohio valley. The line of this road, which is about one hundred miles, occupies the natural and appropriate route between its termini, formed by the Licking river, which has cut a deep channel through the abrupt and precipitous limestone formation, that skirts the southern bank of the Ohio river. The relations which it bears to great centres of trade and production, and the route it occupies, cannot fail to impress upon the public mind a conviction of its importance, and the certainty of a large income upon the opening of the road.

Such is a general statement of the prospects of this road from local business. Measures are in progress, however, which promise to constitute the above part of a great line of road, extending from the lakes to the Gulf of Mexico. From Lexington south, a railroad is in progress to Danville, 37 miles. From Danville to McMinnville, in Tennessee, surveys are being made, preparatory to placing this portion of the through route under contract. From McMinnville, the entire line to the Gulf is in progress by different companies; so that the means for only the comparatively short link between Danville and McMinnville, are to be provided, to secure the construction of the whole of the great line already described; and the necessary amount for this link is being rapidly made up.

The Covington and Lexington railroad, as far as Cincinnati is concerned, will constitute the great trunk to that city for the roads of Kentucky, Tennessee, and the southern and southeastern states.

This road, as are all those constructed in the immediate vicinity of the Ohio river, is somewhat more expensive than is the average of those in the western states. Roads occupying this position have the advantage of being trunks to interior radiating lines.

We commend this project to the attention of capitalists and the public. We feel assured, that it cannot fail to be a productive and profitable enterprise.

Railroad to the Pacific.

A proposition is before the Legislature of Wisconsin for a charter, with a capital of fifty millions, with liberty to increase to one hundred millions, for the purpose of building the Atlantic and Pacific Railroad. The following gentlemen are named as composing the company; Moses H. Grinnell, David Headley, Charles Butler, Azariah C. Flagg, Charles Gould, Simeon Draper, Robert B. Dextater, Daniel S. Miller, Peter Cooper, Edwin C. Litchfield and Edwin D. Morgan, of the City of New York; Abbott Lawrence, John M. Forbes and William F. Weld, of the City of Boston; Erastus

Continued, John L. Schoolcraft, Joel Rathbone, Levi S. Chatfield and Rufus H. King, of the City of Albany; W. W. Corcoran, of Washington; John Stryker, of Rome; James S. Wadsworth, of Genesee; Robert J. Walker, of Pennsylvania; Dean Richmond, of Buffalo; Alfred Kelly, of Ohio; John S. Barry, of Michigan; Joseph Grinnell, of New Bedford; Joseph E. Sheffield, of New Haven; Louis McLane, of Baltimore; Hercules L. Dousman, Levi Blossom, James D. Martin and James D. Doty, of Wisconsin; William D. Ogden, Thomas Dyer and Walter Gurnee, of Chicago; James Guthrie, of Kentucky, and Michael G. Bright, of Indiana, and such other persons as shall or may be associated with them.

To Railroad Contractors.

PACIFIC RAILROAD.
SEALED Proposals will be received at the office of the Pacific Railroad Company, St. Louis, Missouri, until the first day of April next, for the grading, masonry, bridging and ties for twenty miles, and until the first day of May, for about seventy miles additional, terminating at Jefferson city. This division is mostly in the Missouri valley, and with the facility afforded for transportation on the river, and the ability on the side hill cuts of using a large force advantageously during the best part of the working season, it may be worked promptly and economically. There will be several large bridges on this division. The work will be divided into sections of about five miles, but contractors may take more than one section. Offers received either for cash payments in full, or a portion on the stock of the company. Plans and profiles will be ready for inspection fifteen days before the dates given above, and at any time information will be furnished by the Engineer. Security will be required for the faithful and prompt performance of the work.—The Company reserve to themselves the right to reject such offers as it may not seem to their interest to accept.

Other portions of the road, or of the South West Branch may be put under contract during the season.
THOMAS ALLEN, President.
THOS. S. O'SULLIVAN, Engineer.

Iron.

200 Tons Fishkill Charcoal Iron for sale on reasonable terms, also from 1000 to 5000 tons Fishkill Hematite Ore—delivered at Poughkeepsie or New York. Samples of the ore may be seen at the store of Messrs. Hoffman, Bailey & Co., No. 62 Water st., New York. Enquire by letter to NORMAN M. FINLAY, Poughkeepsie, Dutchess county, N. Y. July 10, 1851.

To Contractors.

SEALED Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1843, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,
THOMAS B. STEVENSON, President.
CHAS. B. CHILDE, Chief Engineer.
JAMES A. LEE, Secretary.
January 20, 1853.

3,000 Tons Railroad Iron.

THE undersigned is prepared to contract on behalf of the manufacturers in England, for the above quantity of T Rails, to be delivered at a port in Wales. For terms, apply to JOHN H. HICKS, Jan. 27, 1853. 90 Beaver st.

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,
HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE AND CAR BUILDERS, AND MACHINISTS GENERALLY.
ELLIOTT & HOLDEN,
Feb. 16, 1853. 90 Beekman st., N. Y.

To Contractors.

CLEVELAND AND MAHONING RAILROAD
LETTING.

SEALED PROPOSALS will be received at the Office of the Company, on Superior street, Cleveland, until the first day of March, 1853, for the Grading, Masonry and Bridging of the portion of said road from Cleveland to Warren, a distance of 53 miles.

Plans, Profiles, and Specifications, may be seen at the Company's Office, in Cleveland, and the line will be ready for inspection by Contractors, 2 days previous to the letting.

The line is divided into sections of about one mile each, and bids will be received for each section separately, or for the whole line.

Estimates will be made monthly, and the payments made in cash.

Further information may be obtained on application to Jacob Perkins, Esq., President of the Company, George C. Beckham, Esq., resident Engineer, Cleveland, or to the undersigned.

The remainder of the line from Warren will be let as soon as the location can be completed.
By order of the Board.

EDWARD WARNER, Chief Engineer.

Pease & Murphy,
FULTON IRON WORKS,
FOOT of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B.—Engines and Boilers repaired. 6tf

Devlan's Patent Oil Manufacturing Co.,

12 BROADWAY, NEW YORK.
THIS Oil is extensively used on Railroads and Steamships, and other Machinery, and is worthy the attention of every individual or company that uses Oil for Lubricating purposes. It is cheaper than the best Sperin, because it answers the same purpose and is more durable, thereby making a saving of from 40 to 50 per cent. The best of testimonials establish that fact, but cannot be given in this notice. All that is required is to test the matter, and if it will not answer as recommended, it will be taken back and money returned.
New York, Feb. 9, 1853. 2w

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of
REYNOLDS & BROTHER,
Sole Manufacturers,
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.
The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.
November 3, 1844. 1v

Buffalo Car Works.

TOWNSEND & COIT, PROPRIETORS

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Mean time we are prepared to make contracts for work to be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.
February 23, 1853.

Blake & Parkin, MEADOW STEEL WORKS, SHEFFIELD,

INVENTORS OF

CORE-ANNEALED CAST STEEL,
A most Important Improvement in CAST STEEL, originating with B. & P., for SCREW TAPS, PISTON RODS, ENGRAVERS to CALICO PRINTERS, SILVER and GOLD ROLLERS, etc., etc., warranted to harden by ordinary process without breaking; being soft in the centre to any required diameter, and hard to any specified depth from the outside.

HARD CENTRE CAST STEEL,
For DIES, LATHE CENTRES, MINT PURPOSES, etc., etc., warranted to harden the inside without breaking, (the outside remaining soft.)
HARD AND SOFT SURFACE CAST STEEL,
In Bars and Sheets, hard on one or both sides, and soft in the centre; or soft on one or both sides, and hard in the centre, and adapted for a variety of purposes, as MACHINE KNIVES, SLIDE BARS, PLOW KNIVES, PLANING KNIVES, KOLLER BARS for Beating Engines for Paper Makers, etc.

This peculiar Steel is quite SOLID, and it is quite malleable, and draws down under the Hammer, still retaining the difference of hardness. When hardened, the hard part is left very hard, while the soft is left just harder than common iron.

THE REPORT OF THE JURY OF THE "EXHIBITION OF ALL NATIONS."

Class 21, Page 486:

"The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE & PARKIN, of SHEFFIELD, consisting of the union of Two qualities of Cast Steel, hard and soft, in the same article; manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors."

A PRIZE MEDAL WAS

AWARDED TO

MESSRS. BLAKE & PARKIN.

N. B.—The Inventors mark all their Goods with their CORPORATE MARK—X. L. ENT.
Also, Cast Steel, German and Spring Steel, warranted Cast Steel Files, Saws, etc.
February 9, 1853.

IRON SAFE WAREHOUSE. Silas C. Herring,

Manufacturer and Sole Proprietor of
HERRING'S PATENT FIRE PROOF SAFE,



Which received the MEDAL at the WORLD'S FAIR, Also, Manufacturer of HERRING'S (Wilder's Patent) Single and Double Salamander SAFES. And dealer in all kind of Iron Safes, Vault Doors, Express Boxes, AND Money Chests.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.
HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.
New York. January 28, 1853.

PATENT

Locomotive Steam Cylinder
BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re-bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

IRON.

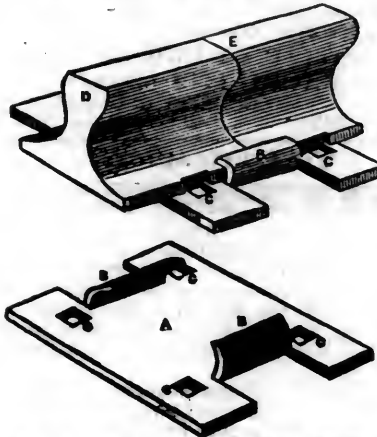
Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

The American Railroad Chair
Manufacturing Co.
IN POUGHKEEPSIE, N. Y.,

ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga,
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennebec and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.



HENDERSON AND NASHVILLE R. R.

SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure.

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

In consequence of the inclemency of the season, the high water, and other circumstances, making it in the opinion of the Board of Directors, impossible for our skillful and energetic Chief Engineer, Wm. Bewley, Esq., to execute fully the locating surveys of our Railroad in time for us to exhibit the maps, profiles, plans, estimates, etc., on the 1st day of March, 1853, as stated in our original advertisement, we have determined to make a change in our advertisement, lest Contractors should be deceived, and we now say that the maps, profiles, plans, estimates, etc., of our Railroad, will be ready for exhibition to Contractors at any time between the 10th day of April and the 10th day of May, 1853, within which time bids will be received, and that our original advertisement is thus far changed.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.
Henderson and Nashville R. R. Co.

Wilkinson's
EXPLOSIVE
RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

39

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK,

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
 Iron, Chairs and Spikes.
 Also, Cars, Locomotives, and all kinds of Machi-
 nery for Railroad purposes.
 Office next door to the Custom House, Main st.
 January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF
WARRANTED Cast Steel of superior quality for
 Tools, Machinery and Engineering purposes.
 Single and Double Shear, Blister, German, Spring
 and Sheet Steel of every description; also, Cast Steel
 Files of high reputation, specially adapted for the use
 of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
 58 Maidenlane, New York.

Stocks of the above goods constantly on hand.
 January 12, 1853.

SISCOE BLAST FURNACE For Sale.

THIS FURNACE, situated in Westport, Essex
 Co., N. Y., on Lake Champlain, is capable of
 producing 3000 tons Pig Iron per annum. It is
 blown by a powerful steam engine, and another en-
 gine raises the stock, etc., etc. There are eight
 Kilns, which can make 500,000 bushels Charcoal
 per annum, connecting by Railroad with the Fur-
 nace, and nearly an acre of sheds for seasoning
 wood. One large Brick Mansion House, with ex-
 cellent Farm, one Brick Cottage, seventeen Houses
 for workmen, commodious Blacksmiths' and Car-
 penters' Shops, etc., etc., and about 1500 Acres of
 Land. The Furnace is situated on a large and
 convenient Dock; Wood for making Charcoal can
 be obtained cheaply in the neighborhood, and An-
 thracite coal from Rondout can be delivered at low
 rates. By the proposed Ship Canal from Lake
 Champlain to River St. Lawrence, coal could also
 be brought with great facility from Erie. The rich
 Magnetic Ore of Essex County, particularly that
 from the famous Port Henry Bed, can always be
 procured cheaply and in great abundance. The
 property will be sold on reasonable terms. Inquire
 of Messrs J. & L. TUCKERMAN, 69 West street,
 New York, or of F. H. JACKSON, No. 5 Liberty
 Square, Boston. 1m2

LOW MOOR IRON.

WM. BAILEY LANG, 9 Liberty Square, Boston,
 and 24 Broadway, New York, Sole Agent in
 the United States and Canada for the Lowmoor
 Iron Co., is prepared to receive orders for this justly
 celebrated Iron, and offers for sale an assortment
 of the Round sizes which he now has in store, and
 which for strength, soundness and uniform quality, stands
 without a rival.

Superior Cast Iron Gas and Water Pipes.

THE Subscriber is prepared to contract for the sup-
 ply of **CAST IRON PIPES** required by Gas or
 Water Companies, Corporations, etc., delivered in any
 Seaport in the Union, on reasonable terms. These
 Pipes are cast on the most approved principle by the
 best Founders in Scotland, from a superior quality
 of Pig Iron remelted, are guaranteed to resist a pres-
 sure of 300 lbs. to the square inch, or greater if neces-
 sary, and to be soft enough to drill easily and freely.
 Full information regarding price, and references to
 parties in the United States now using the Pipes, can
 be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
 21 Renfield st., Glasgow,
 Scotland.

J. M. EADIE, Agent,
 26 Front st., New York. 1y50

Railroad Iron.

2000 TONS Railroad Iron, weighing about 59
 lbs. per yard, "Erie" pattern of G L and
 "Crawshaw" manufacture, now on the way from the
 shipping ports in Great Britain to this port, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
 No. 51 New street.
 December 4, 1852.

SIMEON DRAPER, No. 46 Pine-st., offers for
 sale, a variety of **RAILROAD BONDS** and
STOCKS; also **CITY, TOWN and COUNTY**
BONDS, among which are—

1st Mortgage Convertible Bonds:		Payable in
7 per ct.—Buffalo, Corning and New York R. R....	New York, 1867	
7 per ct.—Western Vermont R.R.	" 1861-71	
7 per ct.—Tioga R.R.....	" 1872	
8 per ct.—Peoria and Oquawka..	" 1863	
6 per ct.—Maysville and Lexing- ton.....	" 1870	
6 per ct.—Dauphin and Susque- hanna Coal Co.	" 1877	
1st Mortgage Bonds:		
7 per ct.—Corning & Blossburg.	" 1873	
7 per ct.—Buffalo and New York City.....	" 1866	
7 per ct.—Mansfield & Sandusky	" 1860	
7 per ct.—Toledo, Norwalk and Cleveland.....	" 1861	
7 per ct.—Vermont Valley.....	" 1861	
7 per ct.—New Jersey Central..	" 1860-70	
7 per ct.—Brunswick Canal Co.	" 1857	
7 per ct.—Troy and Bennington. Troy, N.Y.	1862	

Also, second mortgage bonds of many of the above
 companies, and—

7 per ct.—Saratoga & Washing- ton R.R. bonds.....	New York, 1862
7 per ct.—Troy and Boston.....	" 1864
7 per ct.—Muscogee Railroad... Savannah,	1862
7 per ct.—Huron and Oxford... New York,	1862
10 per ct.—Mansfield and Sandus- ky R.R. Co.....	" 1855-57
7 per ct.—Township of Portland, Ohio.....	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R.R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.....	Huron, 1861
7 per ct.—Town of Newark, O....	New York, 1860
10 per ct.—City of Milwaukee....	" 1857
7 per ct.—State of California...	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.....	" 1855
12 per ct.—Improvement Scrip of the State of Wiscon- sin for improvement of Fox River.....	" 1862

Troy and Rutland railroad Stock, with guarantee
 of 4 per cent. dividend and one half surplus profits
 of this and Rutland and Wash. R. R.
 Rutland and Whitehall Stock, with guarantee of
 7 per cent. dividend by Saratoga and Washington
 Railroad.

Stock in the Western Vermont R. R. Co.
 Stock in the Mad River R. R. Co.
 Stock in the Buffalo, Corning and New York
 R. R. Co.
 Stock in the Mansfield and Sandusky R.R. Co.
 Stock in the Chemung R. R. Co.
 Stock in the Southern Bank of Kentucky.
 Stock in the New York and Virginia Mail
 Steamship Company, paying 20 per cent.
 dividends.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ash-
 croft's Steam Gauge, would recommend their
 adoption by those interested. They have been exten-
 sively used on Railroads, Steamers and Stationary
 Boilers, where, from their accuracy, simplicity, and
 non-liability to derangement, they have given perfect
 satisfaction. In fact, for Locomotives, they are the
 only reliable Gauge yet introduced.

CHAS. W. COPELAND,
 Consulting Engineer, 64 Broadway.
 Aug. 28, 1851 5m

A. Whitney & Son, PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels
 for Cars and Locomotives. Also furnish Wheels
 fitted complete on best English and American Rolled
 and American Hammered Axles. 31d

To Railroad Companies, Car Builders, Macinists, etc.

SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sts.

HANING completed their arrangements for man-
 ufacturing Car and Locomotive Axles, Piston
 Rods, Wrought Iron Shafting, etc., either hammered
 or rolled, are prepared to offer inducements as to qual-
 ity and price. They also manufacture
 Boiler Plate and Rivets,
 Railroad and Boat Spikes,
 Car and Locomotive Springs,
 " " Spring Steel,
 Solid Box Vices, etc., etc. 15t7*

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for
 the highly respectable manufacturers, Messrs.
 Allen, Everett & Son, of Birmingham, is prepared to
 take orders for Brass Tubes of all diameters for Ma-
 rine and Locomotive Engines, which will be supplied
 on the most favorable terms, and from the established
 reputation of the above Firm for superior quality and
 workmanship, he has no doubt entire satisfaction will
 be given. These Tubes are found to answer well, and
 are now in most general use in England, they last
 much longer than iron, and when worn out, realize
 fully half the amount for old metal. For further par-
 ticulars and inspection of patterns, please apply to

JOHN H. HICKS,
 Jan. 27, 1853. 90 Beaver st.

The Cold Spring Iron Works, INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-
 setts, manufactures **CAR AXLES**, and all kinds
 of **WROUGHT IRON** used in the manufacture of
LOCOMOTIVES and **CARS**; also, **BAR IRON** of
 all descriptions. Particular attention is paid to the
 manufacture of **CAR AXLES**, and the Works being
 situated in a region of **WOOD** and **CHARCOAL**,
 with which their Axles are exclusively made, the Com-
 pany feel confident they can furnish an article equal,
 if not superior, in quality and finish to any in the
 market. They solicit the orders of **RAILROAD**
CORPORATIONS and **CAR BUILDERS**, and prom-
 ise they shall be promptly attended to: and execut-
 ed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Rail-
 road, Salem, Mass.
A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad Riv-
 er and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder,
 Address **HENRY MELLUS, Agent,**
 Boston, Mass.
 or, **GEO. W. PRESCOTT, Supt.**
 Otis, Mass.

November, 12, 1852. 1y

Toledo, Norwalk and Clevel- and Railroad.

OPEN through, completing the last link in the chain
 of Railroads between New York, Boston, Phila-
 delphia, Baltimore, Washington City and Chicago.

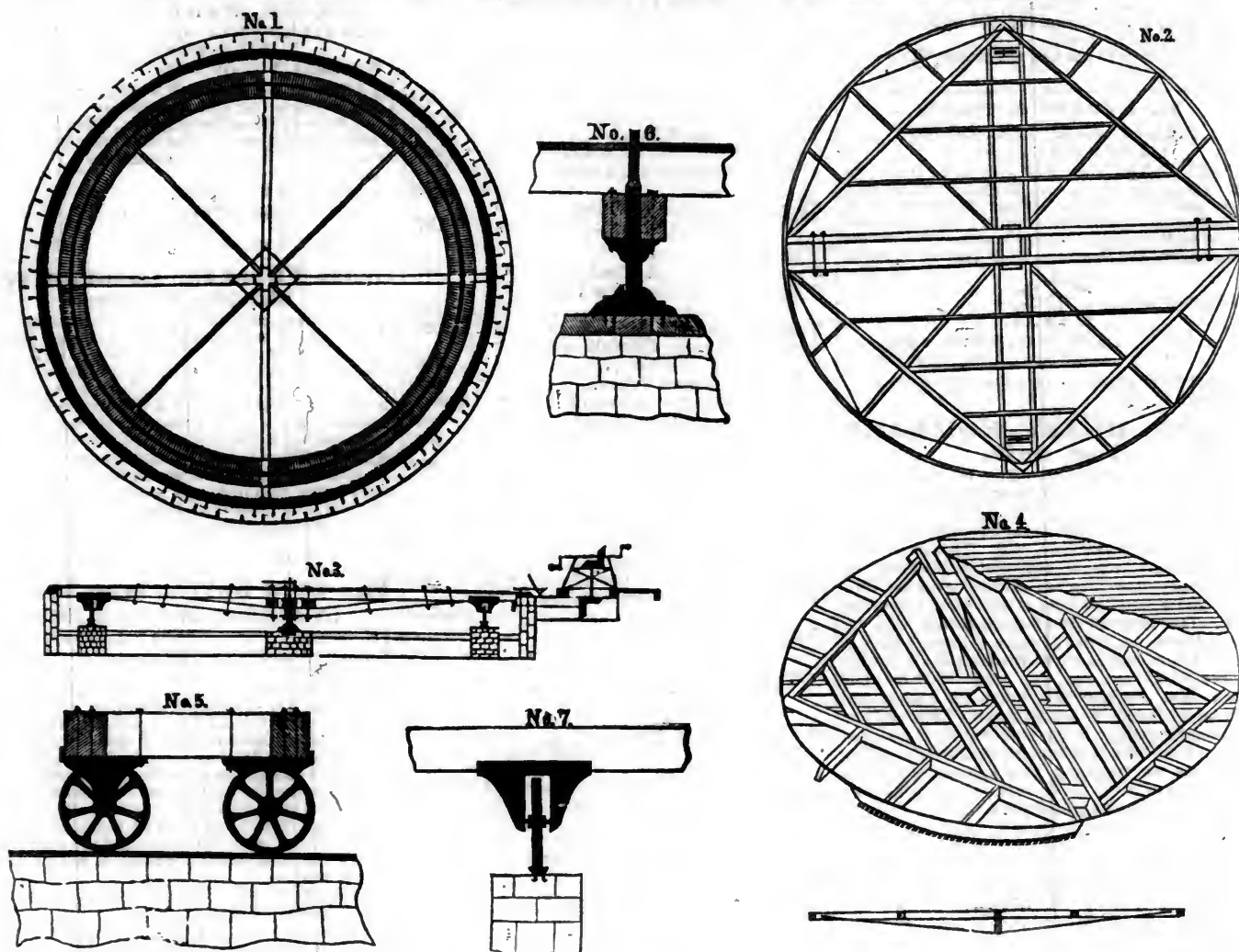
On and after Monday, February 7,
 1853, Passenger Trains will run
 daily (Sundays excepted) as follows:
 Leave Toledo at 9 A. M. and 10 P. M.
 Leave Cleveland at 9.20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Rail-
 road, for Chicago and the West.
 At Bellevue with trains of Mad River and Lake Erie
 Road, for Sandusky City, Dayton, Indianapolis,
 Cincinnati, etc.
 At Monroeville with Mansfield and Sandusky City
 Road, for Sandusky City, Shelby Junction, Co-
 lumbus, Newark and Zanesville.
 At Grafton with Cleveland, Columbus and Cincin-
 nati Road, for Shelby Junction, Columbus and
 Cincinnati.
 At Cleveland with Lake Shore Road, via Dunkirk,
 for New York and Boston, via Buffalo, for New
 York and Albany and for Western Road and Bos-
 ton, with Cleveland and Pittsburgh Road for
 Pittsburg, Wheeling, Philadelphia, Baltimore, &
 Washington City.

E. B. PHILLIPS, Supt.
 Office T., N. & C. R. R.,
 Norwalk, O., Feb. 2 1853. }

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN in 25 SECONDS.**

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the trucks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.

A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES.

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent - WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. ly*

E. DEWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.

JAS. PRENTICE,
Feb. 9 1853. 315 Broadway, N. Y.

Railroad Iron.

2000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by

P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.

December 4, 1852.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,
Sole Agents, 28 Platt st., New York.
New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 101

SATURDAY, MARCH 5, 1853.

[WHOLE No. 881. VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, March 5, 26, 1853.

New York and Erie Railroad.

We learn that the Erie Railroad company have concluded to present and publish a report! A paper, signed by a number of our leading bankers, representing the urgent necessity of such a step to relieve the company of the injurious imputations resting upon it, in consequence of the wide discrepancies in its published statements, and the immense sums unaccounted for in construction—has been presented to the directors, and an explanation requested. In obedience to this call, we may shortly expect some sort of an answer.

A step in the right direction has been taken; we hope it will not come short of the mark. A great work is before the directors—no less than the history of the expenditure of \$30,000,000. This history is yet to be published. It extends through a period of eight years, and embraces an amount of matter which other companies would hardly crowd in 1000 pages. It is, too, deserving an enterprise of such vast magnitude as the Erie, that all its characteristics should be thoroughly understood. A description of the more important works in its line would constitute a most instructive chapter to the engineering profession. So, too, with the running of the road. The experience of no other work is calculated to throw so much light upon the cost of

transportation, and all matters connected with the management of a railroad. Yet, as far as all these questions are concerned, this history of the company thus far presents a mere blank. We hope such will be the case no longer. We hope, while the directors are at work, they will do the business up thoroughly. In popular phrase, the road is *completed*. Let us now see the process. Let the directors now go to the bottom of the matter. Let us have a voucher for every charge. Let them give us a report, that shall constitute a broad and sufficient basis for all that are to come after, a landmark to which all future expenditures shall be referred. To make a partial or superficial report, will only excite, instead of allaying apprehension. A spirit of inquiry is aroused, which which can only be satisfied by leaving nothing in doubt or to be answered.

As far as the responsibilities of public servants are concerned, nothing is presumed in their favor. Every statement involving an expenditure of money, must be accompanied by its appropriate voucher. Every act must be based upon a sufficient reason, and every departure from it, or discrepancy, must be followed by an explanation. Such are the responsibilities that attach to the officers of banks, insurance, and other companies, and railroads. And any deviation from this rule is always looked upon as good ground for suspicion and investigation.

For example: Mr. Loder states in his report of 1845, that to complete the Erie road to Lake Erie will cost, (excluding equipment) \$7,350,000. And as a reason for this statement, he says:

"In reference to the estimates, it may be proper to state, that responsible contractors have offered to take the whole work, at prices nine per cent. less than those assumed in the calculations on which they were based."

If it were a fact, that responsible parties stood ready to complete the road for \$7,350,000, why was not this contract entered into? Upon what calculations were the estimates based? Have they been departed from? Have \$20,000,000 been expended upon what could have been done for \$7,350,000? In what particulars have the original calculations been departed from, if any? Here are very grave inquiries, that demand *explicit* answers.

Nearly three years subsequent to the date of the above report, the directors in a further report, under date of May 19, 1848, state that "the Erie railroad,

when completed, will not exceed one-half the cost of the Western railroad of Massachusetts, from Albany to Boston." The cost of the Western road, at the above date, was about \$50,000 per mile. By the above calculation, the cost of the Erie road was estimated at \$25,000, or an aggregate cost of \$11,460,000. The public must know to what these estimates have been exceeded. It would be supposed that a period of three years would have afforded a sufficient time to have prepared a correct estimate of the cost of the road.

So, too, with the estimate of cost in the report under date of Feb. 1, 1851, from which we quote as follows:

"The whole cost of the road, with ample depot grounds and buildings, and equipments for operating the road, together with the Newburgh branch, and valuable and extensive docks and grounds at Dunkirk, Newburgh, Piermont, and New York, with extensive machine shops, barges, steamboats, etc., will be, at the time of reaching the lake, about \$20,500,000; or, after deducting the value of the equipments, \$2,500,000—\$18,000,000 per mile."

Here, too, an explanation is emphatically demanded. In a period of little more than two and a half years, we find the previous estimate exceeded by more than \$9,000,000. Where this immense sum went to, the public are entirely in the dark. Was the previous estimate correct? Was the present one? Give us, gentlemen, the data for both. Here are matters that must be explained.

The next statement of the cost of the road was made Dec. 24, 1851, some eight months after it was opened to the lakes. The entire cost of the road at this time, was stated to be \$24,000,000; but this sum embraced \$250,000 of stock in the Buffalo and State line railroad. The cost of the road was, therefore, at that time, stated at \$23,750,000, or \$3,250,000 over the estimate made only 11 months before. By the 30th of September, 1852, only 9 months subsequent to the previous date, the cost increased \$3,801,205 71, or \$7,051,205 71 over the estimate made when the road was upon the very eve of completion!

As far as we can ascertain, the public have been furnished with no sufficient data showing the cost of the road, nor for what objects this vast sum has been expended. We can find no engineer's report, and presume none has ever been published. Such an omission is to our mind past comprehension; without it, we are entirely without chart or

compass. No person but an engineer can correctly estimate the cost of construction. When his reports accompany those of the directors, we have before us the evidence by which we can determine the correctness of theirs. No well managed concern that we have heard of, ever omitted the engineer's report from their own. It is considered as the necessary voucher for the correctness of the statements of this directors. We do not think that there are ten men in the city who can tell who has been the chief engineer of the Erie railroad for the past few years. In fact, we believe the company have had none till very recently.

Similar remarks apply with equal force to the running of the road. No superintendent's reports have ever been published. The public have no evidence by which they can determine whether the road has been run at a profit or a loss, as we shall show. Is this the way to manage a railroad? Is the Erie company absolved from duties which are regarded as indispensable by all others? How are the public to know anything about their property, whether it be earning or losing money, but from the person who superintends its affairs? The president himself knows nothing about this department, except what he derives from the superintendent; and is the only source to which the public can look for information, to be sealed to them?

The discrepancies between the different statements made by the company, show the necessity of detailed reports from the chiefs of the several departments. In the report published Dec. 24, 1851, the amount and value of the equipment is stated as follows:

132 locomotives.....	\$1,118,152 96
72 passenger cars.....	178,290 84
1505 freight and other cars.....	864,986 44

2,161,430 24

In the report to the legislature of September 30th last, the number of engines is stated at 142, and their cost at \$1,349,987 29, an increase of \$231,834 33 for ten locomotives, which, in fact, did not cost, as everybody must know, over \$85,000. The increase in the number of passenger cars between the two reports was stated to be three, while the account to which they are charged is increased \$84,567 94. A passenger car costs about \$2,250. Here is an increase of over \$200,000, for less than one year, in the items of equipment, for which no explanation is given. Is it not probable that this amount was charged to construction, when it should have been charged to the running account, for the purpose of making a better show of earnings?

In the report of February 1st, 1851, the directors state the cost of the equipment of the road to be \$2,500,000; the report of December 24, 1851, states that since the previous report, \$500,000 had been added to this account, making an aggregate of \$3,000,000. We have already shown, that at the latter date the cost of the equipment was only \$2,161,431 24—showing a discrepancy of \$838,568 76, in the item of equipment alone, between two statements made the same year! Is not an explanation called for here, gentlemen directors?

We think we have already conclusively shown the necessity for detailed reports by the chief engineer of the road. We will cite another case in point. Mr. Loder, in his report of December 24, 1851, in speaking of the proposed double track, says, "The portion of double track which the company propose to build, is of easy grade and construction, and can be built for about \$10,000 per mile." Contracts for double track for about 125 miles were given out last spring. We presume not

more than two-thirds of the work of grading the 125 miles could have been paid for on the 30th of September. The cost of grading the above, assuming the correctness of Mr. Loder's estimate, cannot exceed \$4,000 per mile, or \$500,000 in the aggregate, as the superstructure and laying track cannot cost less than \$6,000. We find, however, that the graduation, etc., account, increased, from December 24 to September 30, \$1,272,788 54, exceeding the estimated expenditure by the sum of over \$900,000. Here is an interesting field of inquiry, to determine what has become of this vast sum, which, according to the president's statement, was not wanted for construction.

The increased cost of superstructure, between the two last reports has been \$559,813 50, of this sum, only \$55,080 00 has been paid out for iron for renewals. What has become of the \$500,000? Has the iron for the double track been paid for?

The public, too, will insist upon knowing what has become of the \$6,722,260, unaccounted for in the statement of the items that make up the aggregate cost of the road. These are as follows for the two years:

	1851.	1852.
Graduation, masonry, and bridging.....	\$9,388,836 38	\$10,661,624 92
Super-structure, including iron.....	4,230,508 96	4,790,322 46
Passenger and freight stations, etc.....	764,305 91	1,048,199 53
Land, land damages, and fences.....	990 854 85	1,077,365 67
Locomotives.....	1,117,643 96	1,349,987 29
Passenger and baggage cars.....	178 290 84	262,878 78
Freight and other cars	859,235 26	1,162,745 22
Engineering and agencies.....	443,886 80	475,821 29
Correct footing..	17,973,582 96	20,828,945 16
Footings in company's report..	24,028,858 20	27,551,205 71
Difference.....	\$6,055,275 24	\$6,722,260 55

The road, with its equipment, no matter how extravagant the directors may have been, has cost only \$20,828,945 16. What has become of the \$6,722,260 55, charged to no account whatever, even by the directors? This is an inquiry in which the public will take a deep interest. No doubt a portion of it has gone for the payment of discounts, shares, dividends, etc. etc. Not all, however. This sum of \$6,722,260 55, which has been lost outright, is nearly as large as the entire cost of the work, as estimated by Mr. Loder in his first report, and quite equal to what he stated responsible parties offered to build it for!

But this is not all. It will be seen by the above statement, that the "deficit account"—to introduce a new phrase in bookkeeping—has increased during the year by the sum of \$666,987 31! Where shall this vast sum be placed? It has not been paid for interest, nor dividends, for, if we are to credit the directors' statements, these have been paid out of the earnings of the road; nor for construction nor equipment, as these accounts have already swollen too rapidly to justify any such idea. Has it gone to a secret service fund, the objects of which are only known to the directors? Conjecture, even, can offer no satisfactory explanation to our minds for this extraordinary deficit.

We want to know something as to the internal management of the company, such as the mode of making up accounts. Upon the first or second day of the month, the earnings of the past month are published. Now we do not see how the earnings

of the last month can be ascertained with such precision, at so early a date. A large portion of the freight is paid by consignees, and not until the property upon which it is paid is taken from the possession of the company. At the end of every month, the company must have in their possession an immense amount of property, moved during the month, and upon which nothing has been received; so that it would require, at least another month to make up the accounts of the preceding one. If receipts be taken for earnings, there is still greater difficulty in ascertaining immediately what portion of the receipts actually belong to the Erie company. The greater portion of the freight is collected upon merchandise going to tide water. This freight is paid by the New York consignee. A half a dozen other roads may have an interest in this freight, which is collected and held in trust for them by the Erie company. The monthly statement of the earnings of the company, as they are now made, cannot state the fact, and only mislead, instead of informing the public, as to the real amount earned. Reform and light are called for here, and we are not sure, that in the balance which may have been found to be due other companies at the close of the year, we have not hit upon an explanation of the increase of the "deficit account," already referred to. The aggregate earnings of the year were made up of the reported monthly statements. It is probable, that from this aggregate a large sum had to be deducted for amounts due other roads. An explanation at the time would have left the company without an apparent apology for declaring a dividend. Are we right in our conjecture?

We know that people at a distance will think we have been dealing in fiction. We can assure them, however, that our data are all drawn from the figures furnished by the company, and we believe the number of the Journal of February 19th, presents all that is material in its published reports for the past eight years—all that has been offered by the directors by way of explanation, as well as the general statements of the condition of the company. The public must draw their own conclusions. Should they still remain incredulous that a railroad, located in New York, can be managed in the manner in which the Erie company's appears to have been, we say, that we are not without parallel cases, in the management of matters in which our community have a still higher interest than in this road. We can, however, assure the public, that the affairs of few companies have been conducted as have those of this; otherwise, we fear that they would bear but poor credit both at home and abroad. The Erie railroad has been the pet project of New York. Such entire confidence has been felt in its success, that no attention whatever has been paid to the manner in which its affairs have been conducted. Inattention to everything that does not immediately concern themselves, is characteristic of New-Yorkers. Whether the time has not come in which this indifference should be laid aside, as far as the Erie railroad is concerned, we leave it to the public to judge.

New York.

The Rochester and Charlotte Railroad is progressing rapidly, and will be ready for operation at the opening of navigation. The iron was purchased before the rise, and is now worth at least forty per cent. more than it cost the company. It was discharged from canal boats last fall, just west of the city of Rochester, where the railroad crosses the canal.

STATEMENT,

SHOWING STOCKS AND DEBTS OF THE RAILROADS OF THE STATE OF NEW YORK, 1852.

NAME.	Miles in use.	Capital stock as by charter and articles.	Amount of stock sub-scribed.	Amount paid in by last re-paid in.	Amount now paid in.	Funded debt by last re-ported.	Present amt of funded debt.	Floating debt by last rep.	Present a- Present amt of funded and floating debt.	Int. per cent. on funded & floating debt.
Albany and Schenectady.....	17	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$716,635	\$685,300	none.	\$685,300	6 1/2
Albany and West Stockport.....	38 1/2	1,000,000	1,000,000	1,000,000	1,000,000	none.	none.	none.	930,895	6 1/2
Buffalo and Niagara Falls.....	22	393,750	393,750	392,866	392,866	19,670	19,670	\$930,895	33,660	nothing.
Buffalo and Rochester.....	76	1,825,000	1,825,000	1,825,000	1,825,000	160,903	181,903	5,178	13,860	6 1/2
Cayuga and Susquehanna.....	35	1,500,000	700,000	697,000	697,000	300,000	400,000	231,452	99,936	7 1/2
Hudson River.....	144	4,000,000	3,753,475	3,703,229	3,740,515	5,646,884	6,046,395	159,427	956,590	7 1/2
Hudson and Berkshire.....	31 1/2	450,000	380,000	425,000	425,000	325,000	325,000	49,149	52,000	6 1/2
Long Island.....	95	3,000,000	2,000,000	1,875,148	1,875,148	512,957	516,246	7,403	52,094	6 1/2
New York and Erie.....	464 1/2	10,500,000	7,706,991	5,992,289	7,706,991	14,503,868	18,003,868	2,957,376	1,323,053	7 1/2
* New York and Harlem.....	130 1/2	5,000,000	4,725,350	4,725,350	4,725,350	869,201	977,463	115,366	606,368	7 1/2
New York and New Haven.....	61	3,000,000	3,000,000	2,788,375	2,992,450	1,376,000	1,641,000	69,534	302,457	7 1/2
Northern.....	118	2,000,000	2,000,000	1,520,863	1,578,311	1,602,790	2,780,760	1,081,831	649,044	7 1/2
Oswego and Syracuse.....	35	350,000	350,000	350,000	200,000	200,000	201,500	10,413	8,040	7 1/2
Rensselaer and Saratoga.....	25	610,000	610,000	610,000	610,000	26,000	26,000	.....	25,000	7 1/2
Rochester and Syracuse.....	104	5,549,800	5,549,800	3,364,979	5,132,990	891,000	940,000	3,578	93,778	7 1/2
Saratoga and Washington.....	53	1,350,000	889,800	836,200	889,800	506,500	940,000	130,000	940,000	7 1/2
Schenectady and Troy.....	20 1/2	650,000	650,000	650,000	650,000	73,800	126,000	2,654	93,778	7 1/2
Syracuse and Utica.....	53	2,400,000	2,400,000	2,400,000	2,400,000	102,000	126,000	none.	126,000	7 1/2
Troy and Greenbush.....	6	275,000	274,400	274,400	4,124,000	102,500	none.	none.	none.	7 1/2
Utica and Schenectady.....	78	4,500,000	4,500,000	4,124,000	4,124,000	102,500	none.	none.	none.	7 1/2
Watertown and Rome.....	96	1,500,000	1,090,100	659,715	1,011,940	442,000	400,000	53,385	27,361	7 1/2
Buffalo, Corning and New York.....	44	1,400,000	1,432,000	237,924	608,435	none.	400,000	110,000	30,000	7 1/2
Buffalo and State Line.....	69	1,000,000	891,000	605,926	879,036	251,000	582,400	256,870	148,389	7 1/2
Canadaigua and Elmira.....	46 1/2	1,600,000	458,700	402,389	425,509	70,000	70,000	.....	38,375	7 1/2
Chemung.....	17 1/2	390,000	.....	390,000	174,042	.....	131,000	.....	66,646	7 1/2
Plattsburg and Montreal.....	23	500,000	301,932	12,460	87,268	.....	150,000	6,556	7,356	7 1/2
Sackett Harbor and Ellsburg.....	76	175,000	175,000	66,613	1,446,180	.....	711,100	.....	157,356	7 1/2
Rochester, Lockport and Niagara Falls.....	76	1,675,000	1,447,500	728,273	300,000	125,000	124,000	.....	711,000	7 1/2
Saratoga and Schenectady.....	22	300,000	300,000	300,000	413,777	.....	340,500	.....	169,002	7 1/2
Troy and Boston.....	26	1,000,000	510,000	.....	71,300	.....	100,000	.....	63,992	7 1/2
Troy and Bennington.....	5	60,000	73,800	.....	237,690	.....	.....	.....	163,902	7 1/2
Troy and Rutland.....	32	325,000	265,000	.....	.....	.....	.....	.....	.....	7 1/2

RAILROADS NOT COMPLETED.

NAME.	Miles in use.	Capital stock as by charter and articles.	Amount of stock sub-scribed.	Amount paid in by last re-paid in.	Amount now paid in.	Funded debt by last re-ported.	Present amt of funded debt.	Floating debt by last rep.	Present a- Present amt of funded and floating debt.	Int. per cent. on funded & floating debt.
Flushing.....	8	200,000	46,480	.....	4,648	.....	.....	.....	.....	7 1/2
Buffalo and Lockport.....	25 1/2	600,000	600,000	.....	210,000	.....	.....	.....	.....	7 1/2
Albany and Saratoga.....	6	300,000	6,500	.....	.....	.....	.....	.....	.....	7 1/2
Troy Union.....	21	30,000	3,300	.....	498	.....	.....	.....	.....	7 1/2
Lake Ontario, Auburn and New York.....	73	1,500,000	395,650	.....	7,300	.....	.....	.....	.....	7 1/2
Mohawk Valley.....	80	2,000,000	131,500	.....	13,150	.....	.....	.....	.....	7 1/2
Syracuse and Binghamton.....	80	1,200,000	649,200	.....	66,935	.....	.....	.....	.....	7 1/2
Albany Northern.....	32	600,000	420,220	.....	200,830	.....	.....	.....	.....	7 1/2
Troy and Bennington.....	5	80,000	73,800	.....	71,300	.....	.....	.....	.....	7 1/2
Erie and New York City.....	70	750,000	114,750	.....	8,275	.....	.....	.....	.....	7 1/2
Albany and Allegheny Valley.....	74	1,000,000	86,200	.....	8,620	.....	.....	.....	.....	7 1/2
Lebanon Springs.....	22 1/2	500,000	75,000	.....	.....	.....	.....	.....	.....	7 1/2
Albany and Susquehanna.....	140	1,400,000	500,000	.....	50,000	.....	.....	.....	.....	7 1/2
Miles in Construction.....	618	\$10,160,000	\$3,102,600	.....	\$641,556	.....	.....	.....	.....	7 1/2
	2,064 1/2	54,288,350	46,868,349	.....	43,814,353	.....	.....	.....	.....	7 1/2
	2,682 1/2	\$64,448,550	\$49,970,849	.....	\$44,455,909	.....	.....	.....	.....	7 1/2

Railway Exhibits. Baltimore and Ohio Railroad.

We present this week the more important portions of the report of the Baltimore and Ohio railroad company, for the year ending October 1, 1852, which we regard as a model of its kind, and well worthy the imitation of other companies.

The report commences with that of the *President*, (which we published in the Journal of the 23d and 30th of October last) and which makes 36 pages of closely printed octavo. This portion of the principal report is subdivided into seven divisions, having the following titles:

1. The Main Stem.
2. The Coal Trade.
3. The Washington Branch.
4. The Extension to the Ohio river.
5. The *Finances*.
6. The Western Connections.

Under these several divisions the road, in all the relations in which the stockholders are interested, is fully considered. We do not deem it necessary to give here the president's report, for the reason that it is compiled, as must be the case generally, from those of the chiefs of the *departments*. The president has in charge neither the construction nor the running of the road; and all that portion of his report which relates to these duties must, of course, be drawn from the information furnished by the chief engineer and superintendent. The report of the former merely presents in the aggregate what the latter gives in detail.

Below are the reports of the chief engineer and superintendent.

OFFICE OF THE GENERAL SUPERINTENDENT
OF THE BALTIMORE & OHIO RAILROAD. }
Baltimore, October 1, 1852.

THOMAS SWANN, Esq., *President, &c.*:

In making my annual report of the operations of the road, for the fiscal year just ended, I can very properly repeat my congratulations of last year, that "we have so well sustained ourselves under the new competitions we have encountered from the Erie railroad, completed and in successful operation, and the Pennsylvania railroad, more forward, thus far, towards a continuous railway conveyance than our own, that we may confidently look forward to the early period of our arrival at the Ohio river, as in no degree likely to disappoint our previous expectations."

The event alluded to, and so long contemplated with proud expectancy by the friends of our enterprise, is indeed now close at hand, so that we can almost call it *present*, and the confidence every where expressed as to the result, is a strong confirmation of the hope indicated above.

Our road and machinery have been maintained in as good order and condition as at the beginning of the year. In some respects a slight depreciation may have taken place, but in others an obvious improvement exists, so that I feel confident that we have at least not lost ground during the year.

A few details are all that the very limited time allowed for making up my report, permits me to give. The *Road-bed*, embracing particularly the bed on which the track lies, has received during the year, on the portion east of Cumberland, 43,000 cubic yards of new ballast, at a cost per yard for preparation and distribution, of about 31 cents, amounting in the aggregate to \$13,358 nearly. This ballast has been mainly required where the "Cross-tie Track," so called, has been substituted for the original construction, known familiarly with us, as the "string piece" track, consisting of muddsill, light cross-tie, and "continuous bearing" timber, esteemed, when laid down, to be an improvement on the experience of the day.

On the Washington branch, the maintenance of the road-bed has been confined mainly to ditching and drainage; the *expense* of which I am happy to find diminished by the *improvements* of the previous

year, in *raising* and ballasting the track through the Wet Cuts.

The *Railway Tracks* have, so far as labor of maintenance and replacing of bad timber are concerned, been certainly improved during the year—both on the Main Stem and Washington branch, and their surface and alignment are such as we need not be ashamed of. The heavy rail track, in course of substitution for the "plate-rail," between the western base of Parr's ridge and the Monocacy bridge, at the date of my last annual report, was soon thereafter completed, and is remarkable for its good and firm surface, as compared with most other tracks. The substitution of "cross-tie" track for "string" track, both of them laid with the "heavy" rail, has progressed, during the year, to the extent of about 28 miles in all; and about 85 miles of "cross-tie" track now exists between Baltimore and Cumberland.

This large accession to the "cross-tie" track, confined always to points where otherwise a removal of the old "string" timbering would have been needed, has, I doubt not, tended to swell the year's expenditure—but I cannot any the more doubt the expediency of the change itself.

Four and a half miles of plate rail track yet remain to be replaced by heavy rails, but this is in hand, and will be completed this autumn. Four and a quarter miles of sidings have been added during the year as a charge to repairs of rail-way.

The Master of Road makes favorable mention of the Three part Compound Rails, which have been on trial near Cumberland chiefly, for three years past. Experience has shown that the chief engineer, in getting up this rail, restricted himself too closely in the quantity of iron used, especially in the "top piece," which we have had to remove; but our experience of the smoothness of this track, and the very small attention it has required, leaves no doubt on my mind, that the principle of the rail may be followed to a result of the most satisfactory kind, and I would earnestly commend it to the company's favor.

The *Bridges* on the Main Stem are in as good condition, on the whole, as they were at the beginning of the year. So many of them exist as to constitute a serious branch of expenditure, which requires a sound judgment to make their repair at once uniform and timely. They are all regarded as entirely safe and reliable.

The amount expended on them has been ten per cent. less than during the former year, but more has been expended on the wooden bridges—the new iron bridge at Harpers Ferry having been included in that year's accounts.

On the Washington branch, no bridges of consequence remain of a kind calling for repairs.

Only two important *Buildings* have been in hand during the year, on the Main Stem east of Cumberland, excepting water stations—viz. the new machine shop at Mt. Clare works, built to replace the one destroyed by fire, and a portion of a new machine shop at Martinsburgh, now used as an *Engine House*, in advance of its being needed for its legitimate use; on the former the sum of \$8,500 is embraced in this year's accounts, and on the latter between five and six thousand dollars; a complete statement of the cost of these buildings has not yet been practicable.

The new railway station at the city of Washington is now completed in all essential particulars, and it is regarded as worthy of commendation, for its convenience, comfort, size and elegance.

The *water stations* are generally in good order; additions have been made to some during the year, and the repairs of all have been carefully attended to.

On the Washington branch, a new station has been begun, and an excellent well secured at the Annapolis railway junction.

This station will greatly relieve the others on this line, and save time to the passenger trains.

The operations of the road department on that portion of the new road west of Cumberland, have been active and unremitting, much labor and expense was anticipated, and much has been incurred, in giving a stable character to a new road—"finished" through such a country, and under such circumstances as have lain in our way; but the difficulties have all been met, in a manner creditable to the resources and energies of the depart-

ment, and that portion of the road over which we are now running, may be justly regarded as safe, and is indeed nearly as favorable for fast running, as the older road, east of Cumberland. The daily trips over it are performed with fully equal regularity, and with a speed comparing favorably with other roads—being twenty miles an hour, including stops, and embracing in the average the crossing of the Allegheny mountains, with their steep gradients and difficult passes. The expense of maintaining this portion of the road has been properly charged to a construction account.

Machinery Department.

This department has been efficiently administered during the year, and is reported to me as, on the whole, in an improved condition.

The details of repairs, the number of engines and cars of all descriptions, will be found in statements marked G and H, in the appendix to this report.

The company owns 108 locomotives of all kinds, viz.:

64 of the first or largest class,
5 of the second class,
19 of the third class, and
20 of the fourth class.

108

The power of them all is estimated as equal to 218 of the fourth class, or to 87 of the first class.

Performance in Miles Run.

MAIN STEM.	Miles with		Total Miles.
	Freight.	Passengers.	
63 first class engines have run.....	807,600	.....	807,600
5 second class engines have run.....	43,638	.....	43,638
16 third class engines have run.....	119,643	181,468	301,111
19 fourth class engines have run.....	167,816	195,619	363,435
	1,138,697	377,087	1,515,784
WASHINGTON BRANCH.			
1 first class engine has run.....	23,449	.....	23,449
3 third class engines have run.....	.....	74,190	74,190
1 fourth class engine has run.....	2,494	2,000	4,494
	25,943	76,190	102,133
Total.....	1,164,640	453,277	1,617,917

	Miles with	
	Freight.	Passengers.
The 64 first class engines average.....	12,970	.....
The largest performance of any first class engine (No. 76) was.....	23,449	.....
The 5 second class engines average.....	8,728	.....
The largest performance of any second class engine (No. 53) was.....	14,288	.....
The 19 third class engines average.....	19,753	.....
The largest performance of any third class engine (No. 48) was.....	.....	38,265
By the No. 39, with freight	23,959	.....
The 20 fourth class engines average.....	18,396	.....
Largest performance (by No. 31) with passengers	.....	39,984
Largest performance (by No. 4) with freight....	24,940	.....

26 engines have been added to our stock during the year, viz: 23 of the first class, all but one of them from Mr. Ross Winans, and 3 of the third class (for passenger trains) from the company's shops.

The work done by Locomotives has been as follows.

Bridges.—All the bridges of magnitude upon the line have been mentioned in previous reports.—They are 114 in number. Only two of the larger

class are in an unfinished state. The principal one upon the road which crosses the Monongahela a mile above Fairmont, has 3 spans of 200 feet each, supported at a height of 40 feet above water surface, upon two piers and two abutments of masonry, with a superstructure of cast and wrought iron, the only timber about it being the floor beams supporting the track. The next is over Wheeling Creek, at the end of the road, and consists of two spans of 75 feet at a height of about 38 feet above water. The abutments are very massive, and the one on the north side of the creek forms the retaining wall of the station grounds at the terminus of the road; while the passenger house covers the eastern half of the bridge, the superstructure of which is upwards of 70 feet in width and entirely of iron, except the floor.

Depot Buildings.—There are but two points upon the line at which permanent station buildings are at this time in course of erection. At Piedmont, 28 miles west of Cumberland, an engine house has been built of circular form with room for 16 locomotives and tenders, it has an iron roof upon a new model, combining lightness and economy, with ample strength and entirely proof against fire. An extensive shop, for repairs of the rolling stock, is in progress and will in the course of the winter be prepared for the reception of the stationary machinery which has been engaged for it. At Wheeling there have been some 10 acres of ground secured at a point about 2 miles south of the terminal station at the mouth of Wheeling creek, for an outer or machinery depot, on which all the necessary buildings for the shelter and repair of locomotives and cars will be erected, and where a house for the accommodation at first of several engines, and afterwards to be converted into one of the workshops will be immediately put up. The improvement of this property contemplates two houses, each to hold 16 engines, a work shop 100 by 200 feet, and a foundry and smiths shop each 50 by 100 feet; also frame houses for the shelter of cars, and a water house holding 3 tank reservoirs. The inner station buildings now being erected on the north side of the creek comprise a freight house with 4 tracks, 94 feet wide and 340 feet long, a passenger hall of 60 feet front and 45 feet deep with a shed roof extending back over the bridge as above mentioned, and making the entire length of passenger building 360 feet.—On the south side of the creek there will be a house in the form of a quarter of a circle, to contain 3 engines and 6 cars for the passenger business.—Water is provided for the engines at this point from the reservoir of the Wheeling water works.

Progress of the Construction.

The track on this day has reached the 161st section at the Littleton Station, on the South Fork of Fish creek, and two miles east of the "Board Tree" tunnel—from thence to Wheeling, a distance of forty miles, the graduation will all be completed by the middle of November, excepting the Board Tree tunnel, which cannot now be finished until after the opening of the road. This work has been retarded by several causes, among which the inefficiency of the original contractor has latterly been the chief reason, which would not furnish a suitable excuse for its backwardness, had it been practicable to have superseded him by one of greater capability at an earlier period. The work has been recently transferred to the hands of the energetic and skillful contractors who have just finished the Glover's Gap tunnel at the 152d section, and it will by them be pressed forward as rapidly as possible. The same expedient will be resorted to here as at the Kingwood tunnel—viz: the passage over the natural surface of the ridge by gradients of steep inclination. The summit over this tunnel is 300 feet high, being 80 feet greater than that of the Kingwood tunnel, yet the inclines are so located as to give planes of much less activity, there being no ascent greater than 6 feet in the hundred, instead of upwards of 10 feet in the hundred, as at the Kingwood ridge. A locomotive will, for this reason, perform twice as much work as upon the latter grade, and there will be no risk of the train sliding backwards with locked wheels as occasionally happened upon that grade when the rails were slippery.

By the end of the present month, at latest, the track is expected to be laid over this ridge, after

which it will advance rapidly to the "Welling" tunnel on the 172d section, nine miles west of the "Board Tree" tunnel, and pass through the Welling tunnel by the first of December, at farthest—where it will be within twenty-eight miles of Wheeling.

The laying of rails is about to be commenced at Wheeling, iron having been forwarded thither by the Pennsylvania works, and by the first of December it is expected that fifteen miles eastward therefrom will have been put down, leaving an interval of but thirteen miles to lay in all the month of December; and this can very readily be done by a single party of workmen.

It will thus be seen that there is little room left for fears of disappointment in the public expectations, which have been all along encouraged to look for the final completion of the line by January 1, 1853.

Of the unfinished work left behind by the track as it has advanced, the only two items of critical importance are the Monongahela Viaduct and the "Board Tree" Tunnel. The former has been vexatiously delayed by the difficulties which have attended the foundations of its two piers, especially the eastern one, the site of which fell in deep water, and where the bed of the river was a mass of timber, buried in mud—upwards of 100 trunks of trees and logs having been extracted therefrom in the erection of the trestle bridge, by which the river is now passed. The piers will both be built upon solid rock—the western one is now rapidly advancing to completion and the foundations of the other will be secured, it is hoped, in the course of this month. The iron superstructure has been built to the Mount Clare shops and is ready to be put up, and the western span is now being transported in the site of the bridge. I still hope to see the entire bridge up by the opening of the road. The trestle bridge which now carries the track and by aid of which the iron work will be erected is very substantial, and the only fear respecting it would be from an ice flood in the river, not likely to happen until it gives place to the permanent superstructure.

The Board Tree tunnel requires a good deal of work for its completion. The heading drift admitting the passage of air through the tunnel was finished in June last, and if it had been possible to have forced the work on with suitable speed from that time, the whole bottom and approach cuts of the tunnel might have been removed, the track laid through it this month, and the passage over the ridge avoided. As matters now stand it will not be practicable to accomplish this by January, and hence the inclines over the hill must be used after the opening of the road for a time—but I trust a short one, as the work will be driven with all possible dispatch. The delay to passengers and freight at this point, will not however, be serious, and there will be entire safety in the transit.

Cost of the Work under Construction.

In the last annual report as in those preceding it, I submitted statements of the cost of the road as originally estimated prior to placing it under contract, and as subsequently revised by the application of contract prices. Periodical revisions of such estimates are customary and proper, and these should acquire increased precision as the work advances. In continuance therefore, of the series of corrected estimates of my previous reports, I now submit another revision, which in the present stage of the work, so near its completion must leave less room for error than any which have preceded it, and I will take this opportunity to present in one view, the successive estimates of the series, with such explanatory remarks as may be necessary to show that each was founded upon data on which there was good reason to rely.

In my report to you of February, 1849, exhibiting the first estimate of the cost of the road from Cumberland to Wheeling, founded upon instrumental surveys and computations of excavation, masonry, etc., I placed the amount, as re-stated in my report to you of October 29th, 1849, at.....\$6,865,012

This estimate preceded the contracts for any part of the road, and was founded upon the judgment of your engineer in reference to the value of the work to be done.

In my report of October 29th, just named, is the first revision of the original estimates, by the application of the contract prices of the first three lettings then made, and covering about one-half of the line; and this revision reduced the estimated cost of the road, including tunnel masonry to..... 6,278,713

And showed an apparent saving of.....\$885,268

Upon a close comparison of corresponding items—and, after an allowance of 5 per cent. on the revised estimates, the apparent saving still amounted as here seen, to.....\$586,281

In my report to you of November 15th, 1850, not printed, but referred to and the figures of the estimate set forth in my last annual report of October 1st, 1851, I offered a second revision of the estimates which gave as the result, including similar items.....\$6,460,324

And showed an increase of....\$181,593

Due to the change of route at the west end of the line, which increase, but for the deduction made from the cost of the railway on the whole line and of graduation and bridging on the part of the line not then let, would have been.....\$436,276

This increase, it will be seen, grew out of a cause quite beyond the control of this department.

Deducting the estimated cost of tunnel masonry, which was put down at \$250,000, this last revised estimate of November 15th, 1850, and October 9, 1851, stood at.....\$6,210,324

Upon this estimate the financial arrangements of the board were founded, as appears in their annual report of last year. Up to the date of that report and even beyond it, I entertained and expressed the belief that the excess, if any, would be small. I am now called upon to acknowledge that the belief was not well founded, and to admit that I was too sanguine in entertaining it. Explanations however honest and sufficient in themselves, of surplus expenditures in such cases, cannot be expected to reconcile the proprietors of the work to the unsatisfactory result, but they must nevertheless be offered by the party whose foresight they call in question—and I will proceed briefly to touch upon the principal particulars of the subject.

The further revision of the estimates now offered, is as follows:

Estimated value of work still to be done at this date (October 1st, 1852,) by the time the road is opened to Wheeling and shortly thereafter.

Graduation.....	\$161,000
Masonry.....	61,000
Ballast for track.....	35,000
Cross ties.....	17,500
Spikes.....	5,000
Chairs.....	1,000
Laying rails.....	23,000
Transportation of rails.....	42,000
Bridge superstructures.....	48,000
Water stations.....	13,000
Station buildings, engine houses and shops.....	54,000
Road department, completing ballasting and adjusting track, removing track, removing slips and preparing the road for business.....	42,000
Punching, straightening and loading rails at Locust Point.....	900
Miscellaneous work.....	8,000
Engineer department.....	12,000
Right of way.....	3,000
Contingencies.....	8,600

Total.....\$535,000

Add balances due upon contract work....	195,000
Total amount of work to be done and payments to be made.....	\$730,000
Add to this the total amount reported by the Treasurer, to have been expended to this date, October 1st, exclusive of locomotive machinery, interest and Wheeling property.....	6,145,277
And the present revision of the estimates will exhibit an aggregate cost of.....	6,875,277
Amount brought forward.....	\$6,875,277
This amount will be subject to a credit for iron and other materials, stock, &c on hand at the completion of the work, of about.....	60,000
Reducing the above aggregate to.....	\$6,815,277
And it will also be subject to a deduction on account of the following named items:	
Surveys made prior to the commencement of the construction and not included in the estimates but included in the statement of money expended.....	\$73,360
Tunnel, arching and timbering.....	25,196
Permanent improvements at Locust Point.....	4,000
At Mount Clare.....	10,000
On the line west of Cumberland, not embraced in the original or revised estimates.....	71,000
	183,556
Which reduces the present estimate to..	\$6,631,721
Comparing it however with that of Nov. 15, 1849.....	6,210,324

We still have an excess to account for of..... \$421,397

Upon this I offer the following explanatory remarks. In my reports upon the five several lettings by which the graduation and masonry were placed under contract between April, 1849, and December, 1850, I called the attention of the board to the low prices of the proposals, and expressed my fears that many of the sections and jobs of masonry would have to be relet, although no work was awarded to any party whose testimonials did not speak sufficiently in his favor to warrant the belief that with close economy of management and under the most favorable circumstances, he might complete his engagements with the company. These apprehensions were shown afterwards to be well grounded; for out of the 200 sections of the line it has been found necessary to find new contractors for 88, and for 28 of the bridges. Of this abandoned work, 9 sections, including section 77, one of the heaviest upon the line, and 8 bridges embracing the viaduct over Wills' Creek at Cumberland, the two over the Potomac on the 21st and 30th sections, the one over Cheat river on the 76th and that over the Monongahela, near Fairmont, on the 123d section, were undertaken and completed by the company, and have been executed in a better manner than they could have been under any contract, but undoubtedly at an enhanced price. The work thus deserted by the original contractors, and in some cases by those who succeeded them, in consequence generally of their inability to do it at their prices, was necessarily re-let at an advance in every case, and the aggregate increase of cost from this cause has been, as it may well be supposed, extremely large, and of itself more than sufficient to absorb the 5 per cent. allowed for superintendence and contingencies. That allowance would have been larger, but for the expectation expressed in my last report, that the saving upon some sections, and in railway tracks and tunnel masonry, would assist in counterbalancing the losses by the re-lettings and by the increase in the quantity of the work, chiefly upon the first division due to the change in its location and plan for the accommodation of the prospective canal and slack water from Cumberland to the mouth of Savage river. And this hope I continued to indulge until the date of the last annual report. Up to that time, however, the heaviest work, which was upon the third division of the line, was still quite unfin-

ished. The final estimates upon most of that work, disappointed me in their amount, and added largely to the previous advance upon the contract estimates. The character of the graduation upon this part of the line (covering 24 sections) made accurate estimates in the first instance impossible, and the quantity of excavation and embankment as originally calculated, were largely increased by slides from the precipitous mountain slopes. This cause of addition to the work has operated extensively throughout the line, and has contributed heavily to the cost of grading, although I am glad to be able to assure you, that the road bed is now, and promises to be for the future, as solid and secure as need be desired.

The causes of increased cost just noticed, refer to the graduation and masonry, the principal heads of expenditure upon such a line as this. There has been also some increase in the cost of water stations, and also in the very indeterminate item of "right of way." The expense of superintendence which was not specially estimated, will have amounted as usual upon such lines to about \$1,000 per mile. Numerous contingencies, such as the expenses of bringing large bodies of hands to the line of the work—law and legislative expenses, and a host of small charges, amounting in the aggregate to a considerable sum, have helped to swell the tide of expenditure. Lastly, the cost of perfecting the drainage of the road bed and adjusting the track for an average period of about a year after the opening of the first division, has added not a little to the amount. I am not able at this time, fully to set forth the particulars of these several heads, but propose to do so when the whole road shall have been completed, and all the final estimates upon contract work returned. I believe the present revised estimate will be found sufficient for the work specified therein; and the execution of which will accomplish the main object of opening the road for trade and travel to Wheeling. Indeed, that object will be accomplished by a less expenditure than that provided for in this estimate; as it will not be practicable fully to complete all the works which it contemplates by the time the track is closed. Enough will have been done however, to justify a beginning of the business of the road, and the further required accommodations will be speedily provided after the first train passes through.

Of one thing I can assure yourself, the board and the stockholders—that the work will have been well executed. The road bed, with few inconsiderable exceptions, is graded for two tracks—the masonry and superstructure of the bridges are of the most durable character—the water stations built and furnished in the best manner and the principal station and engine houses, constructed in a spacious and substantial though simple style.

It is more usual than perhaps generous to commend the excellence or excuse the costliness of one work by comparing it with others which may happen to fall short of it in the former or exceed it in the latter respect. I suppose that I should not be withheld by a scrupulous delicacy from doing that for which the prevailing example of professional men would be my warrant, and I therefore might annex a list of a few works of a character more or less similar to the Baltimore and Ohio Railroad, which appears to compare unfavorably with this work in these aspects. Upon reflection however, I think it sufficient to instance one of those lines, which as a work well known to us—parallel in position to our own, and sharing the trade of the West with us, may be properly instanced—I speak of the New York and Erie road, which in the report of its directors of Dec. 24, 1851, is stated to have cost, "exclusive of engines, cars, steamers, stations, &c," \$43,333 per mile. The Baltimore and Ohio railroad west of Cumberland, exclusive of similar items will have cost but \$33,158 per mile—the difference in its favor being \$10,175 per mile. Yet the Erie road passes through a much less difficult country, and is graded for a single track for most of its extent, and, without the smallest intended disparagement to that great work or to any one professionally or otherwise connected with it, I feel I may say that the Baltimore and Ohio railroad compares advantageously with it in the durability of most of its works.

Before leaving the subject of estimates, I would

refer for a moment to that of "Machinery" for working the road, which in my report of October 29th, 1849, is placed at \$500,000—and which has recently been re-estimated by the General Superintendent, and with my full concurrence, at considerably upwards of twice that sum. It will be observed that, in my report referred to, the stock of machinery estimated for was only that required to carry over the new road between Cumberland and Wheeling the trade supposed to traverse that part of the line during the first year after its opening—not including any part of the enlarged establishment of motive power and cars required on the old road east of Cumberland, by the vastly increased business thus thrown upon it. It will moreover be noticed, that the trade and revenue assumed in my estimate was but about two-thirds of that upon which the estimates of the General Superintendent are founded, and which I earnestly hope may be realized by the actual operations of the coming year. All of which is respectfully submitted.

BENJ. H. LATROBE, Chief Engineer.

The above reports were prepared for no such object as that for which we use them, but for the information of the stockholders, and are similar, in all respects, to that published by the company for a series of years. Both in the engineer's and superintendent's reports, all discrepancies between the fact and the previous estimate, are always minutely explained, so that the stockholder is enabled to see exactly in what manner the means of the company have been expended.

Accompanying the report are 16 tabular statements, the several heads of which we subjoin:

1. General Financial Statement of cost of road.
2. Statement showing Revenue and Expenses for the year.
3. Statement showing Dividend, etc., paid.
4. Statement showing the cost of the Washington branch.
5. Statement showing the revenue and expenses of the Washington branch.
6. Statement showing the dividend, etc., on the Washington branch.
7. Statement of the number of locomotives on the Main stem and Washington branch, owned by the Baltimore and Ohio railroad company, and exhibiting the net cost of expenses for repairs, &c., for the same, for the year ending September 30, 1852.
8. Statement of the number of Tonnage and Passenger Cars on the Main stem and Washington branch, owned by the Baltimore and Ohio railroad company, and exhibiting approximately the net expenses of repairs and renewals of the same, for the year ending 30th September, 1852.
9. Abstract of commodities transported eastwardly, from the several depots on the Main stem of the Baltimore and Ohio railroad, to Baltimore, during the twenty official years, commencing October 1st, 1831, and ending September 30th, 1851, inclusive.
10. Abstract of commodities transported westwardly, on the main stem of the Baltimore and Ohio railroad, to the several depots on the line of the road, during the official year ending 30th September, 1851.
11. Tabular Statement, showing the number of passengers carried from each station, upon the line of the Baltimore and Ohio railroad, and upon the Washington branch, during the year ending September 30th, 1852, with the reduction of the same to passengers carried one mile.
12. Statement detailing the operations of the road for the year ending September 30th, 1851, and an estimate of the cost of the several operations both in gross amount, and for passengers or ton, per mile.

13. Comparison of the expenses of transportation office with those of 1850, on Main stem.

14. Trade, revenue, expenses, profits, and dividends, of the Baltimore and Ohio railroad, from the time of its opening, in 1830, to the present date September 30th, 1852.

15. Comparison of the cost of construction and operation upon eight of the leading railroads of the United States, compiled from their most recently published reports.

17. Condensed statement of the operations of the Washington road, for the year ending September 30th, 1852.

18. Revenue of 1851 and 1852 compared.

American Railroad Journal.

Saturday, March 5, 1853.

Indiana and Illinois Central Railroad.

We give in another column a description of the route of the above road, with an estimate of its probable cost. By reference to a map of the Western States it will be seen that the proposed route will connect the capitols of Indiana and Illinois by nearly a straight line. Not only this, but the above will form a portion of a remarkably direct line of road, passing through the capitols of the three great western States, Ohio, Indiana and Illinois, which will be extended to the western boundary of Missouri by the Hannibal and St. Joseph railroad by the most direct route possible, and one coincident with the convenient route of travel through the western States, and in time, probably, to the Pacific.

In the West too, in case of the refusal by the Illinois legislature to grant a charter to the straight line between Terre Haute and St. Louis, the proposed road, in connection with the Alton and Sangamon, would constitute a pretty direct line from Indianapolis to St. Louis, and would supply a link in the extension west, of the great lines of road concentrating at Indianapolis, the want of which is beginning seriously to be felt.

The above project is attracting much attention in Indiana and Illinois, and is enlisting a warm and efficient support in its favor, and will probably be carried forward vigorously to its completion. If well sustained at home, we think it would form an attractive project to capitalists and the public.

Finances of Cincinnati.

The taxable property of Cincinnati City, according to the assessments in 1851, was \$43,402,810. In 1852 it was \$52,462,110; but the actual value of taxables at fair valuation now reaches to at least \$100,000,000.

The entire debt of the City, on the 1st January last was \$2,240,000. \$450,000 of that sum is a loan of credit to four Railroad Companies, where a first mortgage on the respective roads is given to secure the city in the repayment of the amount with interest—so that in fact the city debt is \$450,000 less than the amount stated above.

The city owns in her corporate capacity real and personal property within her limits, including the Water Works, valued at \$4,575,677 35.

This estimate does not include the city's stock in the Whitewater Canal Company, which cost \$430,000, but is now of uncertain value. The revenue of the city for 1852 arising from taxation and all sources was \$433,200.

The population of the City in 1850, was 117,350. On the 1st January, 1853, it was 160,120.

Coal and Coal Stocks.

Speculation has, within a year past, been turned toward coal lands and coal stocks, under the idea that from the rapidly increasing demand for coal, the value of this article was likely to be very largely increased. We see no reason, however, to believe that any extravagant advance is to take place; and have no doubt that the present, and the works in progress, will continue to furnish an abundant supply, at very nearly the old rates. One half the capacity of the Pennsylvania lines we do not think has been reached, notwithstanding all said to the contrary. It is reasonable to suppose, that the mines now worked are those most conveniently located, and which produce the best article. Such we have no doubt is the fact, and those coming into use must compete with the old ones at a manifest disadvantage, and of course be less profitable.

Another conclusive evidence to our minds, that these new schemes are comparatively worthless, is the fact that they are owned and managed in Wall street. Did they possess an intrinsic value, they would have been taken up and carried on as private enterprizes. A man who has a good thing does not invite the public to share his good luck. By no means. It is only when it is weak, that he calls for public support. Most of the money that will be made out of these bogus schemes, will come out of the public, not out of the coal mines. Many of them are got up to impose upon the credulous and unsuspecting, and to provide fat places and agencies. These will answer very well as footfalls for Wall street, but those who do not want them for this purpose will do well not to touch them at any price.

Rockford and Rock Island Railroad.

At a meeting of the Board of Directors, held at Rockford on the 16th ult, the contract for the grading, masonry, bridging, furnishing material (iron excepted) and laying the superstructure for the second division, from Dixon to Albany was awarded to Mr. Henry Doolittle, of Dayton, Ohio. This road commences at Beloit on the north line of the State of Illinois and follows down the valley of Rock River, passing through the towns of Rockton, Rockford, Byron, Oregon, Grand De Tour, Dixon, Sterling and Como; thence directly west to Albany opposite Camanche, on the Mississippi, thence down the river to Rock Island.

The second division crosses Whiteside county from Dixon, through Sterling and Como to Albany seven miles below Fulton; this division forms a connection with the Aurora road, and makes from Chicago the shortest distance by railroad to the Mississippi.

The third division from Dixon to Rockford will be put under contract the coming summer. The whole line of this road traverses one of the finest and best settled regions in northern Illinois, and abounds in good water power, passing through a succession of flourishing villages. Its north, south, east and west connections, together with its not competing, but feeding and being fed by other projects must make it a good road.

The following gentlemen compose the board of directors: John Dement, of Dixon; Simeon Sampson, of Como; S. Happer, of Albany; Jacob Bohart, of Camanche, Iowa; R. B. Mason, of Chicago; John A. Holland, of Rockford; Waite Talcott, of Rockton.

President, John Dement, of Dixon; Secretary and Treasurer, J. B. Brooks, of Dixon; Chief En-

gineer, R. Ogilby, of Dixon; Consulting Engineer, R. B. Mason, Engineer in Chief of the Illinois Central railroad.

Railroads in Georgia.

Southwestern Railroad.—The engineers are now engaged in surveying a route from Oglethorpe to Americus. They have passed over one of the proposed lines, and find the distance to be nineteen and a half miles. They are now on a second route, and will probably survey a third, when one of them will be selected. The prospects are highly favorable for the early completion of this road. All the stock required to be taken by the citizens of Sumter, has been subscribed for, and the first instalment paid in. Americus is a flourishing and healthy village, and will no doubt in a few years be equal in business and population to any other town in south western Georgia.

Eatonton and Milledgeville Railroad is nearly completed. The cars run daily to within 3 miles of the former place, and arrangements have been made to convey passengers to Eatonton without delay.

Atlanta and West Point Railroad.—The cars reached LaGrange on the 27th of January. The remaining seventeen miles of the road, from LaGrange to West Point, are nearly completed, and soon there will be a continuous line of railroad between the cities of Montgomery and Charleston.

The Connellsville Railroad.

We have obtained the following statement of the various routes, &c., of this contemplated road, as ascertained by the surveys of 1837.

Distance from Cumberland to Pittsburgh, by Will's Creek route, 154 miles—grade 66 feet.

Distance by Jennings' run route, 144 miles—grade 116 feet.

Distance by Baltimore and Ohio railroad and Great Youghiogheny, 174 miles—grade 116 feet.

The grade by Will's Creek and Jennings' run routes, refers to that part of the road between Cumberland and Castelman's river. Upon reaching the latter point, the grade is very moderate all the rest of the way to Pittsburgh.

The Youghiogheny route runs 34 miles in Maryland, Will's Creek 9 miles, and the Jennings' run 19 miles.

Savanna Branch Railroad.

The stockholders of the Savanna Branch Railroad Company at their meeting on the 26th ult., elected the following directors:

D. A. Knowlton, C. Martin, Geo. Parinton, Silas D. Clark, Seymour G. Bronson, all of Freeport; John H. Adams, of Cedarville; John B. Turner, Wm. H. Brown, Thomas Dyer, E. S. Wadsworth, Charles Walker, Hugh T. Dickey, all of Chicago; Porter Sargent, of Savanna.

The following are the officers of the company:—D. A. Knowlton, President and Acting Director. John Van Nortwick, Chief Engineer.

L. W. Guiteau, Secretary and Treasurer.

The directors instructed their engineer to locate the line and prepare the work for contract as early as practicable.

The amount of \$500,000 of stock authorized to be subscribed having been taken, the board directed the book of subscription to be closed.

Wabash Valley Railroad.

We learn that the contemplated railroad from Toledo following up the valley of the Maumee river, and down the Wabash Valley is to be placed forthwith under contract.

Railroad Exhibits.

We give this week the report of the Chief Engineer and Superintendent of the Baltimore and Ohio railroad, for the year ending Sept. 30, 1852. They are interesting in showing the operations of one of the most important railroads in the United States, the second, in length of line and cost. We have an additional reason for presenting them at this time; we consider them to a certain extent, models which other companies will do well to follow, at any rate till more complete and perfect ones are produced. We desire to secure from all companies full and detailed statements of their affairs. As a means to this end, we shall continue to lay before our companies, whatever we may think worthy of imitation. We do not see how we are to get on much longer without a better system in the statements of most of our companies. It must be borne in mind that in most of the States, no reports are required by their legislatures. Even those made under the sanctions of law, often fail to convey any clear idea of the state of the company's affairs. We want reports that are made voluntarily, with a desire to communicate information, instead of suppressing it. The public must insist upon such reports, and consider the neglect to make them as an evidence that something is concealed that will not bear the light. Capitalists all over the world are beginning to be interested in our public works, and it is most desirable that they should have the best means possible of forming a correct and favorable opinion as to their value, and the manner in which our public enterprises are managed. In endeavoring to effect reforms and bring about a system, the necessity of which all admit, we hope to have the aid and co-operation both of capitalists and railroad companies.

Pittsburgh.

In the month of August, 1850, the population of the City of Pittsburgh was 86,771. In January, 1853, it was 110,241. The value of taxables \$65,000,000.

Greenville and Columbia Railroad.

This road is opened to Donaldsville, 103 miles from Columbia, and is expected to be completed to Greenville 38 miles further, by the first of July next, as well as the branch to Auburn, 23 miles.

Stock and Money Market.

The present has been a heavy week in the stock market, and most of the fancies have suffered a considerable decline. In some coal stocks there has been a complete break down. Confidence in a great measure, has been lost in the coal fancies, in particular, and they are consequently forced upon the market by weak holders, which is overloaded, and most of the speculative stocks suffer from this fact. The check which speculation has received we regard as likely to prove highly beneficial. The prices of sound securities are well sustained, and a good demand exists for first class railroad bonds and stock. There has been an active demand for money for the past week, but the supply is still ample for all legitimate objects. We shall not be at all sorry to see money in demand, and at comparatively high rates for some months to come. Speculation, for which a tight money market is the only cure, has been getting too rampant for some months past, and needs the check it has received.

A large sale of bonds \$2,500,000, issued by the Parkersburg railroad, and guaranteed by the city of Baltimore, and the Baltimore and Ohio railroad company was made in this city the past week, and

averaged about 111. The bonds are 6 per cent. A sale of \$1,250,000 of Baltimore and Ohio second mortgage bonds was made in Baltimore the past week at about 91.50. The receipts of the Erie road for the month of February are stated to be \$308,000, those of the Hudson River \$126,000.

The following is the business of the Mint in Philadelphia:

COINAGE FOR FEBRUARY.

Gold.	Pieces.	Amount.
Double Eagles.....	115,040	\$2,300,800 00
Eagles.....	20,233	202,330 00
Quarter Eagles.....	51,886	129,715 00
Dollars.....	298,435	298,435 00
Total.....	485,594	\$2,931,280 00
Silver.	Pieces.	Amount.
Quarter Dollar.....	44,200	\$11,050 00
Dimes.....	95,000	9,500 00
Half Dimes.....	135,000	6,750 00
Three cent pieces.....	2,700,000	81,000 00
Total.....	3,459,794	\$3,039,580 00
Copper.		
Cents.....	200,031	2,000 31
Total.....	3,659,825	\$3,141,580 31

GOLD BULLION DEPOSITED.

From California.....	\$3,517,000 00
From other sources.....	31,000 00
Total.....	\$3,548,000 00

GOLD DEPOSITED.

	1852.	1853.
January.....	\$4,161,633	\$4,962,097
February.....	3,010,222	3,548,000
Total.....	\$7,171,910	\$8,510,097

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, MARCH 5, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853.....	100½
U. S. 6's, 1856.....	107½
U. S. 6's, 1862.....	115½
U. S. 6's, 1862—coupon.....	115½
U. S. 6's, 1867.....	120½
U. S. 6's, 1868.....	120½
U. S. 6's, 1868—coupon.....	120½
Indiana 5's.....	101½
Indiana 2½.....	56½
“ Canal loan 6's.....	96
“ Canal preferred 5's.....	37
Alabama 5's.....	98
Illinois 6's, 1847.....	91½
Illinois 6's—interest.....	62½
Kentucky 6's, 1871.....	110½
Maryland 6's.....	110½
New York 6's, 1854-5.....	108
New York 6's, 1860-61-62.....	117
New York 6's, 1864-65.....	120
New York 6's, 1 y., 1866.....	120
New York 5½'s, 1860-61.....	111
New York 5½'s, 1865.....	112
New York 5's, 1854-55.....	106
New York 5's, 1858-60-62.....	108
New York 5's, 1866.....	113
New York 4½'s, 1858-59-64.....	101
Canal certificates, 6's, 1861.....	—
Ohio 6's, 1856.....	104½
Ohio 6's, 1860.....	109
Ohio 6's, 1870.....	116
Ohio 6's, 1875.....	117
Ohio 5's, 1865.....	106½
Ohio 7's, 1851.....	105½
Pennsylvania 5's.....	98½
Pennsylvania 6's, 1847-53.....	101
Pennsylvania 6's, 1879.....	99½
Tennessee 5's.....	95½
Tennessee 6's, 1880.....	108½
Virginia 6's, 1866.....	110½

CITY SECURITIES—BONDS.

Brooklyn 6's.....	106
Albany 6's, 1871-1881.....	107½
Cincinnati 6's.....	103½
St. Louis.....	101
Louisville 6's 1880.....	98½
Pittsburg 6's, 1869-1871.....	102
New York 7's, 1857.....	108
New York 5's, 1858-60.....	101½
New York 5's, 1870-75.....	103
New York 5's, 1890.....	104½
Fire loan 5's, 1886.....	—
Philadelphia 6's, 1876-90.....	107½
Baltimore 1870-90.....	109½
Boston 5's.....	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867.....	117
Erie 2d mortgage, 7's, 1859.....	108½
Erie income 7's, 1855.....	97½
Erie convertible bonds, 7's, 1871.....	97½
Hudson River 1st mort., 7's, 1869.....	106
Hudson River 2d mort., 7's, 1860.....	98½
New York and New Haven 7's, 1861.....	105½
Reading 6's, 1870.....	92½
Reading mortgage, 6's, 1860.....	96½
Michigan Central, convertible, 8's, 1860.....	111
Michigan Southern, 7's, 1860.....	102½
Cleveland, Col. and Cin. 7's, 1859.....	123
Cleveland and Pittsburg 7's, 1860.....	102
Ohio and Pennsylvania 7's, 1865.....	109
Ohio Central 7's, 1861.....	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Mar. 3.	Feb. 24.
Albany and Schenectady.....	115½	115
Boston and Maine.....	105	105
Boston and Lowell.....	105½	106
Boston and Worcester.....	103½	103
Boston and Providence.....	88½	89½
Baltimore and Ohio.....	87½	90½
Baltimore and Susquehanna.....	32½	34
Cleveland and Columbus.....	125	125
Columbus and Xenia.....	—	—
Camden and Amboy.....	150	150
Delaware and Hudson (canal).....	130	130
Eastern.....	96½	98
Erie.....	87	88½
Fall River.....	104½	105
Fitchburgh.....	101½	102
Georgia.....	—	—
Georgia Central.....	—	—
Harlem.....	67	68
“ preferred.....	115	115
Hartford and New Haven.....	12½	129
Housatonic (preferred).....	35	35
Hudson River.....	65	66½
Little Miami.....	118½	120
Long Island.....	38	38½
Mad River.....	99	99
Madison and Indianapolis.....	104	105
Michigan Central.....	107	107
Michigan Southern.....	125	124½
New York and New Haven.....	111½	111
New Jersey.....	136	132
Nashua and Lowell.....	—	—
New Bedford and Taunton.....	117	117
Norwich and Worcester.....	51½	51½
Ogdensburg.....	27	27
Pennsylvania.....	50	49½
Philadelphia, Wilmington & Balt.....	38½	49½
Petersburg.....	—	—
Richmond and Fredericksburg.....	105	105
Richmond and Petersburg.....	35	35
Reading.....	91	89½
Rochester and Syracuse.....	129	130
Stonington.....	57	56½
South Carolina.....	22½	122½
Syracuse and Utica.....	144	140
Taunton Branch.....	115	115
Utica and Schenectady.....	149	149
Vermont Central.....	19½	20½
Vermont and Massachusetts.....	19½	19
Virginia Central.....	40	40
Western.....	100	101½
Wilmington and Raleigh.....	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Journal of Railroad Law.

INJURIES ARISING FROM MUTUAL NEGLIGENCE.

The following decision of Judge Marshall, of the Baltimore Common Pleas Court in the case of *the Baltimore, Wilmington and Philadelphia Railroad vs Temple* is probably in accordance with the weight of authority both of the Courts of Maryland and of most other States,—which have generally held, under circumstances like those in question, that although the conduct of a defendant may have been the *primary* cause of an injury sustained by a plaintiff, yet the latter cannot recover any damages, provided his own want of care was the *immediate* cause of the injury which he has sustained.

Some Courts however, like that of Maine, have held that a modification of this rule was demanded by sound equity and law,—and have decided that although both plaintiff and defendant contributed to an injury complained of, yet if the defendant might by the observance of ordinary care have avoided doing any injury to the plaintiff he is liable for a reasonable amount of damages notwithstanding the negligence of the latter. The latter doctrine implies the principle that when both parties are in fault, both must to some extent suffer the consequences.

Without undertaking to determine which view of this unsettled question is most consonant with justice and public policy, we subjoin the opinion of Judge Marshall in the case above mentioned.

"As a desire has been expressed by counsel that I should reduce to writing my reasons for the decision in this case. I shall proceed to do so in a few words. The case of *Stokes & Saltonstall*, in 13 Peters, decides that the responsibilities of the carriers of passengers is not the same as that of a carrier of goods, who are amenable for all losses not resulting from the act of God or of the public enemy; but that the carriers of passengers are bound to use the utmost care. The case in 13 Peters also, I think, settles the point, that the fact of the collision in this case must be taken as *prima facie* evidence of a want of care; and I do not think there was evidence to rebut this presumption of negligence; but on the contrary, I think there was evidence of fault on the part of the company's agent. It was proved, however, that the plaintiff at the time of the accident was standing on the platform, contrary to the regulations of the company, and against the express warning at the time of the conductor of the train, and that the sole injury he received, was from the crushing of the platform against his foot. Now, the collision was the fault of the company; but if the plaintiff had been inside the car, as he ought to have been, there is no doubt that the only injury from the collision would have been to the company itself, in the breaking of the car. This is not like the case of *Stokes & Saltonstall*, where Mrs. Saltonstall was supposed to have enhanced her danger by the unwise, but instinctive efforts she made to escape from all impending injury. Nor is the case in 1 Starkie, cases 49, &c., where a party in imminent danger leaped from a coach, and was injured by the leap.

In both these cases the parties caused or aggravated their injuries by their own acts, but they were acts naturally resulting from the danger superinduced by the negligence of the carrier. In both these cases the parties were free from fault up to the moment when they were supposed to have adopted unwise means of escaping from a danger to which they were exposed by the faults of the defendants. In the case now under consideration, on the contrary in the actual state of the case, according to the evidence, the only danger to the parties was from his position. Certainly his injuries were solely the result of his position on the platform. He did not receive his injuries in escaping danger but from having voluntarily and deliberately taken a dangerous position against the rules of the Company and in spite of express warning. The obligations of the carrier are of the highest kind, and are sternly insisted upon by the law. But the

passenger is under obligations also, and if he violates them and his injuries are clearly the immediate result of such violation, I think he cannot punish the carrier, although he also be in fault. I see no reason why the principles of *Irvine and Sprigg* in 6 Gill should not be applicable to this case.

The principle there settled is that, though the primary cause of the injury by the fault of the defendant, the plaintiff cannot recover if the proximate cause of the injury be his own want of care. I am satisfied, if the plaintiff had been inside the car in this case, he would not have been hurt—he had no right to be on the platform; he was warned of it. I think he cannot recover for injuries resulting from his own imprudence."

THE RIGHTS OF ORIGINAL STOCKHOLDERS IN CASE OF EXTENSIONS OF ROADS.

This question has been discussed in the late case of *the Piqua Branch of the Eaton and Hamilton Railroad Company*. This was an application for an injunction on the part of two stockholders against the Directors of the Company,—and the principal question involved was, whether in constructing the Piqua branch of the road, under a Legislative act, the Directors could in pursuance of that act avail themselves of the credit of the original Company,—by issuing *general* certificates of stock to the subscribers to the Piqua branch, the same as those issued to the *original* subscribers to the road, and without the consent of all the stockholders.

The Court held as we learn from the *Hamilton Telegraph*, that the Directors could not legally issue such certificates, and that the principle of this decision had been established in the case of the *Ohio Stage Company*. The Court did not hesitate to say that the Legislature had in authorizing the issuing of the new certificates violated its contract with the original stockholders. For a charter is virtually a contract.

A temporary injunction was granted against the Directors, but the same does not affect the road in Butler and Preble county, and the applicants for the injunction were required to give bonds in the amount of \$10,000 to secure the damages which may be awarded to defendants in the event of the ultimate dissolution of the injunction.

For the American Railroad Journal.

Alabama and Mississippi Rivers Railroad.
EDITOR RAILROAD JOURNAL:

In the list of railroads for Alabama, contained in the *Railroad Journal* of January 8th, 1853, there is one entitled "The Alabama Central." There is, according to my information, no such road in the state. Some years since, a charter was granted, under that or some other title, to connect Montgomery with, I think, Vicksburgh. That charter expired by limitation. More recently a charter has been obtained, to connect, by railroad, Uniontown, located in the centre of the cane brake, (the best cotton region in the state,) with some point on the Alabama river, with power to extend the road westwardly from Uniontown, to the line between the states of Alabama and Mississippi. Under this charter, "The Alabama and Mississippi Rivers Railroad Company" has been organized; Selma, the southern terminus of the Alabama and Tennessee railroad, having been selected as the terminus of this road on the Alabama river: and more than half the amount necessary to complete the road between Uniontown and that place, having been subscribed by private individuals, the route has been located, and the grading of more than two-thirds of it is now under contract. The balance of the grading will, in all probability, be placed

under contract during the present month; all taken by planters at the engineer's estimates, and payable partly in stock, when graded and bridged. This company has obtained a loan from the two per cent. fund, of one hundred thousand dollars, for ten years, five years without interest, and five years with interest at five per cent. To forty thousand dollars of this amount, its pro rata of the two per cent. fund, the company, according to the act of congress appropriating the same, is entitled, as a bonus. This road, when completed to the state line, will connect with the eastern extension of the road between Vicksburgh and Brandon, and also with the Mobile and Ohio road; and thus, in view of the many connections now in process of construction, must be the main channel of travel from the northeast to the southwest. Its great advantage, however, is that the first section, between Uniontown and Selma, must, unless every reasonable calculation prove false, be exceedingly profitable. Besides the great local travel and trade of the very fertile section through which it will pass, it will, at Selma, intercept the great western travel. The Tombigbee and Warrior rivers are rarely navigable during the fall months; and consequently, freight for a large section of country, west and northwest, will seek its destination, over this road, from the depot at Uniontown. The cost of this first section, thirty miles, will be, according to the liberal estimates of Mr. Troost, the chief engineer, fifteen thousand dollars per mile, including depots, engines, and all other necessary fixtures.

UNIONTOWN, ALA., Feb. 1, 1853.

P.

Ohio.

Cleveland and Mahoning Railroad.—We have received the first annual report of the directors and that of the engineer of this company, to which we are indebted for the following information on the subject of the business prospects of the project, and the character of the line to be constructed.

The report of the directors considers the road as favorable and suited to the rapid transportation of passengers and freight. The strong grade encountered by all the roads centering at Cleveland, except the *Lake Shore*, on leaving the valley of the Cuyahoga, will be found no great difficulty on the present line, especially as its descent is in the direction of the heavy coal, iron and produce trade from the interior to the Lake.

The right of way has been secured for nearly the whole distance that the road has been located, on reasonable terms, at rates averaging, including fencing and all expenses, about \$600 per mile.

The directors have secured spacious depot grounds at Cleveland including a passenger station, two convenient points to accommodate the retail coal trade, and a steamboat station for passengers and freight, with a suitable front on the Cuyahoga river, and affording every facility for the handling of freight.

The charter of the company authorizes the construction of a road from Cleveland to the east line of the State in the direction of Pittsburgh. It has been the design of the company to continue it to the latter city, or to connect at some suitable point with the Ohio and Pennsylvania railroad. Application for a charter will be made to the Pennsylvania legislature for this purpose as soon as it convenes and there is no doubt but that it will be granted.—The application will be sustained by the directors of the Ohio and Pennsylvania and Pennsylvania Central railroads.

The surveys have been directed without regard

to local interests upon the line, but towards the discovery of the best route from Cleveland to Pittsburgh. These cities are the commercial centres of the region, and the line of the road which unites them passes through the richest and most densely populated portion of the Western Reserve, while it will command without fear of competition, the whole home trade of this large territory. The Cleveland and Pittsburgh railroad might be supposed from its legal name, in some degree to occupy the same field, it runs, except for a short distance at the western extremity, at an average distance of 20 miles from the Mahoning road, and it is only in connection with the Ohio and Pennsylvania railroad, that it forms a communication between Cleveland and Pittsburgh 8½ miles longer, and over a less favorable line than the Mahoning road.

The eastern boundary of the State of Ohio from the point where it is crossed by the Ohio and Pennsylvania road to the Lake Shore road, a distance of 80 miles is not intersected by a railroad line.—This boundary is at right angles to the course of trade to Cleveland in one direction, and to Pittsburgh in the other. Through no portion of Ohio or of the West can so long a line be drawn across the current of trade without meeting a railroad, and no portion of the State is more crowded with villages, towns, and manufacturing establishments. It is supposed it will enjoy a larger local passenger traffic than any railroad now terminating at Cleveland. To support this view it is stated that eight stages now run daily, each way, from towns on the line of the Mahoning railroad, to Cleveland and to stations on the Cleveland and Pittsburgh and Ohio and Pennsylvania railroads.

8 stages daily at 7 passengers each way.....112
Travel by private conveyance.....112

224

equal to 112 through passengers, this amount will probably be doubled by the superior facilities afforded by the railroad. The population of the townships traversed by the Mahoning road is 64 per square mile, while that of the whole State of Ohio is but 50 per square mile by the census of 1850.

The line passes through the whole coal field of the Mahoning valley in the most favorable position. The coal trade is rapidly increasing, in 1849 the amount cleared on the canal at Youngstown and Warren for Cleveland was 751,837 bushels, in 1850, 1,389,901; in 1851, 1,946,225; and in 1852, 2,306,182 bushels. It is now transported 100 miles by canal and pays 20 cents toll per ton. The Ohio canal coal is transported 70 miles and pays 10 to 12 cents toll per ton. The Mahoning coal costs about 50 cents per ton more on its delivery, and its selling price is about 50 cents per ton greater than the Ohio canal coal, and yet it furnishes half the supply of Cleveland. The Mahoning road enters the field of coal 58 miles from Cleveland, and will pass sixteen miles through it at a level just below that of the beds worked, and over grades to Cleveland not exceeding 21 feet to the mile at any point. The lowest cost of delivering the coal by the canal exclusive of tolls and exclusive of the cost of unloading the boats is \$1.15, amounting to a rate of about 2 cents per ton per mile by railroad. At the present rate of increase, the production in the Mahoning valley will in the year 1856 amount to 250,000 tons, or 800 tons per day, a trade alone which would justify the construction of the road from Cleveland to the coal region.

The Mahoning valley is the centre of a large

iron trade, 130 tons per week are now made, and with the furnaces to be put into blast within a few months, the production will be increased to about 300 tons per week. All this is destined for the Cleveland market. One rolling mill is now in full activity at Niles, another is in preparation and a third will be running next season at Youngstown, all these furnaces and rolling mills are within one-half mile of the line of the road.

The agricultural products of the road will be very large, judging from the character of the country traversed, the cheese alone, received and shipped at Warren in a single season, has sometimes run up to 4,000 tons. The amount of flour manufactured for export by the mills on the line of the road reaches during the season of navigation 350 barrels per day.

Among the connections of the Mahoning road are at its western terminus—the Junction railroad now constructing to Toledo connecting at Sandusky with the Lake Erie and Mad River road, and at Toledo with the Southern Michigan, thus opening avenues without transshipment to Chicago and Cincinnati. At its eastern terminus it will connect with the Ohio and Pennsylvania, and in connection with that road and the Pennsylvania Central, form a connection between the Lake region and the cities of Pittsburgh, Philadelphia, Baltimore and Washington.

Summary and Estimate.

Local passenger travel equal to 224 through passengers daily, at three cents per mile.....	\$216,646 00
Through passengers, estimated at 40 each way per day, at two cents per mile.....	51,582 00
150,000 tons of coal, at \$1 20 per ton for 65 miles, including rent of coal yards and docks furnished by the company.....	130,000 00
30,000 tons of iron at \$2 per ton.....	60,000 00
25,000 tons of local miscellaneous freight, agricultural produce, merchandise, etc., etc., at \$3 per ton....	75,000 00
15,000 tons of through merchandise and freight at \$3 per ton.....	45,000 00
	\$628,228 00
Deduct 40 per cent. for expenses.	251,201 00
Net profits.	\$376,937 00

Equal to 15 per cent on \$2,500,000.

The report concludes by expressing the wise resolution of the directors, not to put out the work until subscriptions be secured to pay for grading, and bridging, and the payment for right of way and depot grounds.

Mississippi and Missouri Railroad.

We see in the Davenport Gazette an official notice that John B. Jarvis, Joseph E. Sheffield, Henry Farnam, John M. Wilson, Norman B. Judd, Ebenezer Cook, James Grant, John P. Cook and Hiram Price have incorporated themselves in accordance with the provisions of the "Code of Iowa," by the name of "the Mississippi and Missouri R. R. company." The road is intended to unite a point on the Mississippi, near Davenport, with a point on the Missouri, in Potawatomie county, near Council Bluffs. The capital stock of the company is \$6,060,000. The Gazette, in speaking of this enterprise, says:

"Men who know no such word as *fail* have organized themselves with the intention of immediately commencing the work. Under the act granting a general right of way they will experience no difficulty in obtaining the lands on the route, and without delaying for the slow action of Congress—which appears determined to do nothing toward as-

sisting our State to perfect this, another step toward the greatest enterprise of the age—they will proceed with the work.

"As the Rock Island and Chicago railroad approaches completion, the amount of travel to this point will be immense. So soon as the road is extended westward—no longer a chimera, but a matter of fact—Davenport will assume an importance that will place her among the first cities of the West. There is then a 'good time coming,' which so far as the prospects of this city are interested, will soon be realized."

Providence and Worcester Railroad.

The following are the several statements made by the officers in charge of the above road for 11 months, ending 30th of November, 1852.

Receipts.....	\$120,172 22
Transportation of merchandise.....	108,490 56
Mails.....	2,826 86
Rents.....	2,254 41
Total.....	\$233,744 05
Expenses.....	104,367 83
Balance.....	\$129,356 22
Interest paid on bonds during eleven months.....	17,337 03
Net income.....	112,019 19
Dividend No 2, paid 1st July 1852.....	\$43,725
Dividend No 1, paid January 1st, 1853.....	43,725
	87,450 00

Surplus..... \$24,569 19

This amount under direction of the board has been placed to the credit of the construction account, having been expended this year for that account and for equipment.

The financial affairs of the company on the 30th of November 1852 stood thus:

Capital stock 14,575 shares.....	\$1,457,000 00
Bonds.....	\$306,000
Paid in 1852.....	6,000

Leaving due in August 1860..... 300,000 00

Total stock and bonds.....	1,757,500 00
Dividend payable 1st January 1853..	43,725 00

\$1,801,225 00

Balance on construction account as per report of 1851.....	\$1,570,529 22
--	----------------

Paid and charged during 11 months, ending Nov. 30, 1852..... 20,652 60

\$1,591,181 82

Deduct surplus transferred to this account.....	24,569 19
---	-----------

\$1,566,612 63

Expended for cars.....	103,415 32
Expended for locomotives.....	61,470 21

Total cost of road and equipment Nov. 30, 1853..... 1,731,498 18

Bills receivable, materials and cash.....	69,726 82
---	-----------

Total cost including cash and property..... \$1,801,225 00

The equipment consists of 6 passenger locomotives, 2 freight locomotives, 14 first class passenger cars, 3 second class passenger and baggage cars, 1 first class baggage car, 1 milk car, 155 freight, platform, and gravel cars, &c.

During the year a paint shop has been built at Providence and an engine house at Lonsdale. A track has been laid on the west side of the river at Providence as far as Dorrance street for \$7,500, which proves a great convenience in the transportation of freight. In view of an increase of business the directors have entered into a contract for a new locomotive, and to have built 35 platform

and dumping cars. During the year the passenger trains have run with great regularity, and no passenger has sustained the slightest injury. The net income for eleven months exceeds that of the previous twelve months by \$7,372 45. Two dividends amounting to 6 per cent. have been declared out of the net income.

Indiana and Illinois Central Railway Company.

The directors of this company, to wit: E. W. H. Ellis and William Sheets, of the county of Marion; Henry G. Todd and Edmund Clarke, of the county of Hendricks; Higgins Lane, of the county of Putnam; E. M. Benson and A. L. Roache, of the county of Parke, met in this city on the 16th inst., and perfected their organization by the election of Col. E. M. Benson as President, John S. Spann as Secretary, and John Woolley as Treasurer.

The report presented of the amount of stock already subscribed, and of the interest taken in the work along the whole extent of the line, and among the prominent citizens of Illinois, was most gratifying. Through the energetic exertions of A. M. Puett, Esq., a liberal charter was promptly granted by the legislature of Illinois, conferring all the privileges and immunities necessary to procure the right of way, and to effect a consolidation of the entire line.

The directors have been fortunate in securing the services of Col. T. A. Morris as chief engineer, under whose direction, the survey, location, and estimates will be made. The work will be commenced immediately, and with every assurance of success.

A preliminary survey of the line has been made by A. B. Condit, Esq., from whose report the following extract is made, showing briefly the character of the route:

"I made the survey of the Illinois portion in September last. On arriving at Decatur, Illinois, with my party I found the road from Springfield to that place, 36½ miles was in the hands of the 'Naples and Decatur Companies,' the State having sold its interest in the 'Northern Cross Railroad' to that company, binding them to complete the road in a certain length of time, and obligating them to expend \$100,000 on the work previous to the first of February, 1853. The first seven miles of this road from Springfield east, was graded ready for the superstructure, including the masonry for crossing Sangamon river by the State. From Decatur to Springfield, the Sangamon river runs nearly due west, appropriating to itself the locality of our air line and forcing us to look up some other route. On the south side the route is impracticable, being a very broken country with two extensive tributaries of the Sangamon to be crossed, and the main Sangamon east of the capital. On the north we have only the north fork of the Sangamon to cross east of Decatur, and from thence the route of the 'Naples and Decatur Railroad' is over a level prairie country to Springfield, crossing the main Sangamon seven miles east of the city on the State grade and masonry.

"Decatur itself is 3.5 miles north of our air line; from thence east we diverge south of east crossing north fork of the Sangamon two miles east of Decatur, and reaching our due east line to Indianapolis 8.5 miles from Decatur. From the Sangamon to the Wabash, 80 miles, the road for directness of alignment, easy grades and cheapness of construction cannot probably be surpassed. We cross the intermediate streams Kaskaskia, Embarrass, and Brouillett's creek, with a grade of 26 feet to the mile, and embankments 12 feet high; with this exception the grades vary from level to 15 feet per mile, and cuts and fills from 0 to 5 feet in depth. 70 miles of this distance is a perfect air line due east and west. In getting a crossing of the Wabash we are highly favored by nature. The Little Raccoon, a stream about 5 miles in length, coming in from the west in our course with a valley that lets us down to the valley of the Wabash with an easy grade and light work.

"On the east side of the Wabash there are no bluffs. We pass into a second bottom prairie that lies above high water. On this second bottom, on the east bank of the river at our crossing, is situa-

ted the town of Montezuma, the Wabash and Erie Canal running along the west side between it and the river. At Leatherwood creek, 3 miles from the Wabash, we leave the prairie bottom and commence gently making the ascent of the table lands, and attain the summit at Rockville the county seat of Parke county, Indiana, 8.5 miles distant from the Wabash. From Rockville to the county line east, William's creek, and Little and Big Raccoon crossing our line at right angles, make considerable broken country, and will be the most expensive part of the whole line; from thence to Eel river in Putnam county, the country is quite favorable, gently undulating and level with occasional small branches; from Eel river to Danville, the county seat of Hendricks county, the country is of a similar character. From Danville to Indianapolis, 20 miles, the upland table of the country is very level: the main expense will be in the bridging and embankment of the several streams, the three White Licks, Abner's creek, two Eagle creeks, and White river at Indianapolis."

The distance from Indianapolis to Decatur is 150 miles; to Springfield 186 miles.

The expense is estimated by Mr. Condit at \$1,883,897 or \$12,553 44 per mile, but the character of the work may vary the expense materially. The estimates will be made by Col. Morris for the common track, and also for the six feet gauge. The character of the road, as the great eastern and western thoroughfare, may require the adoption of the latter, thereby increasing the cost of construction.

The directors appeal with confidence to the public for aid in carrying forward this great enterprise. Assurances have already been given by several contractors of their readiness to propose for the construction of the whole line, as soon as the necessary stock shall be secured. Action, energy, determination, on the part of its friends, will carry it through triumphantly.—*Indiana Sentinel*.

Nashville and New Orleans Railroad.

All the incipient steps have been taken to secure the rapid progress of this magnificent enterprise. Most of the route from New Orleans to the Tennessee river has already been located, and a considerable portion of it placed under contract. That portion from the southern terminus to the Mississippi state line, it is designed to have completed during the approaching summer. The whole line has been found to be far more favorable for building a good road than was anticipated. The magnitude of the work is scarcely equalled by any now in progress in the Union. It will be over 600 miles in length, and will cost at least \$10,000,000. About \$3,500,000 are now available for the company's use, independent of large subscriptions in several counties in Mississippi, through which the road will pass. This amount will be sufficient to complete such a portion of the road, as will enable the company to sell their bonds to aid in building the remainder of the great work. Mr. Robb, the eminent New Orleans banker, is president of this road, and his characteristic energy and financial ability will be brought to bear in furthering the interests and success of the company. The citizens of New Orleans, who have hitherto occupied the back ground in reference to internal improvements, are now rousing from their stupor, and are fully convinced of the fact, that if they would retain the commercial supremacy of the Mississippi valley, they must do as other cities are doing; that is, build a system of railroads, which will connect them with every section now tributary to them.

For many facts relating to this new enterprise, we are indebted to Mr. Jas. H. Grant, chief engineer upon the Nashville and Chattanooga railroad, but who now also has charge of the middle division of the Nashville and New Orleans road, extending from Canton, Miss., to the Tennessee river, a distance of about 210 miles. Mr. Grant will soon retire from the superintendence of our road, which has reached a state of completion that no longer requires his supervision, and devote his entire attention to the prosecution of his new charge. To his new field of operations he carries a well earned reputation as a prudent, accurate and successful practical engineer, and an accomplished and highminded gentleman.—*Nashville Banner*.

Mad River and Lake Erie Railroad.

Comparative statement of receipts for 3 months ending Jan. 31, 1853.

RECEIPTS, 1852-53,

November	\$51,698 96
December	33,421 52
January	32,915 30

Total.....\$118,035 78

RECEIPTS, 1851-52.

November	\$30,617 86
December	21,705 25
January	16,463 70

Total.....\$68,786 81

Gain, about 72 per cent.....\$49,248 07

The increase of each month, over those of last year, is as follows:

November	\$21,081 10, or about 69 per cent.
December	11,716 27, do 54 per cent.
January	16,451 60, do 100 per cent.

Tonnage Arrived at Tidewater by way of the Erie Canal.

The statement below gives the total tonnage arriving at tidewater by way of the Erie Canal, for a series of seventeen years, distinguishing between the tonnage from this State, and the tonnage from Western States:

Year	From Western States, Tons.		From this State.	
	States, Tons.	Tons.	Total Tons.	
1836.....	54,219	364,906	419,125	
1837.....	56,255	331,251	387,506	
1838.....	83,233	336,016	419,249	
1839.....	121,671	264,596	386,267	
1840.....	158,148	309,167	467,315	
1841.....	224,176	308,344	632,520	
1842.....	221,477	258,672	480,149	
1843.....	256,376	378,969	635,345	
1844.....	308,025	491,791	799,816	
1845.....	304,551	655,039	959,590	
1846.....	506,830	600,662	1,107,492	
1847.....	812,280	618,412	1,431,252	
1848.....	650,154	534,183	1,184,337	
1849.....	768,659	498,068	1,266,724	
1850.....	773,858	598,001	1,371,859	
1851.....	966,993	541,684	1,508,677	
1852.....	1,151,978	492,721	1,644,699	

The tons "from this State" are arrived at by assuming that all the property from "western States" reached tidewater, and by deducting that tonnage each year from the "total tons" arrived at tidewater.

We have before shown that the tolls on the products of this State seem to have reached their maximum, and to be on the decrease, while the tolls on property from western States steadily increase. The results as to the tolls are corroborated by the above statement of the tonnage. The products of this State coming to tidewater, by way of the Erie Canal, do not increase with a reduction of the rates, while those from western States increase largely.

The mere increase in 1852, from western States, over the previous year, is nearly equal to the whole amount from those States in 1842.

The amount from western States during the last year is nearly double that from this State.

It is seen that the total delivery from the Erie Canal has about doubled in the last ten years, reaching 1,644,699 tons in the last year. The cargoes of the boats which delivered these tons at tide water are ascertained to average 80 tons.

The Governor states in his message that an estimate has been made by the State Engineer and Surveyor, showing that by an expenditure of \$409,000 on the channel of the Erie Canal, it will allow the passage of boats of 150 tons.—nearly double the average cargoes of the boats which delivered the 1,644,699 tons at tide water in the last year.

If this be done, and at the rate of increase be no greater than for the past ten years, it would take twenty years to reach the capacity of the 150 tons boat. Suppose the increase to be twice as fast, or equal to that of the last year, it would still take ten years, and without increasing the number of lock-ages.

With a delivery at tide water last year of 1,644,696 tons from the Erie Canal, the whole tolls on

the canals were over \$3,000,000, or about \$2 on a ton of the delivery. At the present rates of toll, it may be assumed that every ton of increased arrival at tidewater will add \$2 additional toll. So that when the delivery at tidewater from the Erie Canal shall reach 3,000,000 of tons, whether it shall be in twenty years or in ten years, the tolls may be \$6,000,000, and at that rate for any less time. Every increased delivery of 100,000 tons would give an increase of \$200,000 in tolls.

Pennsylvania Railroad.

The prosperity of this road must always be a subject of deep concern to our citizens, and we are glad that there is much to show that it is now firmly established and rapidly progressive. The result of every month's and year's operation of the line, proves that it is continually growing in public favor as an avenue of intercourse between the west and east, and justifies the belief that it will eventually become one of the most successful improvements in the country.

We recently announced that the receipts of the company, during December, 1852, amounted to one hundred and ninety-eight thousand six hundred and twelve dollars, which was equivalent to an increase of one hundred and twenty-two and a half per cent. over the income for the same month in 1851. From an official statement just sent us, we learn that the receipts of the road for the month ending January 31st, 1853, were two hundred and thirty-three thousand five hundred and thirty-six dollars; which is an increase of thirty-four thousand nine hundred and twenty-four dollars over the receipts of the next preceding month, December, 1852—and an increase of one hundred and forty-one thousand three hundred and sixty-three dollars, as compared with the receipts in January, 1852.

These figures indicate very plainly, that our great central route is enjoying an extraordinary degree of success, and they are also full of gratifying promise for the future. In considering them, we find occasion for congratulating the stockholders in the road upon the excellent character of their investment, while, at the same time, they afford cause for even more pleasing reflections, with reference to the general interests of the city.—*Phil. North American.*

Provincial Railroads.

The Sherbrooke Gazette states "that Mr. Galt, President of the St. Lawrence and Atlantic railroad, who went to England, on railroad matters, has been very successful. A union of the St. Lawrence and Atlantic road with the Grand Trunk road, has been effected, and on such terms as will be likely to place the shares in the former at par, if not at a premium. An arrangement has also been effected with the Portland company, for a lease of their road on advantageous terms—contingent, however, on power being obtained to build a bridge over the St. Lawrence at Montreal, for which an application is to be immediately made to the Legislature. It is contemplated that the bridge will be stone piers, with iron tubes, varying from 150 to 200 feet span, with a centre of 360 feet, like the famous Menai bridge. It will be the first thing of the kind in America, and do infinite credit to the Province. Robert Stevens, the great engineer, is expected to come out to Canada, to decide on the plans, etc.—We also learn that the stock of the British American Land company, which a few years since was worth only six or seven pounds per share, is now selling in England for fifty pounds per share."

Maine.

Somerset and Kennebec Railroad.—At the large meeting held in this city, 14th inst., to devise means for the construction of the Somerset and Kennebec railroad, Mr. President Bronson stated that the estimated expense of building the road from Augusta to Skowhegan, and placing it in readiness for the cars, did not exceed \$550,000, to which an addition must be made to the extent of the recent advance in iron. A subscription of \$300,000 is deemed sufficient to secure the construction of the road—one half of which, it is said, can be procured on the route above Waterville, leaving the balance to be procured on the lower Kennebec and elsewhere.

The Kennebec and Portland railroad company is

to take the lease of the Somerset and Kennebec road for twenty years—to run, and keep the road in repair, on a rent of six per cent. per annum on its cost of construction. This is in the nature of an absolute guaranty to the stockholders of six per cent. for twenty years, which must make the investment a safe one, at least to the subscribers for stock in that enterprise.—*Augusta Age.*

Wide vs. Narrow Gauge.

The Rochester N. Y. Union relates the following incident as occurring upon the New York and Erie railroad, illustrating the superiority of the wide over the narrow gauge in railroads. It says:

Upon the arrival of the mail train at Delaware station, it was discovered that a car in the train, loaded with 10 tons of goods belonging to the American Express company, had lost a wheel, in consequence of the breaking of an axle—close to the inside of the wheel. The express messenger had not discovered any difference whatever in the motion of the car. The wheel was subsequently found four miles west of the station, the train having run that distance, at the rate of 25 miles per hour, with perfect safety. The bearing journals being inside of the wheel, the axle was securely held to its proper place. On all narrow gauge roads the journal is upon the end of the axle, and outside of the wheel. The late Boston and Maine railroad accident is a lamentable commentary on outside journals.

Mansfield and Sandusky Railroad.

The tonnage transported over this road the past year amounted to 78,000 tons, being an increase over the previous year of 44 per cent. Receipts for freight were \$201,713 00; or an increase of \$31,112. Receipts from passenger transportation for the year were \$96,100, showing an increase of 41 per cent. Receipts for transportation of mail \$14,000, making an aggregate of \$305,000.

Railroad Iron.

THE undersigned Agent for the manufacture, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales, or at this port.

For terms, apply to JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

To Contractors.

NIAGARA FALLS HYDRAULIC CANAL.

SEALED Proposals will be received at the Office of the Niagara Falls Hydraulic Company at Niagara Falls until Wednesday the twenty third day of March next inclusive, for the Excavation, Masonry, Bridging, Gates, Waste-Weir, Bulkheads, Docking, &c.

Plans, Profiles and Specifications may be seen at the Company's Office, at Niagara Falls; also at the Office of the Hon. C. S. Woodhull, No. 59 Fulton street, New York, and Walter Bryant, No. 22 Congress street, Boston, Mass.

The Company will have a steam drilling machine on the work after the fifteenth of March, to which they wish to call the attention of Contractors.

The Company reserve the right to accept or reject any or all of the Proposals as they may consider for the interest of the Company.

E. R. BLACKWELL, Chief Engineer,
m5 3t Buffalo, N. Y.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

March 2d, 1853.

JOHN H. HICKS,
90 Beaver st.

To Railroad Contractors.



PACIFIC RAILROAD.

SEALED Proposals will be received at the office of the Pacific Railroad Company, St. Louis, Missouri, until the first day of April next, for the grading, masonry, bridging and ties for twenty miles, and until the first day of May, for about seventy miles additional, terminating at Jefferson city. This division is mostly in the Missouri valley, and with the facility afforded for transportation on the river, and the ability on the side hill cuts of using a large force advantageously during the best part of the working season, it may be worked promptly and economically. There will be several large bridges on this division. The work will be divided into sections of about five miles, but contractors may take more than one section. Offers received either for cash payments in full, or a portion on the stock of the company. Plans and profiles will be ready for inspection fifteen days before the dates given above, and at any time information will be furnished by the Engineer. Security will be required for the faithful and prompt performance of the work.—The Company reserve to themselves the right to reject such offers as it may not seem to their interest to accept.

Other portions of the road, or of the South West Branch may be put under contract during the season.

THOMAS ALLEN, President.
THOS. S. O'SULLIVAN, Engineer.

To Contractors.



SEALED Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1853, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,
THOMAS B. STEVENSON, President.
CHAS. B. CHILDE, Chief Engineer.

JAMES A. LEE, Secretary.
January 20, 1853.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
Sole Manufacturers,
No. 85 Liberty St.
NEW YORK.

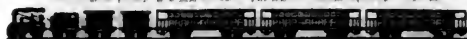
And in the principal cities and towns in the U. States. The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 1, 1854.

1v

Pease & Murphy,
FULTON IRON WORKS,
Foot of Cherry st., E. R. Office, 27 Cortices,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B.—Engines and Boilers repaired. 6t

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.

HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York, January 28, 1853.

PATENT Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

IRON.

Pierson & Co.,

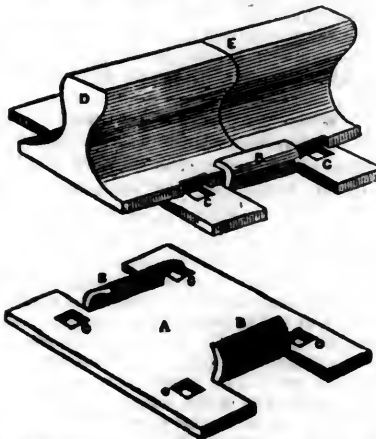
24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported on the most favorable terms.

February 14, 1853.

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:
Syracuse and Utica, Chester Valley, Penn.,
Buffalo and Rochester, Tioga, "
Northern, Norwich and Worcester,
Montreal and New York, Kings Mountain, S. C.,
Kenbec and Portland, Columbia and Granville,
Plattsburg and Montreal, Buffalo, Bayou Brazos and
Chicago and Rock Island, Colorado, Texas,
Milwaukee and Miss., Panama, and others.

For further information address,

N. C. TROWERIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.



HENDERSON AND NASHVILLE R. R.

SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure.

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

In consequence of the inclemency of the season, the high water, and other circumstances, making it in the opinion of the Board of Directors, impossible for our skillful and energetic Chief Engineer, Wm. Bewley, Esq., to execute fully the locating surveys of our Railroad in time for us to exhibit the maps, profiles, plans, estimates, etc., on the 1st day of March, 1853, as stated in our original advertisement, we have determined to make a change in our advertisement, lest Contractors should be deceived, and we now say that the maps, profiles, plans, estimates, etc., of our Railroad, will be ready for exhibition to Contractors at any time between the 10th day of April and the 10th day of May, 1853, within which time bids will be received, and that our original advertisement is thus far changed.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.
Henderson and Nashville R. R. Co.

Wilkinson's EXPLOSIVE RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

38

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK,

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
Iron, Chairs and Spikes
Also, Cars, Locomotives, and all kinds of Machi-
nery for Railroad purposes.
Office next door to the Custom House, Main st.
January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF

WARRANTED Cast Steel of superior quality for
Tools, Machinery and Engineering purposes.
Single and Double Shear, Blister, German, Spring
and Sheet Steel of every description; also, Cast Steel
Files of high reputation, specially adapted for the use
of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maldenlane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

LOW MOOR IRON.

WM. BAILEY LANG, 9 Liberty Square, Boston,
and 24 Broadway, New York, Sole Agent in
the United States and Canada for the Lowmoor
Iron Co., is prepared to receive orders for this justly
celebrated Iron, and offers for sale an assortment of
the Round sizes which he now has in store, and which
for strength, soundness and uniform quality, stands
without a rival.

Railroad Iron.

2000 TONS Railroad Iron, weighing about 59
lbs. per yard, "Erie" pattern of G. L. and
"Crawshaw" manufacture, now on the way from the
shipping ports in Great Britain to this port, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.
December 4, 1852.

Bowling Tire Bars.

40 Best Flange Bars 5 1/2 x 2 inches, 11 feet long.
40 " " 5 1/2 x 2 " 7 feet 8 in. long.
40 " Flat " 6 x 2 " 11 feet long.
40 " " 6 x 2 " 7 feet 8 in. long.
Now in store and for sale by
RAYMOND & FULLERTON,
45 Cliff street.

I. Dennis, Jr.,

WASHINGTON, D. C.,

ATTORNEY for Inventors, and Agent for Procur-
ing Patents—Practical Machinist, Manufacturer
and Draughtsman, of 20 years' experience. Circulars
containing important information, with a map of
Washington, sent to those who forward their address,
and enclose a stamp. 31tf

Devlan's Patent
Oil Manufacturing Co.,
12 BROADWAY, NEW YORK.

THIS Oil is extensively used on Railroads and
Steamships, and other Machinery, and is
worthy the attention of every individual or compa-
ny that uses Oil for Lubricating purposes. It is
cheaper than the best Spermin, because it answers the
same purpose and is more durable, thereby making
a saving of from 40 to 50 per cent. The best of
testimonials establish that fact, but cannot be given
in this notice. All that is required is to test the
matter, and if it will not answer as recommended,
it will be taken back and money returned.
New York, Feb. 9, 1853. 2w

Buffalo Car Works.

TOWNSEND & COIT, PROPRIETORS

WE are now erecting an extensive Establishment
for the manufacture of Railroad Cars, which
will be furnished with all the conveniences known to
the business, and ready for operation by the 1st day
of June next, at which time we will be ready to ex-
ecute orders for Baggage, Box, Platform and Cattle
Cars, of the most approved style and finish. Mean-
time we are prepared to make contracts for work to
be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1853.

SIMEON DRAPER, No. 46 Pine-st., offers for
sale, a variety of RAILROAD BONDS and
STOCKS; also CITY, TOWN and COUNTY
BONDS, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R.R.	" 1861-71
7 per ct.—Tioga R.R.	" 1872
8 per ct.—Peoria and Oquawka..	" 1863
6 per ct.—Maysville and Lexing- ton	" 1870
6 per ct.—Dauphin and Susque- hanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City	" 1866
7 per ct.—Mansfield & Sandusky	" 1860
7 per ct.—Toledo, Norwalk and Cleveland	" 1861
7 per ct.—Vermont Valley	" 1861
7 per ct.—New Jersey Central..	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington. Troy, N.Y.	1862

Also, second mortgage bonds of many of the above
companies, and—

7 per ct.—Saratoga & Washing- ton R.R. bonds.	New York, 1862
7 per ct.—Troy and Boston	" 1864
7 per ct.—Muscoogee Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford... ..	New York, 1862
10 per ct.—Mansfield and Sandus- ky R.R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R.R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
10 per ct.—City of Milwaukee.	" 1857
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wiscon- sin for improvement of Fox River.	" 1862

Troy and Rutland railroad Stock, with guarantee
of 4 per cent. dividend and one half surplus profits
of this and Rutland and Wash. R. R.
Rutland and Whitehall Stock, with guarantee of
7 per cent. dividend by Saratoga and Washington
Railroad.

Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York
R. R. Co.
Stock in the Mansfield and Sandusky R.R. Co.
Stock in the Chemung R. R. Co.
Stock in the Southern Bank of Kentucky.
Stock in the New York and Virginia Mail
Steamship Company, paying 20 per cent.
dividends.

**To Railroad Co's, Locomotive
Builders and Engineers.**

THE undersigned having taken the Agency of Ash-
croft's Steam Gauge, would recommend their
adoption by those interested. They have been exten-
sively used on Railroads, Steamers and Stationary
Boilers, where, from their accuracy, simplicity, and
non-liability to derangement, they have given perfect
satisfaction. In fact, for Locomotives, they are the
only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Aug. 23, 1951 3m

A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels
for Cars and Locomotives. Also furnish Wheels
fitted complete on best English and American Rolled
and American Hammered Axles. 31tf

**To Railroad Companies, Car
Builders, Machinists, etc.**

SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for man-
ufacturing Car and Locomotive Axles, Piston
Rods, Wrought Iron Shafting, etc., either hammered
or rolled, are prepared to offer inducements as to qual-
ity and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc. 157*

The Cold Spring Iron Works,
INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-
setts, manufactures CAR AXLES, and all kinds
of WROUGHT IRON used in the manufacture of
LOCOMOTIVES and CARS; also, BAR IRON of
all descriptions. Particular attention is paid to the
manufacture of CAR AXLES, and the Works being
situated in a region of WOOD and CHARCOAL,
with which their Axles are exclusively made, the Com-
pany feel confident they can furnish an article equal,
if not superior, in quality and finish to any in the
market. They solicit the orders of RAILROAD
CORPORATIONS and CAR BUILDERS, and prom-
ise they shall be promptly attended to: and execut-
ed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Rail-
road, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad Riv-
er and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder, " "

Address HENRY MELLUS, Agent,
Boston, Mass.
or, GEO. W. PRESCOTT, Supt.
Otis, Mass.

November, 12, 1852.

**Toledo, Norwalk and Clevel-
and Railroad.**

OPEN through, completing the last link in the chain
of Railroads between New York, Boston, Phila-
delphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7,
1853, Passenger Trains will run
daily (Sundays excepted) as follows:
Leave Toledo at 9 A. M. and 10 P. M.
Leave Cleveland at 9.20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Rail-
road, for Chicago and the West.

At Bellevue with trains of Mad River and Lake Erie
Road, for Sandusky City, Dayton, Indianapolis,
Cincinnati, etc.

At Monroeville with Mansfield and Sandusky City
Road, for Sandusky City, Shelby Junction, Col-
umbus, Newark and Zanesville.

At Grafton with Cleveland, Columbus and Cincinna-
ti Road, for Shelby Junction, Columbus and
Cincinnati.

At Cleveland with Lake Shore Road, via Dunkirk,
for New York and Boston, via Buffalo, for New
York and Albany and for Western Road and Bos-
ton, with Cleveland and Pittsburgh Road for
Pittsburg, Wheeling, Philadelphia, Baltimore, &
Washington City.

E. B. PHILLIPS, Supt.

Office T. N. & C. R. R.,
Norwalk, O., Feb. 2 1853.

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,

HAVE constantly on hand a good assortment of
Iron and Steel, expressly adapted to the use of
LOCOMOTIVE and CAR BUILDERS,
AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,

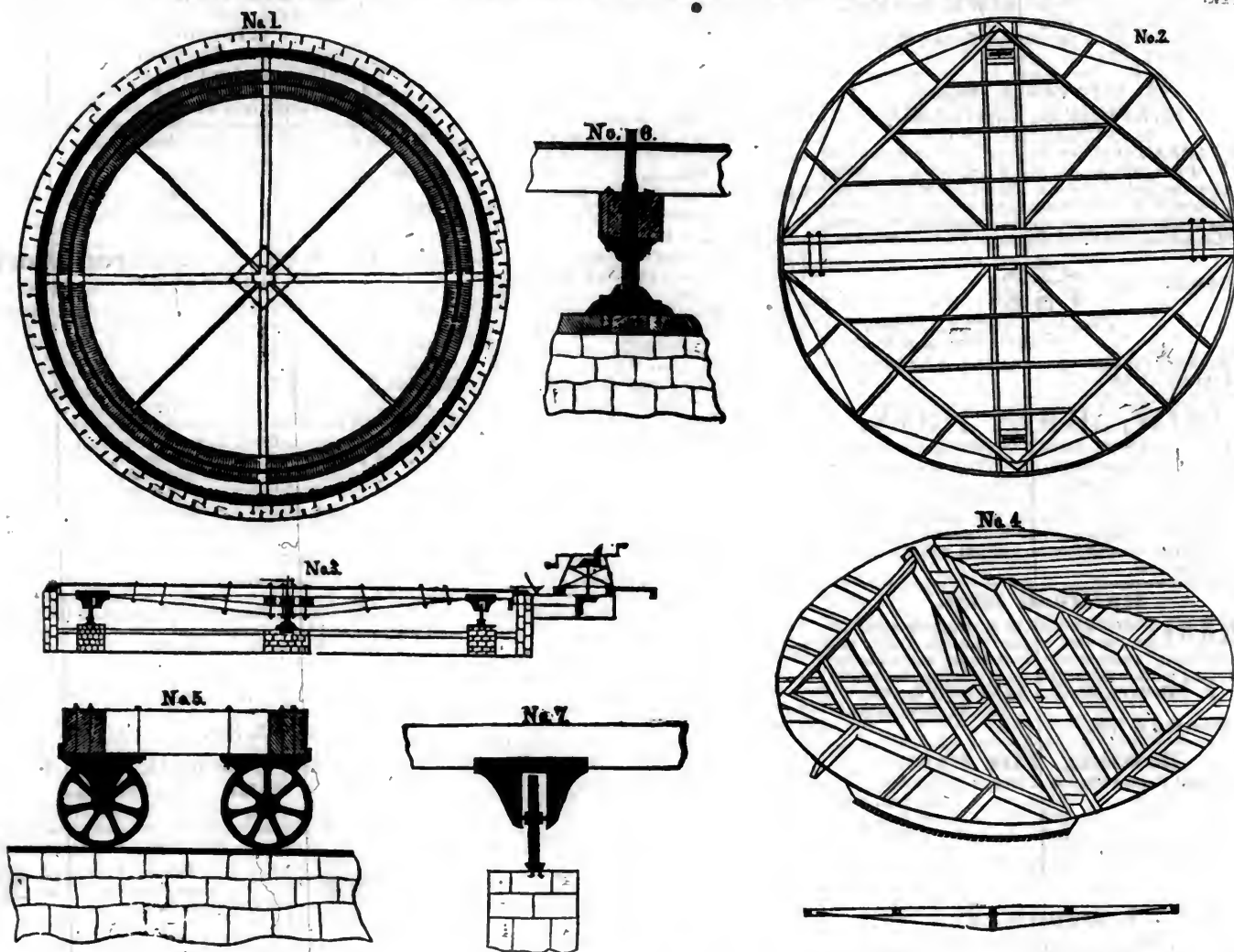
Feb. 16, 1853.

90 Heckman st., N. Y.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchas-
ers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
New York.
November 19, 1852.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN in 25 SECONDS.**

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Supt of Cleveland and Pittsburgh R. R.
Wm. E. Furguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.
Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcass Framing.
Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.
Fig. 4, gives a perspective view of the rim, segments, decking, etc.
Fig. 5, is an end view of the main trucks, with pedestals and wheels.
Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.
Fig. 7, shows a cross section of the track wall, well and pedestal.
For further particulars, please address
D. M. CARHART,
Cleveland, Ohio.
February 14, 1853.

LOW MOOR AXLES.

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent - WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.
E. DEWOLF, Jr.
Oct. 2, 1852. 17*

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.
JAS. PRENTICE,
Feb. 9 1853. 315 Broadway, N. Y.

Railroad Iron.

2000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.
December 4, 1852.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 61f

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?
THOS. PROSSER & SON,
Sole Agents, 28 Platt st., New York.
New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 11.]

SATURDAY, MARCH 12, 1853.

[WHOLE No. 882 VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, March 12, 1853.

New York and Erie.

As little is known of the early history of this enterprise, we give the following extracts from the reports of the company published in 1844 and '45, which, with the article in our paper of the 19th, will convey a clear idea of the condition of this work at the above date, and its progress to the present time.

Extensive portions of this road were placed under contract as early as 1840 and 1841. The company subsequently became embarrassed for want of means, failed, and in 1842 its property was placed in the hands of assignees, and the work suspended.

In 1843, vigorous efforts were made to secure the necessary means for the resumption, and prosecution of the work. A new board of directors were chosen, and Horatio Allen Esq., now of the *Novelty Works*, was placed at the head of the company. On the 8th day of February, 1844, this board issued an elaborate report, or statement, showing the condition of affairs, with estimates of the probable amount necessary to complete the road, income, etc. etc. This is the fullest and most complete report ever issued. It brings the history of the company down to its date, and its perusal will materially help to a correct understanding of what has since transpired.

The report, after alluding to the fact of their recent election, of a new board of directors, to the embarrassed state of the company's affairs, and the

necessity of prompt action to avert a complete failure of the enterprise, goes on to state:

The board found, that the entire property of the company was in the hands of Assignees, having been so placed in April, 1842, to secure the creditors of the company; that the indebtedness of the company including interest to January 1st, 1844, was about \$600,000, a large portion being in the form of judgments; that in November, 1841, when contractors were prosecuting the work on contracts, covering 270 miles of road, the work had been suspended by resolution of the board, and had not since been resumed; that these contracts remained in force, and that large claims for damages for the suspension of the work might be presented.

The board deeming that the exigencies of the company required the unconditional surrender of these contracts, the relinquishment of all claims for damages, and the agreement on the part of the creditors, to postpone the payment of the indebtedness, issued a circular expressing their views, and employed suitable agents to carry them into effect.—So entirely without pecuniary resource was the company, that the funds necessary for the payment of these agents and for minor office expenses, have only been obtained by private subscription on the part of a few friends of the road.

The result of these efforts has been:

1. The unconditional surrender of the contracts without important exception.

2. The relinquishment of all claims for damages.

3. A change in the character of the indebtedness to the following effect.

Of the total amount of indebtedness—

\$125,000 are now in the form of 6 and 7 per cent certificates.

\$305,000 are due to parties who have agreed in writing to take 6 and 7 per cent certificates on the surrender of the assignment.

\$143,000 remain unchanged.

Of the amount unchanged in its character—

\$50,000 are due to parties who will probably take the certificates.

\$53,000 are due to parties who refuse to take certificates, but who will to some extent give time, and \$40,000 due either to parties unknown, or to parties, whose action is uncertain.

The 6 per cent. certificates are promises to pay the sums named therein on the 1st of January, 1849, and interest thereon semi-annually, the net revenue of the Eastern division, being pledged for the payment of the interest.

The 7 per cent. certificates are promises to pay the sums named therein on the 1st January, 1849 and interest thereon semi-annually, the net revenue of the Eastern division, being pledged for the payment of the interest.

The 7 per cent. certificates are promises to pay the sums named therein, with accumulative interest at 7 per cent on the 1st January, 1849.

The total issue of either class of these certificates is not to exceed \$300,000.

The indebtedness of the company, which can embarrass its operations within 5 years, being thus reduced to less than \$100,000, the board have been able to obtain the surrender of the assignment and to recover possession of the road and other property of the company.

Having thus placed the indebtedness of the company in a comparatively favorable position, and having relieved future operations of all connexion with past contracts and questions of damages, and having the property of the company again in possession, the next subject of investigation has been the character, condition, and value of that property.

The property of the New York and Erie railroad company has been found to be of the following character.

1. 64 miles of railroad finished: of which 53 miles are at the Eastern termination in Orange county, most of which have been in use for general purposes, since September, 1841; and 7 miles double track at the Western termination, on Lake Erie, which have only been used for the transportation of railroad iron and other materials of construction; and 4 miles single track near Corning, Steuben county.

2. Of 177 miles of road in detached portions of 1 to 20 miles in extent ready for superstructure, 90 miles of which are of "piled" and 87 miles graded road, on about one-half of which the bridges are complete.

3. Of work done in partially grading 40 miles of road.

4. Of materials in timber consisting of rail timber, cross-timber, piles, etc., which have been prepared for the roads.

5. Of the right of way, obtained by purchase or concession for 325 miles, and permanent arrangements with the owners of adjacent property for building and maintaining the fences on 220 miles of the road.

6. Of grants of land to the company for depots, etc.

7. Of surveys, by which the general route for the 450 miles has been selected, and the exact location of 350 miles has been determined.

8. Locomotives, cars, &c., on 53 miles of road in use.

As the question of the value of this property necessarily embraces that of its condition, they may appropriately be considered together; and, as the cost to the company is the first means of arriving at its value, a summary of the expenditures of the company may here be appropriately presented, and to render the statement complete, and to show that it embraces all the expenditures of the company, since its commencement, there is submitted, in the first place, a summary of total receipts, and the amount of outstanding indebtedness for work done.

The receipts of the New York and Erie railroad company appear to have been as follows:—

From capital stock of the company, of which \$24,461 04 have been received since report to the legislature, in 184	\$1,606,218 67
*Deduct stock held by company	104,388 53
	1,501,830 14
Net proceeds of state loan of \$3,000,000	2,599,514 92
Interest received on hypothecated stock	39,942 40
Rent of offices	2,928 16
Donations in Allegheny county	361 00
Receipts from eastern division, prior to assignment	18,559 00
	4,163,135 62
To which must be added, in connexion with the value of work done, the amount of indebtedness	573,814 39
	\$4,736,949 99
<i>Summary of Expenditures by the New York and Erie railroad company.</i>	
1. 7 miles double track at the western termination	\$162,000 00
4 miles single track near Corning	43,000 00
2. 53 miles single track at eastern termination, including pier at Piermont, \$200,000	1,788,523 11
3. Cars, engines, depots, shops, &c.	178,558 75
	1,957,081 86
4. Work in progress of a permanent character, as excavations, embankments, foundations, and masonry of bridges, &c.	785,369 62
5. Wooden bridges, finished and painted. Estimated	100,000 00
6. Materials and work of a perishable character, as rail and bridge timber, piers, and piles driven, timber pieces, and docking for bridges, &c.	585,812 81
7. For right of way, and permanent provision for fences	286,299 57
8. For surveys, locations and superintendence, engineer department	331,318 79
9. Interest, including that paid on state stock	225,753 06
10. Miscellaneous, salaries of officers, clerkship, printing, legal expenses, &c.	230,266 93
	4,716,872 60
Total on the road	4,716,872 60
Amount expended in running the eastern division, prior to the assignment	18,000 00
	\$4,734,872 60

As the only consideration, which induces an examination into the value of this property, is that connected with the completion of the road by the application of new capital, it is thought that the simplest and most practical form in which to present its present value, is that of an answer to the question—*What would the property of the New York and Erie railroad company be worth, to a new company prepared to construct a road on the same location?*

If an accurate reply to this question were necessary, the board would be compelled to postpone their report, until the investigation of competent engineers, during several months of a milder season of the year, placed in their hands the information on which alone a correct opinion could be formed. But they believe that, under the circumstances of the case, such a course is unnecessary and inexpedient. In reference to future operations, the two great questions as to expenditure, are—

1. *What will it cost to complete the road?*
 2. *What is the amount of the present capital stock, which, with the new capital, will form the sum on which dividends are to be paid?*
- On neither of these questions does the estimated value of the present property have any influence.

* *Note by the Treasurer.*—This amount results from settlement of contractors' accounts predicated on the surrender of the contracts.

by the liberality of the state, the property far exceeds in value the present capital stock, and if an estimate of present value be assumed below the real value, the injury, as far as future operations are concerned, will be solely the presenting less inducement to new capital than an accurate determination of the value would establish.

On the other hand, the Board cannot, in a matter involved in uncertainty, and without the means and time for accurate information, determine on naming a sum which new capital shall look to as a valuable consideration, on any other principle than that of taking one so low that as to it there can be no doubt.

These remarks are made, that no inference unfavorable to the past management of the road may be drawn from the fact, that a sum less than the cost of the work, as it appears on the books of the company, is named as that which it would be worth to a new company about to embark in its construction.

It is proper to add, that in consequence of a reduction in the prices of provisions, wages for labor, as well as the cost of railroad iron, the same amount of road could be constructed now for an expenditure materially less than would have been required for the same description of road, in the years when the greater portion of the New York and Erie road was in progress of construction.

It will also be perceived, that by item 6, the materials of a perishable character that have remained in an exposed situation for two to three years, have cost \$554,760; of this amount, \$250,000 are for timber of various descriptions, which have not yet entered into construction, but which has been delivered on the line of the road, or has been prepared for delivery.

Referring to the preceding remarks in explanation, the board state, as the result of their information and enquiries, that the expenses of all descriptions necessary to produce the work now existing on the line of the road—the information as to routes and locations—the right of way, grants of land for depots, and provision for permanent fencing, together with the motive power, cars, &c., on the 53 miles of road now in use, cannot be named at less than \$4,000,000; and that it would be more to the interest of a new company, to purchase these results for \$3,400,000, and assume the indebtedness for \$600,000, than to enter on the survey of the routes and the construction of the road from its commencement.

The property of the New York and Erie railroad company being taken at \$4,000,000, the next question is as to the ownership of this property.

The character of this ownership is found to be affected most essentially by the issue of the undertaking.

By the books of the company, it appears, as already explained, that the payments made on stock on which dividends are to be paid, amount to \$1,501,830; which amount, therefore, may be taken as representing the present ownership on the part of the stockholders. But there is an outstanding indebtedness to individuals of about \$600,000 to be provided for, and of three millions to the state, secured by a lien on the road and its appurtenances, prior to all other claims. If the road be not completed, the ownership is therefore substantially in the state, and, in view of that issue, the stock of individuals is but of little value.

But the act of the legislature of 1843 provides a bonus to future subscribers to the stock of a most valuable character. That act provides, that if the road shall be completed by April, 1849, the state will either reimburse all expenditures (except the \$3,000,000,) principal, and interest at 7 per cent., or will waive all claim. It may safely be assumed that the latter alternative will be the one adopted; and therefore, in view of the completion of the road, it may be stated, that the stockholders will then be possessed of property, worth at this time, over and above the indebtedness, not less than \$3,400,000, and represented on the books of the company by \$1,501,820.

The present situation of the company being thus defined, the board are prepared to take up the subject of future operations.

The first question in this branch of enquiry has been that of the cost at which the road can be completed. On this important subject, neither the

season of the year, nor the time within which it is highly expedient that this report should appear, permit the board to make, or cause to be made, an accurate verification of the estimates found among the documents of the company. Such verification would be a work of great labor, and would consume many months. The board have therefore called on the chief engineer, for an estimate of the capital necessary to complete a single track from the Hudson to Lake Erie, with an allowance of 10 per cent. for turnouts, and have requested the engineer to accompany his report with full explanations as to the manner in which these estimates were prepared.

The following is the report of the engineer:
Office of the New York and Erie Railroad Co.
New York, Jan. 29, 1844.
HORATIO ALLEN, Esq., Pres't of
the N. Y. & E. R. R. Co.

SIR:
In compliance with your request, I present, below, an estimate of the cost of completing the New York and Erie Railroad.

"It is assumed that the road will be finished with a single track, with an allowance of one-tenth additional, or 45 miles, for turn outs and sidings. The rail which I have estimated for, weighs 56 pounds per yard, being that now used on the parts of the road already completed."

"At the close of the year 1841, when the whole line was under contract, and when on two-thirds of the extent the work was actively in progress, careful and detailed calculations were made by the Division Engineers, from actual and accurate measurements of the whole sum which, at contract prices, would be requisite to complete the road, including the laying of the track, but not the cost of the rails, spikes and castings, nor that of transporting these materials to convenient points on the line of the work. The road was definitively located, and the Engineers who made the calculations expected to continue their supervision until the contracts were completed. The prices were actual contract prices; a considerable portion of the work had been done; the quantities remaining to be executed were carefully determined; and so far as the Engineers may be supposed to have been under the influence of any motives likely to affect the result, they would rather have been inclined to increase the sum total than to diminish it below what was really necessary, in order that the actual results on the final settlements might be brought within their calculations. You will perceive, therefore, that the usual sources of error and fallacy are, under these circumstances, not embraced. These remarks apply with especial force to the part of the line from Binghamton to Lake Erie (250 miles). They are substantially true, also, with reference to the part between Binghamton and Mudleton, (148 miles) as this was likewise under contract, and the estimates were made with unusual care. From various causes, however, there is certainly a greater chance of error east of Binghamton than west of it; but from the statements which the Engineers have made to me, I feel quite confident that the quantities allowed for are ample."

"The full details of these calculations exist in the offices on the line of the road where they were made. I have exhibited to you voluminous summaries of them, and the condensed result of the whole is shown in the following statement."

"Cost of completing the several divisions of the New York and Erie Railroad, including land, workmanship of every description, and all the materials, except iron rails, spikes, and castings, viz:
Western division.....\$762,013 09
Susquehanna division. 537,101 04
Central ".....1,034,335 84
Delaware ".....1,515,711 52

Total.....\$5,849,161 49

Cost of the Rails.
At the present time a ton gross of heavy rails can be laid down at N. York city, at a cost, (including duty and charges) of about \$57.—The duty is \$25.
The quantity required will be 36,153 tons, which at \$57 per ton will amount to.....2,060,721 00
The transportation of this iron to the various accessible points on the

line of the road, ready for distribution, will cost on an average \$8 50 per ton, say..... 307,300 50
If the State would remit the Canal tolls, this sum would be reduced about one half.

Spikes.

The quantity required is 1,057,224 lbs., estimated at 6 cents per lb. delivered, making..... 63,433 44

Castings.

The quantity required is 4,383,268 lbs., which at three cents per lb., is..... 131,498 04

Total..... \$6,412,114 47

If, as I think would be proper, a deduction of 11 per cent be made from the cost of the contract work, as given above, viz: \$3,849,161 49, on account of the lower rate at which work can be done now than when the existing contracts were entered into, say..... 412,114 47

We shall have as the estimate for completing the track for use..... \$6,000,000 00
The out-fit for the commencement of business, viz: for depots, water stations, engines, cars, etc., in accordance with detailed statements which it is not necessary to give, will cost..... 1,000,000 00

Making the whole sum required, \$7,000,000 00
I have the honor to be, very respectfully,
Your obedient servant,

T. S. BROWN,
Chief Engineer.

In commenting upon the above, the report goes on to say:

It has already been stated that \$600,000 will be required to meet present indebtedness. It therefore appears that the total capital required will be \$7,600,000, and that on the completion of the road the capital stock for which dividends must be earned, will stand thus:

Stock issued prior to January, 1844..... \$1,501,830
" " subsequent, "..... 7,600,000

Total capital stock..... \$9,101,830
While the property which this capital will own could not have been acquired for a less sum than..... \$11,000,000

Little was effected under this organization, save what appears in the above report. The action taken however, contributed materially to relieve the company from its embarrassed condition. The policy recommended was adopted by the new board chosen in the latter part of the same year, at the head of which was placed Mr. Loder, who has continued its President up to the present time.

On the 24 day of September, 1845, the company issued an address to the public, signed by Mr. Loder, soliciting additional stock subscriptions, from which we copy as follows:

"To complete a single track to Lake Erie, six millions of dollars are required. The cost of the work to the stockholders will then be \$7,350,000; and adding a liberal amount to provide for cars and engines for the commencement of business, the road, with a heavy (T) rail, estimated at \$65 per ton, will be brought into use for less than \$20,000 per mile. The actual cost of the road will be over \$28,000 per mile, but the liberality of the State, and the surrender of half of the stock by the present holders, reduces it to this very low rate.

In reference to the estimates, it may be proper to state, that responsible contractors have offered to take the whole work, at prices nine per cent less than those assumed in the calculations on which they were based.

As an inducement for capitalists to subscribe, interest, as will be seen above, will be paid upon the instalments, until the road is completed. This the company will be able to do from the surplus earnings of the 53 miles of road already in operation, and such

additional portions as may successively be brought into use. Should the requisite amount be at once subscribed, the whole road may be completed within three years from next spring—more than half of the work necessary to prepare the entire line for the rails having been done, and the surveys completed.

The directors cannot doubt that if the subject of the New York and Erie railroad were now for the first time presented to our citizens, without any collateral advantages, and based upon its own intrinsic merits, it would commend itself forcibly to their favorable consideration; but added to the other inducements are those of the release by the State of the \$3,000,000 loan, and the reduction of the old stock from \$1,500,000 to \$750,000, making altogether a bonus of \$3,750,000 to the new stockholders. Thus the whole work on which about \$5,000,000 has been expended will be represented by stock, and debts to the amount only of \$1,350,000."

This sum of \$1,350,000 was made up of the outstanding stock, \$750,000, and the floating debt referred to above, and which is now represented by the \$500,000 certificates.

It is proper here to state by way of explanation, that as an inducement to new subscriptions, the old stockholders surrendered one half their stock, viz: \$750,000, which operated as a bonus or gift, to the company, to that amount.

It will be seen that Mr. Loder adopts the estimate of Major Brown, the Chief Engineer, already given. His estimates, as well as those of the preceding year, were based upon the most careful and thorough surveys of the line, made under such circumstances as to "free them from the usual sources of fallacy and error." As additional evidence in confirmation of these estimates, Mr. Loder states "that more than one half of the work necessary to prepare the entire line for the rails had been done, and surveys completed;" and further, "that responsible contractors had offered to take the whole work at prices nine per cent less than the above estimates."

Here is something tangible. Estimates in detail, prepared and sanctioned by two of the most distinguished engineers then in the United States, Major Brown and Horatio Allen, are given. Surveys had been completed, the whole work to be done was thus spread out before the company. Responsible contractors had offered to take it, at a large deduction from the estimates. Uncertainty was at an end.—Demonstration had taken the place of conjecture.

Upon the accession of Mr. Loder to the presidency, the cost of the road, as represented by its indebtedness, was very nearly as follows:

State loan..... \$3,000,000 00
Stock..... 1,501,830 14
Floating debt, etc. 235,149 85

Increase under his administration:
1st mortgage bonds... \$3,000,000 00
2nd mortgage bonds... 4,000,000 00
Income bonds..... 7,000,000 00
Convertible do..... 3,500,000 00
3d mortgage negotiated. 3,000,000 00
Stock..... 7,116,991 17

Total cost..... \$32,253,941 16

Excess of cost over Mr. Loder's first estimate..... \$19,266,991 17

As vouchers for the above, the directors give, under the sanction of the oaths of the treasurer and superintendent, the following items:

Graduation, masonry, and bridging \$10,661,624 92
Superstructure, including iron.... 4,790,322 46
Passenger and freight stations, etc. 1,048,199 53
Land, land damages, and fences... 1,077,365 67
Locomotives..... 1,349,987 29
Passenger and baggage cars..... 262,878 78
Freight and other cars..... 1,162,745 22
Engineering and agencies..... 475,821 29

\$20,828,945 16

Total receipts, as per above..... \$32,253,941 16
Total cost..... 20,828,945 16

Amount unaccounted for..... \$11,424,996 00

We include in the above, \$3,000,000 of the new loan, as the present amount of the floating debt is undoubtedly quite equal to this sum. The \$3,000,000 of state aid, and the \$750,000 surrendered stock, were both gifts outright, and consequently constitute no charge upon the company. The proceeds of the state loan and the surrendered stock were used in construction, and make up a part of the above items of cost. Provided, therefore, that nothing had been lost, the items of cost would make a sum larger than the capital, as now represented by its stock and debts, by \$3,750,000, instead of \$11,424,996 00 less.

We bespeak the careful attention of our readers to the above extracts from the reports of 1844 and 1845. They recite the previous history and condition of the company. They show the value of the work then done. They give most carefully prepared estimates of the prospective cost of the road. These estimates were adopted by Mr. Loder as the basis of his calculation, when he assumed the direction of the road. We have here what we have so often insisted upon, the proper evidence, furnished by the proper parties, as to the cost of the road. When such estimates are given, we expect that the work will be done within them; or in case of excess, that satisfactory explanations will be given.

Since the date of Major Brown's, we can find no report whatever from any engineer employed by the company, and presume that none have ever been made. We are, therefore, in a great measure, left to conjectures for the causes of the increased cost of the road.

In the mean time, the company have made four reports or exhibits to the public, in addition to those made to the legislature, in which the cost of the road is estimated as follows:

Estimate as per report of 1848..... \$11,000,000
" " " 1850..... 17,178,000
" " " Feb. 15, 1851 20,500,000
" " " Dec. 24, 1851 23,750,000

Is not the absence of all proper information as to the cause for this immense increase, evinced in itself that no good reason exists?

The report to the legislature, under date of 30th of September last, stated the cost of the road to be \$27,551,205 71. Since which, the \$3,000,000 of the new loan has been negotiated, nearly all of which will be required to pay the floating debt.

The double track, which is in progress, was estimated by Mr. Loder to cost \$10,000 per mile. Provided this was completed and paid for, its cost would account for \$1,250,000 of the increased expenditure over estimate. No part of the double track is completed, however, and only a portion of its cost paid for.

We contend that the dividends paid since the opening of the road, and the recent mortgage of \$10,000,000 are breaches of good faith on the part of the company. At the time that the several unsecured loans were negotiated, the public were assured that the present sums sought to be borrowed were all that were needed to complete the road. Each subsequent loan weakened the security of the previous one. Are not the stockholders in good faith bound to redeem the pledges given? Have they a right to create further debts, and still appropriate to themselves money apparently earned, but needed to pay such debts? We answer, no. And further, have they a right to create a debt, under

the express statement that no further sums would be required to complete the road, and then make these very sums—so borrowed and expended upon the road—the basis of a mortgage which takes precedence of them, and which may render them entirely worthless? We contend that this is a flagrant outrage upon all honest dealing, which will neither be sanctioned by the public, nor by the deliberate judgment of the stockholders, when they have had time to reflect upon the matter, and for which they should not be held responsible. We think it to be an act unjust in itself, and calculated to throw great suspicion and distrust over all our railroad negotiations and securities, and for which the whole of this vast interest must suffer. How will foreigners, who can look upon our acts with impartial eyes, regard such proceedings? If this is the way that our railroads are to be managed, we fear that we shall have poor credit in that quarter, to say the least.

Steubenville and Indiana Railroad.

MR. POOR:—

I have just seen an "Exhibit of the affairs of the Steubenville and Indiana Railroad Company," accompanied by a map of the road and connecting lines, which was issued on the 1st of October last; and find upon the map such a marked error in the distance indicated for our road and one of its connections as to induce me to ask through your journal a correction.

The length of the Central road (or supposed to be intended for the Central) between Zanesville and Wheeling is stated upon the map to be 94 miles, when the actual distance by location is less than 81 and a quarter miles. The railroad distance also between Wheeling and Greensburg is marked at 83 miles, when the report of the Chief Engineer of that road makes it but about 77 miles. This in any calculation of distances would make the route of the Central Ohio and Hempfield roads about 19 miles less than is generally rated for them, by the Steubenville interest.

Respectfully, J. H. SULLIVAN,
President of the Central Ohio Railroad
March 9.

Ohio.

Central Railroad.—We learn that the work upon the unfinished portion of this road is making very satisfactory progress. The high favor with which the project is regarded, secures ample means for construction as fast as wanted. We learn that a sale of non-convertible bonds issued upon the Eastern division, was recently made in Baltimore, upon terms favorable for the company. The whole issue upon the Eastern division, of 81 miles, is 800,000.

The Western division extending from Zanesville to Columbus, was completed some time since, and is now in possession of a lucrative traffic. The bonds issued upon this division, are in demand, at prices varying from 102½ to 105.

Georgia.

Southwestern Railroad.—At a meeting of the board of directors of the Southwestern railroad, held in Macon on the 10th inst., a dividend of four dollars per share was declared for the six months ending on the 31st ult. At a subsequent meeting of the stockholders, held on the same day, the following gentlemen, constituting the present board of direction, were re-elected for the ensuing year:

L. O. Reynolds, President; R. R. Cuyler, J. W. Anderson, W. A. Black, W. S. Holt, A. H. Chapel, directors.

Cost of Transportation by Railroad.

We find annexed to a report of the committee of stockholders of the Western railroad, appointed to examine into the system of accountability in the collecting and disbursing departments; and also the condition of the property of the company; a letter addressed to the committee by the president of the road, W. H. Swift, upon the subject of the cost of transportation.

As this letter presents the results of the operation of a number of the most important railroads in Massachusetts, for a series of years past, we give below all of it that has direct reference to the subject under discussion.

WESTERN RAILROAD OFFICE,
Boston, Jan. 24, 1852.

A. H. BULLOCK, Esq., Chairman, &c.

SIR:—Referring to your communication of the 13th inst., and to the conversations since had with you upon the subject of the Western railroad, I have thought it might be well to extend some of the remarks heretofore made to you, and to make some further statements in writing, by means of which the committee, if it should desire to do so, might compare the expenses of repairs, work done, &c. on the Western road, with those of other roads in Massachusetts. To enable me to do this satisfactorily, I have resorted to the official returns made annually to the legislature, say from 1846—the first year in which the returns were made in their present form—to 1850, inclusive; and have extracted from them such data as have appeared to me to be necessary to exhibit the details, which I wish to bring to the notice of the committee.

In matters pertaining specially to the Western road, not detailed in the returns made to the legislature, I shall endeavor to confine my statements to such facts as I have gathered from reliable sources, omitting all for which I have not warrant.

For convenience of reference, and to enable me to present comparative results, I shall tabulate the information derived from the legislative documents.

The expenditures are classed in the official reports under three general heads:

1. Expenses relating to the road itself, including all repairs of track, road bed, bridges, renewals of iron, wages of switchmen, gate keepers, &c.; all that is included in the returns under the head of "Maintenance of Way."

2. Expenses of repairs of engines and cars, and for new engines and cars to cover depreciation.

3. Miscellaneous expenses, embracing fuel, oil, salaries, gratuities, damages, &c.; in short, all expenses not included under the first and second heads.

It is principally the expenses under the first and second heads, which we wish to discuss, viz., maintenance of way and repairs of engines and cars. These items should be combined and considered together, for they are part and parcel of each other,—nothing being more true in the working of a railroad, than that, if the repairs of a road are neglected, the consequences are immediately shown in the enhanced cost of repairs of engines and cars; together they make up the road and equipments. To enable you to judge whether this has been done in the case of the Western, and whether, in comparison with other roads, as much has been done by it as should have been done, I submit the tables before referred to.

The first table, marked A, contains the cost of Maintenance of Way and Repairs of Engines and Cars, per mile run, in five years (1846 to 1850 inclusive,) on the Western, Boston and Worcester, Boston and Maine, Boston and Lowell, Fitchburg, Eastern, Boston and Providence, and Old Colony railroads.

It will be seen by this table that, during the five years specified, the aggregate of miles run by all the trains, on all the roads named, amounted to 13,755,550 miles; and that the aggregate sum expended by all for maintenance of way, was \$2,004,563; and for repairs of engines and cars, \$1,879,330; and that the total expenditure, for both these objects, was \$3,883,893.

The table will further show the average amount

expended by each road, per mile run, during the five years.

The general result furnished by this table is this: The average sum paid for maintenance of way by any one road, per mile run, by trains, during the five years, was 22.41 cents. The least average of the same was 8.17 cents, and the mean of the whole was 14.57 cents.

The largest average sum paid for repairs of engines and cars, for the same time, per mile run, was 24.65. The least average of the same was 9.39, and the mean of the whole was 13.66 cents.

The largest sum paid by any one road, in any one year, for maintenance of way and repairs of engines and cars combined, was 49.8 cents; and the least sum paid by any one road for both, 11.4 cents; and the mean of the whole was 28.23 cents per mile run for both.

In the case of the Western, its maximum (1847) for both was 39.4 cents, its minimum (1850) was 30 cents, and its average for the five years, 33.22 cents.

Some of these lines have two tracks, and some but one. The effect of the double tracks would, of course, be to distribute the work done over a larger extent of rails; the single track being relieved, its expenses of repairs should, in such case, of course be less; in other words, it should not cost twice as much to maintain a road with two tracks as it would to maintain it with one.

Computing the cost of maintenance of way and repairs of engines and cars, by the actual length of each road, without regard to the number of tracks, it will be ascertained that one line has cost, upon an average of the five years, \$4,352 per mile per annum; that another has cost \$3,069 per mile per annum; and that all others range between \$1,586 per mile per annum, and \$1,108 per mile per annum.

In the Western, the average of the five years was \$1,586 per mile per annum.

The next table B, contains a statement of all the work done on all the roads before named in five years (1846 to 1850 inclusive.) It exhibits, also, the entire cost of doing this work; that is to say, all three classes of expenses are included, being the amount expended of every kind, except interest on capital.

In order that a comparative statement of the work done on the several roads may be presented, it will be necessary to assume, that it costs as much to transport a passenger one mile, as it costs to transport a ton of freight one mile; and while we know that this is not true in all cases, we do know that it is true in some cases. For the purposes of this comparison, however, it is immaterial whether we assume the cost of the passenger to the freight to be as 1 to 1, or as 1 to 2. Together, they constitute all the work that has been done upon all the roads; and it is resolved into one passenger carried one mile, or one ton carried one mile. Another table will show the proportion of each carried.

The general result furnished by table B is as follows:

759,390,026 passengers or tons of freight were transported one mile on all the roads named, during the five years specified, at a gross cost of \$10,977,839; and to do this work, the trains ran 13,755,550 miles.

The table will show that the maximum cost was 1.994 cents per passenger or per ton, carried one mile; the minimum do., 1.302 cents do. do.; and that the mean or average of the whole was 1.445 cents per mile.

In the Western, its figures stand: 213,925,952 passengers or tons, carried one mile, at a gross cost of \$2,937,593; and the average or mean cost, 1.373 cents per mile.

The next table, C, will show the useful effect produced—being the amount of available or paying work done for each mile run by trains in the five years (1846 to 1850 inclusive) expressed in passengers, or in tons, carried one mile.

The general result is this:

13,755,550 miles were run by trains, and 759,390,026 passengers or tons of freight were moved one mile, and the average number of passengers or tons of freight carried for each mile run by trains was 54.12. The maximum number was 68.4; the minimum, 40.0; mean, 54.12.

In the case of the Western, 3,696,713 miles were

run by trains; aggregate of passengers and tons carried, 213,925,952; average number carried for each mile run, 57.9.

It will be observed that no allowance has been made to compensate for the 2,000 feet and upwards of elevation, which the Western road has to overcome between Albany and Worcester, nor for the heavy grades by which the principal summit is passed. It is plain to be seen, however, that with grades not exceeding those of the roads with which the comparisons are made, a large increase in the number of tons transported for each mile run would be exhibited in the table.

Table D exhibits the number of passengers carried one mile, and the number of tons of freight carried one mile; it shows, also, the amount received for passengers, and the amount received from freight, separately stated; the gross expenses, and the percentage of expenses to the gross receipts; all for the five years before specified, and for the same roads.

RESULTS OF THE TABLE.

490,838,686 passengers carried one mile.	
268,551,340 tons of freight " " "	
759,390,026 " of both " " "	
Maximum of both for one road.....	\$213,925,952
Minimum " " " " " " " " " "	36,198,135
Receipts from passengers.....	11,015,052
" " freight, &c.....	10,729,466
Gross receipts.....	21,744,518
" expenses.....	10,977,839
Maximum cost per cent. of receipts..	65.9
Minimum " " " " " " " " " "	42.3
Mean of the whole.....	50.4

For the Western, the results furnished by the table are:

94,960,518 passengers, one mile.	
118,965,434 tons of freight " "	
213,925,952 aggregate.	
Receipts from passengers.....	\$2,595,538
" " freight, &c.....	3,653,601
Aggregate receipts.....	6,249,139
Gross expenses.....	2,937,593
Expenses per cent. of receipts.....	47.0

It will be seen that there is but one road in the table on which the number of tons carried exceeds the number of passengers carried, and this is the Western, which has an excess of tons of freight over passengers, of upwards of 24,000,000.

In one of the roads, with an aggregate of passengers and tons of 74,720,000, the excess of passengers carried beyond tons of freight is upwards of 60,000,000, in number, it will be evident, therefore, that the Western railroad derives no benefit from a comparison of the indiscriminate cost of transporting a passenger and a ton of freight, one mile; on the contrary, had the excess in the case of the Western been on the side of passengers, the result in point of numbers and cost would have been more favorable even than it now is—passengers moving themselves without cost, while freight requires an average expenditure of 27 or 28 cents per ton, for loading and unloading.

Having thus gone through the principal business and expenses of the road, and compared it with those of other roads, by means of returns furnished by official or legislative documents, I will now take up some other matters relating to the Western road, furnished by our own records and returns the details of which do not appear in the legislative reports.

The committee, as I understand, have gone into a thorough examination of the present condition of the property of the corporation; the road, its equipment of engines and cars, bridges, station-houses, &c. &c. I will therefore restrict my remarks to the renewals of cross-ties or sleepers, iron rails, freight cars, and Connecticut river bridge.

1st, *Sleepers*.—The number of sleepers removed from the track, and replaced by new, in the Western railroad, between 1st December, 1845, and 1st December, 1851, 6 years, was as follows:

Year ending November 30, 1846.....	35,000
" " " " 1847.....	65,000
" " " " 1848.....	65,000
" " " " 1849.....	28,245
" " " " 1850.....	50,188
" " " " 1851.....	38,914

Total sleepers in 6 years..... 302,357

Average number supplied per annum..... 50,390

The life of a sleeper depends upon the kind of timber used, the nature of the soil in which it is laid, the kind of usage which it receives, and, to some extent, whether it be laid in a crooked part of the road or upon a steep grade, these last affecting the fastenings, spikes, &c.

In loam, experience in the Western road has shown that a sleeper will last but about five and a half years; in sand, six and a half years; in dry gravel, seven years; in moist gravel, seven and a half years; average duration of all kinds, say six and a half years.

The second track between Worcester and Springfield, was not laid until 1847—48, the sleepers in that track, therefore, have not required to be renewed as yet. The renewals have been confined, in general, to the main or old track. The number of sleepers in that track is about 275,000, requiring for renewals, at the rate of six and a half years life, about 42,200 sleepers per annum.

The table shows that 50,390 have been laid per annum since 1845, or a surplus of 8153 per annum have been put into the road and these are fully sufficient for all side tracks, switches, etc.

Second, *Iron Rails*.—The quantity of rails which have been laid down in place of the 56 lbs. iron (original rail) in the old main track, is as follows:

	Miles.	Feet.
Year ending Nov. 30, 1848.....	4	1327
" " " " 1849.....	8	3071
" " " " 1850.....	16	1155
" " " " 1851.....	12	2625

The life of a rail depends, generally, upon its weight and section, the quality of iron of which it is made, the kind of support, the distance between the bearings, the quantity of work done upon it, and the manner in which it is done, whether with heavy engines and trains, or the reverse, whether on a crooked or steep part of the road, whether laid upon good material for the road-bed etc. All these elements combined with some of less importance, determine the question of the life of the rail. Of two rails of the same section, from the same mill, placed upon the road at the same time and subjected to the same amount of work, one may be perfectly servicable at the end of ten years, or more, while the other may require to be taken up and replaced before it has been down a single year, the defect being in the manufacture and disclosed by use, only.

The practice in the Western road is to remove the rails from the main tracks as fast as important defects appear. It is well known to railroad people that the first iron used in this country for rails, was the best we have had from the other side, but the iron then purchased cost £12 to £15 per ton, whereas that which now comes, costs about £5.—It is not to be supposed that we get as good iron at the £5, as we formerly paid three times five for, and the inference is borne out by the facts in the case of the Western railroad. The number of old 56 lb. rails which it is necessary to remove from the track after twelve years service is much less in proportion to those of the 70 lb. rail than would be supposed.*

The excess in weight of the new laid iron over the old, is almost 14 lbs. per yard, in the aggregate 900 tons, and in value at \$45 the ton, (costs and transportation) \$40,500.

In addition to the quantity of iron specified in the table, it will be seen by the report of the directors for the year 1847,* that new rails to the amount of \$33,000 were used and charged to the current expenses of that year.

In reference to the condition of the road-bed, it may be proper to say that a gravel train has been run a large part of every season during the last seven years, employed in widening and raising banks, clearing ditches and to some extent in removing bad bottom from the road bed, etc., all forming a part of the charge to maintenance of way.

I have consolidated the results of the several

* The Reading railroad, said to have a greater tonnage per mile per annum, than any road in existence, has still in use a large number of the original rails, those laid down when the road was built, in the year 1839, I think.

tables, A. B. C. D. and have so classified the more important items that the work done, cost of same, and the useful effect produced in the eight roads specified, can be seen together and compared, and it gives me pleasure to add that in the comparison, I think the Western appears quite as well as its neighbors.

Very respectfully,

Your obedient servant,
W. H. SWIFT, President.

STATEMENT, showing cost of maintenance of way and of Engines and cars, on each of the following roads, per mile run by trains, from 1846 to 1850, inclusive five years.

Roads.	Western.....	Boston and Worcester.....	Boston and Lowell.....	Boston and Fitchburg.....	Boston and Providence.....	Old Colony.....	Miles run by trains.	Maintenance of way.	Do. per mile.	Repairs of engines and cars.	Do. per mile.	Total per mile.
	3,696,713	630,049	18,665	537,661	14,566	33,222						
	2,063,632	331,521	15,722	355,621	17,233	32,495						
	1,812,432	206,136	11,371	191,209	10,655	21,992						
	1,557,357	127,307	8,177	148,356	9,399	17,356						
	1,202,068	299,440	22,415	296,380	24,655	47,065						
	1,356,136	142,048	10,455	97,659	7,200	17,665						
	1,165,079	152,328	13,077	133,136	11,422	24,449						
	901,543	95,734	10,577	109,318	12,112	22,699						
	13,755,556	2,004,563	14,571	1,879,330	13,666	28,223						

STATEMENT showing the quantity of work done in five years, (1846 to 1850, inclusive,) on each of the following roads expressed in passengers carried one mile and in tons of freight carried one mile; also, the gross expenses of each road for the same period. For the purposes of this comparison, the cost of transporting a passenger one mile, and a ton of freight one mile, is assumed to be the same.

Roads.	Western.....	Boston and Worcester.....	Boston and Lowell.....	Boston and Fitchburg.....	Boston and Providence.....	Old Colony.....	No. of pass. and number of tons carried one mile.	Gross expenses.	Cost per passenger, or per ton, per mile carried.
	913,925,952	129,499,456	1,893,845	1,237,515	1,302	1,373			
	92,997,700	92,702,400	1,077,169	1,258,519	1,535	1,318			
	82,227,452	74,720,643	988,066	860,920	1,716	1,094			
	50,118,988	50,118,988	721,912						
	36,198,135								
	759,390,026	10,977,839	1,445						

STATEMENT showing the useful effect, or work done for each mile run by trains, on the following roads from 1846 to 1850, inclusive, expressed in passengers and tons of freight carried one mile.

ORIGINAL SINGLE TRACK.

41 1/4 miles \times 100 tons \times \$45 = \$186,750.00
 114 1/4 " \times 100 " \times \$45 = 515,250.00

156 " Cost, \$702,000.00
 \$186,750.00 \div 4.44 \div pr ct. \times 20 y'rs = \$166,000.00
 \$515,250.00 \div 2.22 \div pr ct. \times 20 y'rs = 229,000.00

\$702,000.00 \div 2.81 \div per cent. per annum \$395,000.00

If these computations be correct, the average annual expenditure to the Corporation, for maintaining the rails of the original single track, will be \$19,750.00. It will be borne in mind that only 41 1/4 miles have been thus far renewed, or about one quarter of the original single track: and that the rest, or 114 1/4 miles, will have to be relaid, within the next 10 years or thereabouts, say an average of 8 years. This will involve an expenditure of \$229,000.00, or an average annual demand upon the income of the Corporation of \$22,900.00. The renewals requisite to maintain the iron in the second track, at the end of the said 20 years will have amounted to \$80,400.00, or an average outlay, during the next 10 years, of \$8,040.00. Bringing these results together, it is found that during the next 10 years the income of the road will be taxed \$39,240.00 per annum for the renewal of its rails, as follows:—

ORIGINAL SINGLE TRACK.

14 1/4 miles \$ 8,300.00
 114 1/4 miles 22,900.00

SECOND TRACK.

46 miles \$ 8,040.00
 \$39,240.00

In making these calculations, the Committee have carefully endeavored not to undervalue this item of depreciation; but, on the other hand, they are persuaded their estimates will be found to exceed, rather than to fall below, the truth.

For the Railroad Journal.

The Applicability of Suspension Bridges to Railways.

In an article of this length, it would be impossible even to refer to the many arguments that might be brought, to prove the applicability of suspension bridges to railway purposes, but a few of the principal reasons may be presented.

There never yet has been a suspension bridge constructed, intended by the designer for railway travel; and consequently, correct conclusions respecting the practicability of a structure which has not yet been built, can only be come to by properly understanding the principles which govern it, and its use.

The only bridge known to the public, built upon the suspension principle, that has had locomotive trains upon it, was on the line of the Stockton and Darlington railway, in England.

This bridge had been built for common road travel, but, being in a position to be used by the railway company, the track was laid on it, and a trial made. Mr. Stephenson, when giving evidence before a parliamentary committee, sitting on a matter which related to the Britannia tubular bridge, stated, that the platform of the suspension bridge referred to rose up three feet before the locomotive at ordinary speed; and that the entire work was nearly destroyed by the passage of the train. [See E. Clark's Britannia Tubular Bridge, vol. 1, p. 63.] Piles were driven into the bed of the river, and the roadway of the bridge secured to them. Still the structure was deemed useless, as the piles were alternately drawn out and driven in again, by the action of the chains and the loads on the track. [See E. Clark's Britannia Tubular Bridge, vol. 1, p. 41.] Yet, astonishing as it may seem, when the question is investigated, this is the only practical data upon which the sweeping con-

clusions against suspension bridges for railways, which are so frequently made, have been founded.

Now, upon what conditions will the proper strength and stability of a suspension bridge for railways depend? As to the strength required to sustain a stationary load, there can be but one opinion, viz. that anything desirable can be attained. If one cable, or bar, or wire, will sustain a given load, two cables, bars, or wires, of corresponding length, will sustain twice as much; and, by increasing the strength of the cables indefinitely, the bridge will be capable of sustaining a corresponding load.

Vibrations and oscillations, which are the only real difficulties, can be overcome, for stiffness and stability depend upon principles equally simple with those which govern the amount of strength required for a stationary load. If the load to be moved on any body in equilibrium, bears such a proportion to the body on which it is to move, that its momentum will readily overcome the inertia of the quiescent body, a disturbance will ensue, and in a proportion of one body to the other; but when the momentum of the moving body is small compared to the inertia of the body in equilibrium, the effect will be little, to such a degree that it may in many cases be imperceptible.

All matter has a tendency to remain at rest, or to move with uniform motion, unless disturbed by secondary causes. And as it requires a certain absolute force, either to move any thing from its state of rest, or to stop it when in motion—it is quite evident, that if the force exerted to move a ponderous body, is not sufficient to overcome its inertia or tendency to remain at rest, it will not be moved.

These principles may be applied to suspension bridges for railways. Let the bridge be made so heavy, that the momentum of the train will not overcome the inertia of the bridge, or, its natural tendency to remain at rest—and of itself, without any other condition, it will be stationary. In practice, however, such an excess of strength and stability will not be necessary. As the bridge will be in equilibrium, or balanced, one part cannot sink without lifting some corresponding part; the middle cannot sink without raising the haunches, and one end cannot be depressed without raising the other.

It is known in practice that an ordinary load may pass over a slight suspension bridge at the rate of three or four miles per hour without injuring it.

Loads equal to one-twelfth the entire suspended weight of the Wheeling, Lewiston and Fribourg bridges, respectively, have been passed over them at the rate of three or four miles per hour without injury to the structure, and without producing such deflections or vibrations as would prevent the passage of a locomotive and train with safety. These bridges are of very great spans, being 1,010 feet, 1,040 feet and 870 feet between the points of support in the order named.

As the degree of inflexibility of these bridges depends mainly on their weight; why should not the conditions remain the same if the weight of the bridge and the loads are increased proportionally—that is, if a railway bridge of corresponding span was made as heavy in proportion to the trains to go over it as the bridges now built are to the loads which go safely over them, why should it not remain as still and unaffected in one case as in the other.

Due allowance must be made for the additional force of a train arising from the increased speed

and the irregularities of the machinery; but the quantity of this force is determinable.

Heavy parapets of timber or metal may be used to give additional rigidity to the structure, and trusses may be employed in some cases; but owing to the difficulties of combining straight lines with curves and catenaries, it would be safer to depend upon the inertia or weight of the bridge only for its stiffness; adding, such combinations to the roadway as will readily conform themselves to the slight changes which will occur in the form of the curve of the cables arising from their expansion and contraction, by changes of atmospheric temperature.

Independently of the fact that suspension bridges may be constructed where no other can be built (at least on any plan now known) their comparative cheapness, should entitle them to consideration even where shorter spans on piers might be erected.

The great durability of the material employed and the short time required to construct them of the greatest magnitude, are also very important considerations in their favor.

It is to be regretted that so much time and talent has been employed in discussing the objections to, instead of endeavoring to overcome the difficulties of a combination, which of all others is most applicable to the very great spans, which are to be met with on this continent; but fortunately the spirit of investigation has of late been directed to this subject, and results are to be looked for of the most beneficial character.

E. W. SERRELL, C. E.

New York, March 9, 1853.

Potsdam and Watertown Railroad.

At the annual meeting of stockholders of this corporation, held at the village of Gouverneur, on the second day of February instant, Joseph H. Sanford, Zenas Clark, Orville V. Brainard, Hiram Holcomb, Edwin Dodge, William E. Sterling, Barzillai Hodskin, Arunah M. Adsit, William W. Goulding, Samuel Partridge, Howell Cooper, Ebenezer Miner, and Hiram B. Keen, were elected directors.

And at a subsequent meeting of directors, the following officers were appointed:

Edwin Dodge, President,
 Zenas Clark, Vice President,
 Daniel Lee, Treasurer,
 Henry I Knowles, Secretary.

A better board of directors could not, in our opinion, have been selected.

Ohio.

Hillsboro' Railroad.—We stated a week or two since that the entire line of the Hillsboro' railroad, from Hillsboro' to Parkersburg, had been placed under contract. The contract has been taken by competent and responsible contractors, who would not engage in the work without seeing their way clear, not only to a good job, but that sufficient means would be forthcoming to carry the work vigorously forward.

We also learn that an arrangement has been completed with the Baltimore and Ohio railroad, by which the transportation of passengers and merchandise passing over the Parkersburgh branch, is secured to the Hillsboro' road. An arrangement which is believed by the friends of the latter to add very much to the strength and credit of this enterprise.

From the well known reputation which the contractors possess for energy of character and ample

means, we anticipate that very rapid progress will be made in the work of construction.

American Railroad Journal.

Saturday, March 12, 1853.

County Railroad Bonds.

As in the more recently settled states, the *credits* of counties and municipal corporations are often used to provide the means for the construction of railroads, and will probably continue to be, to a considerable extent, for some time to come—some account of the value of these credits, and the reasons which exist for using them, will, we think, be acceptable to parties desiring to invest in such securities.

The *credits* of counties and cities are resorted to as a general rule, only where the private means of those engaged in the construction of a particular line of railroad, may be inadequate to this object; or where, from the value of money for other purposes, it may, upon the whole, be the better economy to borrow the means for the new enterprise, than for the leading individuals of a community to embarrass themselves by investing outside of their regular business too large a portion of their capital. Such are some of the principal reasons in favor of the use of the credits of counties and cities in the construction of railroads. Another is, that when credits have to be resorted to, a large sum may often be saved by the use of the *aggregate* credits of all the members that compose a community, over those of a few *individuals*. Money can often be had upon the former, at rates at which it would be impossible to borrow it, upon the strength of the names of *private* parties.

Were we always certain, that the money obtained upon the credits of communities in the *aggregate*, would be equally well expended as that furnished by private capital, and that the property, in either case, would be equally well managed—the former would certainly be the proper mode in which to raise it. It would certainly be the most *equitable* mode. A railroad traversing a county, for instance, may double the value of all the real and personal property in it. Every inhabitant, consequently, is benefited in proportion to the amount of property he owns. It is but just, therefore, that the *burden* and the *benefit* should go together. In fact, the burden of constructing a railroad can be equitably distributed, in no other manner than by assessing its cost upon every member of the community, in proportion to the degree in which he will be benefitted by it. The *justness* of this mode of raising money for such works as railroads—which are, in fact, public enterprises—often determines the question in its favor, when other considerations may render such a step of doubtful expediency.

We are not aware of any instance in which such credits have been misused, or their proceeds applied to any other than their *appropriate* objects. That they have accomplished a vast good, there can be no doubt. Without them, many of the most important works in the country could not have been built, and, instead of the vast extent of line which we can now show, we should hardly have made a respectable commencement. Without the aid extended by the state of Massachusetts, the Western and other important roads in that state could not have been built. The city of Albany also contributed \$1,000,000 to the former. The construction of the Baltimore and Ohio, and the Pennsylvania

roads, could not have been accomplished, without the corporate aid of Philadelphia and Baltimore. The same may be said of the most important roads in the eastern states. If such be the fact in the oldest and richest sections of the country, how much more needed is such aid when we go south and west—portions of the country which have less available means for these works, but where their want is even more thoroughly felt. But for the aid extended by the cities of Cleveland and Cincinnati to the roads of which they are the termini, the most important and productive lines of railroad in Ohio could not have been built. The results secured to the city of Cleveland, by the aid she extended to a number of important lines terminating at that place—is a striking illustration of the advantages of municipal aid to such works. The entire aggregate of her subscriptions, we believe, was only \$400,000. This comparatively trifling sum has been the means of constructing a number of first class roads, which, from the commerce and trade already secured, have not only proved sources of extraordinary prosperity, but the entire amount of her subscriptions, if to-day offered in the market, would command from 10 to 25 per cent. premium. The money contributed was well laid out, the works have been well conducted, and the investment has proved to be an exceedingly productive one. Such has been the case, in every instance, in the states of Ohio and Indiana, where the roads to which they were issued have been in operation a sufficient length of time to demonstrate their capacity for business. As far as such subscriptions have been made throughout the country, we believe they have been judiciously extended and generally productive.

Having given, in general terms, the objects and reasons that exist for the use of county and city credits in the construction of railroads, and without which, in some portions of the country, these works still cannot be built—we will endeavor to present a correct idea of the *legal* rights secured to purchasers of such securities.

That counties and cities are competent to make *valid* subscriptions to the stock of railroads (Legislative permission having been first obtained,) is now well settled by the judicial tribunal of all the States where the legality of such subscriptions have been contested. Such subscriptions are regarded in the light of *contracts*, binding upon every person residing in the community by which they are made. To deny this right, would be to deny the right of a city to do any act involving the expenditure of money for the general or public good, the right to construct works, the object of which is to introduce water or light into a city, or to do a thousand acts which contemplate the benefit of all, the advantages of which however must always operate unequally, and to which a very large portion of a community may be opposed.

The competency of the municipal bodies to make subscriptions to railroads has been so repeatedly settled in the Eastern States, that it is not now questioned. Similar decisions have been had in Ohio and Kentucky, and other Western and Southern States. The leading case in Ohio was that of the *Cincinnati, Wilmington and Zanesville Railroad vs the County Commissioners of Clinton County*, the decision in which we published in the number of the Journal under date of March 27th 1852. In this case the Court held that—

"It is held competent for the legislature under the constitution to construct works of internal improve-

ment on behalf of the state, or to aid in their construction by subscribing to the capital stock of corporations created for that purpose, and to levy taxes to raise the means: and by an exercise of the *same power*, to authorize a county to subscribe to a work of that character running through or into such county, and to levy a tax to pay the subscription.

Such a tax, when thus authorized, is not beyond the legitimate scope of local, municipal taxation; nor is it opposed to art. 8, sec. 4, of the constitution declaring that 'private property ought and shall ever be held inviolable, but always subservient to the public welfare, provided a compensation in money be made to the owner.'

The Ohio county subscriptions like those of other States, not only rest for their security upon the *whole* aggregate property of the community, but the additional one, of having the punctual payment, both of principal and interest, secured even against the will of those making it. The Laws of the State make it obligatory upon the proper officers in each county, to assess a sufficient tax to meet both the principal and interest on the bonds as they fall due; and in case of neglect or refusal to do so, the auditor of the State is authorized and instructed to assess such tax and cause the same to be collected in the same manner that the State taxes are collected, and paid over to the holder of such bonds. The prompt payment of such bonds are thus secured beyond contingency, which fact contributes not a little to the high prices which the "Ohio County Bonds" command over those of other States.

As an additional security for the prompt payment of County Bonds, the principal and interest are, as a general rule, guaranteed by the company to which they are issued. The company in this manner becoming responsible, will take good care that sufficient means are seasonably provided by the county to meet the liabilities as they mature. The bonds too, in most cases are made convertible into the stock of the company, (for the payment of which they were issued.) In the event of said stock going to a premium, as has been, and will generally be the case, the means for the payment are in this manner provided, without resort to any taxation whatever, which reduces the liability of the holder to the least possible risk.

The constitutions of Ohio and Indiana now prohibit any further issue of county bonds to railroads. The reasons that led to these enactments, was the belief that the increased means of the people, and the high credit which Western projects have secured for themselves, render the further resort to municipal subscriptions unnecessary. This fact enhances materially the value of those already issued, which were to the earliest and most important enterprises in the State, and which are in no danger of being discredited by an excessive issue of securities of a similar character.

The small amount of the securities issued by the several counties, is an important fact in their favor. In Ohio, in which the largest issues have been made, there is hardly an instance where a county has issued bonds to an amount exceeding \$100,000. The value of the property upon which these securities are based, range all the way from \$5,000,000, to \$20,000,000, and is vastly increased by the construction of the road.

The above remarks will, we believe, convey a correct idea of the character and value of county bonds now offered in the market. Where they have been properly issued to legitimate objects, they rank among the best and safest securities offered,

and are so regarded by our own people. We believe them to be a particularly desirable security to the foreign purchaser, who is content with a lower rate of interest for his money, provided the security be unquestioned. The county bonds gives him a duplicate security; one furnished by the county itself, and the other by the promise of the railroad company.

The objection to the use of these securities is the danger that they may be made the means of stimulating the construction of railroads beyond the wants of the country. That there is need for caution here, we fully admit. We can well imagine that a member of a community may be willing to vote its credit, to a project in which he has not sufficient confidence to take stock *individually*. We are opposed to the construction of railroads upon routes that cannot furnish a considerable portion of the means required for their construction, for reasons that we have often insisted upon. A community that can contribute nothing toward the construction of a road, can probably furnish very little business for its support. There may be exceptions to this rule. There are portions of the States of Wisconsin and Illinois recently settled, that could supply an abundant traffic to railroads, while they can do little toward their construction. All their means are wanted to improve their farms. The ease and facility with which Western soil is brought into cultivation, enables the Western farmer to become a vast producer, although his farm was reclaimed from a state of nature, only a year or two previously. The Indiana and Ohio county bonds, however, are not liable to the objection stated. They have only been sparingly resorted to; and all further issues in both States are forbidden. Those issued in other States may be equally valuable, provided the same moderation be observed, and the same good sense and capacity displayed in the construction and management of their railroads, as has been shown in Ohio and Indiana.

FORGINGS.

AXLES, SHAFTING, AND OTHER FORGINGS from the GLENDON FORGES, for sale by

GEORGE GARDNER & CO.,
Pittsburgh.

March 9, 1853.

Railroad Iron.

Railroad companies will do well to notice the advertisement of Messrs. J. H. Austin & Co., of London, in reference to the purchase and inspection of railroad iron.

To Contractors.

We invite the attention of contractors to the advertisement of important lettings, in another column.

Stock and Money Market.

The past has been a very exciting week in Wall street. There has been a complete panic in fancy stocks, which has affected, by sympathy, all other securities. Money has been in great demand, at high rates, and the stringency has by no means yet abated. The whole trouble is confined to Wall street, and is simply the result of over speculation, assisted by improper facilities granted by the banks; which, having loaned largely upon fancy stocks, and finding they had gone too far, have called in their loans, and shoved the securities into the street. Weak holders, cut off from the source of supply, which has been opened to them for some time past, have been unable to carry their loads, and the great amount of fancies thrown upon the market has caused quotations to fall to a low

figure, the banks, finding themselves too much extended, are doing but little, for the purpose of "strengthening" their positions. The present flurry will be over in a month, probably, as the causes that have produced it are purely local and temporary. Business is in a sound state, and capital is sufficiently abundant for all legitimate purposes. The present pinch in the market is just what was needed to check undue speculation, and bring people to their senses. It will clear out of the street a great deal of the worthless stuff with which it has been crammed, and which, from the inflated prices which they have reached, absorbed a great amount of money.

We think the banks are, after all, the most culpable parties in this speculative movement, which has resulted so disastrously; the new ones the most so. These have been created much faster than they were required by the increase of business. Consequently, they are compelled to go into the street to solicit the acceptance of loans, instead of waiting for people to come to them. Very large loans were made upon the prominent fancies, and, as soon as the popular caprice whispered that these securities were comparatively worthless, they dropped them as they would a hot potato, to use the homely phrase. To the above causes is to be ascribed the enormous size to which these bubbles were blown, and their sudden collapse. Banks have no right to touch fancies at all. If they do, they ought, for the sake of consistency, to hold in foul weather as well as in fair.

The demand for first class western securities continues good, at fair prices, and the prospect is that the market will continue to take all offering.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, MARCH 12, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	100½
U. S. 6's, 1856	107½
U. S. 6's, 1862	116
U. S. 6's, 1862—coupon	115½
U. S. 6's, 1867	119½
U. S. 6's, 1868	120½
U. S. 6's, 1868—coupon	120½
Indiana 5's	99½
Indiana 2½'s	56½
" Canal loan 6's	96
" Canal preferred 5's	37
Alabama 5's	98
Illinois 6's, 1847	92½
Illinois 6's—interest	62½
Kentucky 6's, 1871	110½
Maryland 6's	108½
New York 6's, 1854-5	108
New York 6's, 1860-61-62	117
New York 6's, 1864-65	120
New York 6's, 1 y., 1866	120
New York 5½'s, 1860-61	111
New York 5½'s, 1865	112
New York 5's, 1854-55	106
New York 5's, 1858-60-62	108
New York 5's, 1866	113
New York 4½'s, 1858-59-64	101
Canal certificates, 6's, 1861	104½
Ohio 6's, 1856	104½
Ohio 6's, 1860	109
Ohio 6's, 1870	115½
Ohio 6's, 1875	117
Ohio 5's, 1865	106½
Ohio 7's, 1861	105½
Pennsylvania 5's	98½
Pennsylvania 6's, 1847-53	99½
Pennsylvania 6's, 1879	101
Tennessee 5's	95½
Tennessee 6's, 1880	101½
Virginia 6's, 1886	110½

CITY SECURITIES—BONDS.

Brooklyn 6's	106
Albany 6's, 1871-1881	107½
Cincinnati 6's	103½
St. Louis	101
Louisville 6's, 1880	98½
Pittsburg 6's, 1869-1871	102
New York 7's, 1857	108
New York 5's, 1858-60	101½
New York 5's, 1870-75	103
New York 5's, 1890	104½
Fire loan 5's, 1886	107
Philadelphia 6's, 1876-90	107½
Baltimore 1870-90	109½
Boston 5's	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867	118
Erie 2d mortgage, 7's, 1859	107½
Erie income 7's, 1855	96½
Erie convertible bonds, 7's, 1871	97½
Hudson River 1st mort., 7's, 1869	104
Hudson River 2d mort., 7's, 1860	98½
New York and New Haven 7's, 1861	106
Reading 6's, 1870	93
Reading mortgage, 6's, 1860	96½
Michigan Central, convertible, 8's, 1860	111½
Michigan Southern, 7's, 1860	102
Cleveland, Col. and Cin. 7's, 1859	123
Cleveland and Pittsburg 7's, 1860	102
Ohio and Pennsylvania 7's, 1865	109
Ohio Central 7's, 1861	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Mar. 3.	Mar. 10.
Albany and Schenectady	115½	115½
Boston and Maine	105	105½
Boston and Lowell	105½	106
Boston and Worcester	103½	102½
Boston and Providence	88½	89½
Baltimore and Ohio	87½	86
Baltimore and Susquehanna	32½	34
Cleveland and Columbus	125	127½
Columbus and Xenia	—	—
Camden and Amboy	150	150
Delaware and Hudson (canal)	130	119
Eastern	96½	98
Erie	87	82½
Fall River	104½	105
Fitchburgh	101½	102
Georgia	—	—
Georgia Central	—	—
Harlem	67	64
" preferred	115	109
Hartford and New Haven	129	129
Housatonic (preferred)	35	35
Hudson River	65	62½
Little Miami	118½	116½
Long Island	38	35½
Mad River	99	99
Madison and Indianapolis	104	105
Michigan Central	107	106
Michigan Southern	125	123
New York and New Haven	111½	109½
New Jersey	136	136
Nashua and Lowell	—	—
New Bedford and Taunton	117	117
Norwich and Worcester	51½	49½
Ogdensburg	27	26
Pennsylvania	50	50½
Philadelphia, Wilm'gton & Balt.	38½	37½
Petersburg	—	—
Richmond and Fredericksburg	105	105
Richmond and Petersburg	35	35
Reading	91	88½
Rochester and Syracuse	129	129
Stonington	57	56½
South Carolina	122½	122½
Syracuse and Utica	144	144
Taunton Branch	115	115
Utica and Schenectady	149	149
Vermont Central	19½	17½
Vermont and Massachusetts	18½	19
Virginia Central	40	40
Western	100	101½
Wilmington and Raleigh	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Railway Exhibits.

Having completed a vast extent of line of railroads, the great want now felt, and admitted on all hands, is better information respecting their cost, mode of construction, expenses of running; in fact, whatever can help to form a correct idea of the value of this kind of property. Our railroad companies are equally interested with the public, in having their condition fully understood. The more that is known of them, the better price will their securities command. The great majority of them are legitimate enterprises, got up for proper objects, and are managed with fidelity and economy. They have nothing to fear from any publicity to which their acts may be subjected, as investigation only serves to give them increased strength both at home and abroad.

No person is competent to invest with safety in railroad securities without being thoroughly conversant with all matters relating to the cost of constructing and operating a road. A great many projects may present a very creditable appearance on paper, the securities of which have no real merit or basis. The stock may be subscribed as represented, but the greater part of this stock may be taken by parties, who by being in some way connected with the construction or management of the road expect to make out of the work an amount equal to their stock; in other words their stock is a bonus for services rendered or promised. Or it may be that an old grade, or a charter that confers special privileges, is bought up by parties and estimated at a certain sum, for which an equivalent amount of stock is issued, which cost the owners little or nothing, and which in fact may be comparatively worthless as far as it constitutes any basis for loans. Unless therefore a party is able to detect the *paid* from the fictitious stock, he is liable to be grossly imposed upon. So too with the earnings of a road. The actual cost of operating a it, and the proportion of *gross* and *net* receipts, should be thoroughly understood, otherwise a person is likely to be deceived in this matter. It may turn out, when the fact can be no longer concealed, that a portion of the expenses has been charged to *construction* account, and that the road has been actually losing money at the same time that it has been declaring 8 to 10 per cent dividend. Such things have been done, and an uninformed and unsuspecting public grossly imposed upon. We might go on to multiply illustrations of the danger of being misled by fallacious appearances similar to these adduced, but the above will sufficiently answer our present purpose.

Capitalists, and all who wish to invest in railroads have it in their power to protect themselves from all danger of loss from the causes named. When a company come into market for money, the capitalist should insist upon having a *voucher* for every estimate. For example: the graduation of the road may be put down at \$1,000,000. There is no mode of disproving the correctness of this charge unless *quantities* that make up this aggregate be given. Should the details show only 1,000,000 yards of earth, or 100,000 rock work to be done the statement would in its face carry the evidence of its incorrectness. When such details are given, every person of ordinary capacity would be able to detect any improper excess of expenditure. The results of *well* managed concerns would supply him the correct data, applicable to all others; and with such evidence constantly before him, he would soon become an adept in correctly estimating the cost of work, and be able to act understandingly

and safely as far as construction was concerned. So too with the running of a road. What are claimed to be its *net* receipts may be impeached in a similar manner, and the dividends declared may be shown to have been paid out of *capital* instead of *earnings*. Companies often estimate their net earnings higher than they really are. To determine what they have been, a person must know what it costs to operate a road. For instance the Erie railroad company tell us that it cost them 95½ cents the past year to move one ton of freight, or one passenger, per mile over their road. The Massachusetts companies on the other hand assure us, that experience has shown that upon the leading roads in that State it costs 1.445 cents for the same service for which the Erie company charges 9.3 mills. If the Massachusetts companies are authority in this matter (and they have in their favor the results of a long experience upon old roads thoroughly constructed, well managed and enjoying a lucrative business,) then the Erie railroad earned only \$900,000 the past year instead of \$1,800,000 as claimed. We do not make use of the above facts in the present instance for the purpose of discrediting the statement of earnings of the Erie railroad only to show that they differ widely from those of other companies, showing that there must be a miscalculation somewhere.

Another great advantage of full and accurate statements of the condition of a work, in every stage of its progress, as well as when in operation, is the wholesome check that such statements exert upon every species of misconduct, or malfeasance. If an engineer knows that for a series of years he will be compelled to present annual statements of the condition of matters under his charge, he will take good care that his first statement be a correct one. He will be likely to commit no act not reconcilable with it. A proper system of accountability is thus established. When, on the other hand, years are allowed to elapse without any report or statement, either from subordinates, or directors of railroads, indifference, inattention, and finally neglect of duty will be sure to be the result. Directors may be, and often are, unfit for the positions they occupy. In such cases, publicity given to their acts, will, in time, constitute a certain correction of their mistakes. Such statements call forth the criticism of the public, and furnish for the aid of such directors, suggestions and advice from the best informed upon the subjects under discussion. We think we are not without evidences right about us, of the necessity of a better system of accountability than has heretofore prevailed.

The necessity of suitable reports from railroad companies made *voluntarily*, is increased, from the fact that no returns are required in most of the States, under sanctions provided by *law*. We must in such cases have voluntary reports or none at all. Let us have light; and with it will follow faithfulness, thrift, and economy; and in fine, prosperity of this interest, which is now become the one of paramount importance throughout the country.

Toledo, Norwalk and Cleveland Railroad.

Great Earnings.—We learn that the earnings of this road for the last week in February were—

For Passengers.....	\$6,573
For Freight, etc.....	1,522
	\$8,095

The earnings for the week ending Feb. 18.. 6,804

The earnings for the month of February were \$27,448. The road was only opened the latter part of January. For a road costing only about \$1,500,000, the above receipts are very large.

Railway Accidents.

Below we give a portion of an interesting article upon the subject of *Railway Accidents*, by Captain Huish, a well known name in connection with English railways.

A firm, substantial, and well kept road, is undoubtedly the basis of all safety in railway travelling, and with the heavy and increasing traffic now passing over the iron highways of Great Britain, it requires the most incessant vigilance (especially since the speed of the trains has been increased,) to maintain the way in the condition, which is essential for the safety of the passengers and the economy of the rolling stock. As the intervals between trains become less frequent as the speed of travelling is accelerated, and as the heavy merchandise traffic, which promises to form, ere long, the most important feature in the receipts of many lines, increases, the repairs become greater, and at the same time more difficult to carry on. It is not intended, in these brief remarks, to enter on the very extensive field of "permanent way," especially as it is a subject so familiar to the members of the society; but the experience of the author leads him to the conclusion, that even more attention than has hitherto been given to this fundamental question, must be devoted to it in future, or the theories which have been constructed, and the practice based upon it, will be found to fail. Improvements are continually introduced for the purpose of obtaining a sound continuous road, and there is no doubt that the recognised evils will eventually point out their own remedy. Fishing the rails is now a popular, and, as far as partial experience can determine, an efficient mode of strengthening a railway, for the increased traffic it has to bear. Other measures, having the same object in view, are in course of experiment, and stone blocks are generally being rejected in favor of wooden sleepers. Heavier rails, with shorter bearings, are gradually being introduced wherever relaying has become necessary; and engineers are fully sensible, that a road constructed to support moderate trains, drawn by light engines at low speeds, is utterly inadequate to endure the crushing effects of monster locomotives at express speeds. The defects of lamination, deflexion, and splitting of the rails, are rapidly increasing; while transverse fractures (a species of failure almost unknown a few years ago,) are now of frequent occurrence; and the difficulty of maintaining the gauge of the line, under the present weights, not only increases, but much of the oscillating motion, which is so unpleasant to the traveller, and so destructive to the stock employed, must be attributed to the same cause. Requiring—as railways do—superior rails to bear the increased strain now thrown upon them, it is painful to observe that, instead of keeping pace with the necessities of the case, the rail-makers have allowed their production to deteriorate very greatly; indeed, the utmost caution is now required in the purchase of rails; with every security afforded by name and standing in the trade, the greatest disappointments are constantly arising, and the result promises to be very serious, unless instant measures are adopted by the principal makers to retrieve their characters in this respect. Many of the rails recently supplied have shown symptoms of failure at an unusually early period, and are, in many instances, in a worse condition, after two or three years' wear, than old and much lighter rails, which have been subjected to precisely the same duty for from twelve to sixteen years.

So grave has the aspect of this matter become, and so general has been the complaint, that one railway company has come to the determination of rolling its own rails, and has given instructions for erecting works for the purpose.

Under all the disadvantages, however, to which allusion has been made, it is, after all, remarkable how very few accidents have arisen from a defective state of the road itself. The circumstance of a train running off the line is very rare, and when such an event does occur, it may generally be attributed to some palpable neglect of the plate-layers, to some defect in the machinery, or to some obstructions designedly placed on the line.

The latter is, unhappily, a very fertile source of danger, and one against which, where a morbid

desire to inflict injury guides the miscreant hand, it is very difficult indeed to guard. It is little known how frequent, how ingenious, and how varied these attempts have become; and although, from the vigilance exercised, and from fortunate and providential causes, the real damage effected has been far less than could have been supposed, it is lamentable to think, that in addition to the ordinary risks of rapid locomotion, it should be necessary to guard continually against so diabolical a mode of wreaking a petty vengeance, or of gratifying a mischievous disposition.

Numerous instances might be given, which would excite surprise from the cunning design exhibited, and the care apparently exercised in selecting a spot likely to be fraught with the greatest amount of mischief; but the detail would occupy too much space. One only, and that the latest attempt of this kind, may be mentioned:—A few weeks ago, upon a branch line in Lancashire, the points of an important siding were jammed open, and, in order to prevent the signal-man from averting the intended accident, the wire of the auxiliary signal was lashed with a piece of string, and was thus prevented from acting. Happily, however, by a fortuitous circumstance, the villainy was discovered a few minutes before the passenger train approached.

It has been customary, when such attempts have been made, to offer a considerable reward for the discovery of the perpetrators. It is questionable, however, whether setting a patient watch, and establishing a careful inquiry throughout the neighborhood, are not more effectual means of tracing the culprit. Considerable success has certainly attended this course, while there is, it is believed, no instance of a voluntary statement for the purpose of securing the reward. The punishment for this class of offences has recently been made more severe, and although it is not to be expected that they should altogether cease, it is hoped that they may become less frequent.

The alternations of weather in a climate so variable as England, have a material influence on the permanent way; and on any great and sudden change, either to heavy rain, after lengthened drought, or to a rapid thaw, after continued frost, increased watchfulness is necessary on the part of the upholders of the road, and the engine-drivers and guards. It is at such periods that the weak points in a road show themselves; a sudden relaxation of the line seems at once to take place, and, unless counteracted by vigilant attention, great danger must result.

The rapid development of general traffic on all the main arterial lines in the kingdom, and the transfer to them of much of the heavy trade which was formerly carried on by canals, have caused a very great extension of siding accommodation, and this, by multiplying the points and crossings in the main line, has *pro tanto* increased the risk attending them. Anything which breaks the continuity of the rails is necessarily an evil, and tends in a certain degree to develop danger; and as these frequent "turn-outs" cannot be avoided on a line of heavy traffic, the railway manager is compelled to rely on regulations and signals, and to that extent is obliged to incur the additional hazard which attends the employment of officials, from whose neglect, or want of discretion, the most fatal consequences may at any moment arise. On the London and Northwestern railway, the increase of siding, during the last few years, amounts to 53 miles. In laying down these sidings, one very fertile source of danger has, however, been considerably reduced. "Facing points" were formerly common and numerous; they are now rarer, and although at the junctions of branches, and in some peculiar positions, they cannot be altogether abolished, no railway manager will rest contented while one of these points is allowed unnecessarily to remain upon his line.

In connection with this subject, allusion may be made to self-acting switches. Useful as this invention has proved, it has been attended with concomitant evils of no trifling magnitude, and many accidents have occurred from a reliance upon them. They require constant vigilance to secure their being kept clean and well oiled, and it is very difficult to insure proper attention being always paid to them. It may indeed be remarked, as a

general rule, that so far from machinery being a means of safety, (when used for superseding personal inspection and manipulation,) it is usually a source of increased danger; and the numerous clever contrivances and complicated arrangements, which are so continually submitted to the examination and opinion of railway men, though evidencing the ingenuity and industry of the projectors, are generally valueless as practical means of operation. The greatest simplicity in every thing connected with the road and the signals upon it, will provide the nearest approach to security; and in proportion as such simplicity is departed from, it is probable that a practical good will be sacrificed, in endeavoring to attain a theoretic excellence. In concluding this branch of the subject, it may be repeated, that fewer accidents to life and property arise from the road than from any other cause; and were casualties confined to those attributable to "the way," the annals of railway accidents would be scanty in the extreme.

The next question of interest is the "locomotive"—that extraordinary invention, which has already changed and ameliorated the whole surface of society, and which is destined to work still greater revolutions in the social fabric of the world. The increased power and capacity, the more perfect finish of the various working parts of the engine, and the general improvements in form and proportions which have been gradually introduced, have rendered far less frequent than heretofore those delays and irregularities, which are always attended with inconvenience, if not with danger. Yet, it would be too much to expect immunity from casualties to so elaborate and so severely tested a machine; and though the parts have been greatly strengthened in every respect, the improvement does not appear to more than meet the greater demands on its powers, in consequence of the increased loads and speeds which are now adopted.

The variety of mishaps to which a locomotive is liable, will be seen from the following table, containing the causes of one thousand failures on the London and Northwestern railway.

This return spreads over a lengthened period, comprises every description of defect, and is given for the purpose of proportion only.

Analysis of 1000 cases of Engine Failures and Defects, occurring on the London and Northwestern, and subsidiary railways.

Stock of Engines, 587.

- 157 Burst and leaky tubes.
- 92 Broken springs.
- 89 Broken valve-spindles.
- 77 Broken and defective pumps.
- 48 Broken feed-pipes.
- 40 Broken piston rods and pistons.
- 34 Broken and damaged valves and valvular apparatus.
- 34 Lost and broken bolts and pins (various).
- 34 Fire bars burnt-out.
- 31 Lost and broken cotters (various).
- 29 Plugs and joints blown out.
- 25 Broken and lost eccentric straps.
- 21 Broken wheels and tyres.
- 21 Broken and bent coupling and connecting rods.
- 17 Broken sponge boxes.
- 17 Broken and bent eccentric rods.
- 17 Broken crank pipes.
- 15 Broken and shifted eccentric shafts.
- 15 Broken coupling and draw bars.
- 13 Broken crank and other axles.
- 13 Broken eccentric straps and bolts.
- 13 Broken and damaged steam and suction pipes.
- 13 Broken and defective reversing levers.
- 11 Broken connecting rod straps.
- 11 Broken middle bearings.
- 9 Broken spring bearings, screws and buckles.
- 8 Broken lifting links.
- 7 Broken blow-off and other cocks.
- 6 Broken quadrant studs.
- 6 Lost and loose regulator spindles.
- 6 Broken gibs.
- 5 Broken stay in fire-boxes.
- 5 Detached ash-pans.
- 3 Smoke-box and chimney end on fire.
- 3 Broken brackets of weigh bar shafts.
- 3 Feed pipes stopped up, dropped fire.
- 3 Broken spring balances.

- 3 Broken slide blocks.
- 3 Broken crank rods.
- 3 Tubes drawn in (chimney end).
- 3 Broken axle boxes.
- 3 Broken slide valves.
- 3 Broken right hand bearings.
- 3 Broken glands.
- 3 Defective hose pipes.
- 3 Broken piston rings.
- 2 Broken brakes.
- 2 Lost quadrant washers.
- 2 Broken goss head spindles.
- 2 Mud-hole doors defective.
- 2 Broken weigh bar shafts.
- 2 Broken brasses of driving journals.
- 2 Broken studs of link motion.
- 2 Broken catches of fire bars.
- 2 Broken glass tubes.
- 1 Nut off tender draw-bar.
- 1 Broken tender eye-bolt.
- 1 Defective whistle.
- 1 Boiler burst.

1000 Gross total.

It would be interesting to know how far this return coincides with the results on other railways, because, were somewhat similar ratios evolved, the knowledge of the proportions would direct the special attention of locomotive superintendents to the necessity of guarding more particularly against casualties of most frequent occurrence. It will be observed, that burst and leaky tubes nearly double any other class of failure, and that these, with broken springs and broken valves, amount to one-third of the entire number. Very few indeed, of the above failures, are attended with direct danger to the public, but, as producing a temporary or permanent inability of the engine to carry on its train, may be the remote cause of collision.

The carriage stock of railway companies is generally of so superior a kind, both as to design and construction, that accidents arising from their failure are very rare. The wheels and axle-boxes are the most severely tested parts of the vehicle, but if originally of a proper construction, give very little trouble in their maintenance and repair. Experience seems to give the superiority to the wooden wheels, of which there are many kinds in use. A spring sometimes breaks, and a tyre occasionally fails, in which case the wheel is in danger of flying to pieces, but the instances are so unfrequent, that they are not sources of much anxiety to a railway manager. Defective workmanship, where either the carriage, or the principal parts of it, are supplied by contract, has specially to be guarded against; where these are sound and the carriage is daily examined, it may be relied on for a very long period. During the last four years, only six wheels have failed, in the very large stock of the London and North Western Company. The heating of axles, however, is a source of frequent annoyance and alarm to passengers. Since the bearings were increased in size, and more care has been exercised to make the cover fit close, and to preserve the grease free from dust, when not in use, this cause of trouble has diminished, and the recent introduction of the patent axle-box, which, under proper management, will run many hundreds of miles without being ted, bids fair to obviate the evil to a considerable extent, if not to prevent it altogether; still, on a hot summer's day, in a district with sandy ballast, it is, and will always be, very difficult to keep the axles of a fast train cool. The couplings of carriages are seldom broken, even by sudden jerks.

There is, perhaps, no more alarming occurrence than a fire in a passenger train. Still, however, there has not been an instance in this country of any loss of life from this cause, nor have the cases been numerous; but there have been several narrow escapes, and the accident is one to which a train may be at any instant subject from the escape of heated coke. Spontaneous combustion has also in more than one instance nearly produced a serious conflagration. This has arisen from the incautious introduction of lucifer matches, or similar combustibles, among the luggage of the passengers. The occurrence of fire, and the feeling of insecurity which attaches to the passenger, from a feeling of inability to stop the train, if desired, from any other cause, is continually reproducing a multitude of

schemes for communicating between the passenger and the guard, and the guard and the driver. These have assumed a multiplicity of forms, yet the principle is generally identical, viz: a connexion by wire, or rope, between the engine and the guard's van. Simple and inexpensive as this contrivance is, it fails in practice, and after being adopted more than once, has again been laid aside. The whole of the trains of a northern company were some time back fitted with the means, by a flexible jointed tube, of communicating with the driver, but it has not been considered a successful attempt to overcome the difficulty. The same may be said of the numerous contrivances for arresting the passage of a train, by the instantaneous application of a number of powerful brakes, (some of the inventions applying the brake to the road itself;) of the proposals to work signals by means of the engine striking certain levers as it passes; and hundreds of similar suggestions. Among the inventions transmitted to the author, and for most of which compensation was claimed, one proposed to arrange a set of signals, which were to be successively struck down by the chimney of the engine; and another, in order to stop a train in the shortest space, gravely proposed that a large anchor attached to a stout cable, should be thrown out of the stern! Perhaps the most feasible and favorite plan for giving confidence to passengers, has been to continue the foot-boards of carriages, so as to form a continuous narrow platform, with a brass rod attached to the panel of the carriages; by this means a passenger might escape and pass safely along to the guard's van, or to the engine. The plan was suggested to and recommended by the Railway Commissioners. A committee, of the most experienced railway officers, was appointed by the clearing-house to consider it; they have done so, and their report, founded on returns and reasonings, which appear unanswerable, is the unanimous condemnation of the measure. We are thus apparently as far off as ever from gratifying the public demand for instant communication between the passenger and the guard, and it is possible that no better plan will be discovered, than that now in use on the London and North Western line. It is as follows:—The guard's van at the rear of the train, projects more than a foot beyond the carriage on either side. In this projection a glass window is fitted, the guard's covered seat being opposite to it. He is thus enabled to see the entire length of the train, and can scarcely fail to observe a hand, or a handkerchief, if waved from a window. This contrivance is evidently unavailable at night, unless a spare light were by some means placed at the disposal of the passenger. At present, however, it only to some extent meets an evil, for which no more practical and complete cure has been provided. The almost universal practice of leaving the doors at one side unlocked, is a source of not unfrequent accident; yet so distasteful in public opinion is a locked door, that only one company has ventured to adopt it as a rule. The reckless conduct of many habitual travelers may yet possibly force it as a regulation on others, especially if juries continue to inflict severe punishment on companies, even when the fault is primarily with the passenger himself.

If, however, there is no part of the railway machinery from which so little danger may be apprehended as the passenger carriage, the same cannot be claimed on the part of the merchandise wagon. Whether the absence of direct danger to human life, or an injudicious economy, has been the cause, the fact is, that in no portion of the system has so little improvement been exhibited, and in which, at the present moment, there is so great a necessity for a complete modification. In this respect England is far behind the Continent. The axes of wagon stock have, in many instances, been of the most faulty model and material. The accidents to the trains, from the fracture of these parts, have been very numerous, while the destruction of property has been sufficient to have paid for a very superior vehicle. In one recent instance, several hundred axes, of a peculiar form, were removed from a leading railway, after a short experience of their working. Axes are now made much stronger than formerly; 3½ inches used to be the ordinary diameter, 4 inches is now considered a minimum, and although more attention has been bestowed on

the form and taper of the axle itself, still very much remains to be done in this matter. The fact of the crystallization of the iron by the repeated vibrations, and the peculiar causes of incipient fractures, are still debatable points with engineers and wagon builders. It is desirable that by a thorough examination of the subject, these disputed questions should be disposed of. The wrought iron wheels of merchandise wagons do not on the whole give much trouble. The most defective part of the wagon is, however, the mode of coupling. This is of the rudest kind, and it is a matter of surprise that a vigorous and combined effort has not been made by the railway interest to improve it. Very few merchandise wagons have spring buffers, and even those that have them, are simply linked together by a loose chain. Every one must have noticed the bumping sound produced in the starting and stopping of a merchandise train. Even where the driver is very careful, the succession of heavy blows in a long train is sufficient to injure the stock, and to break any delicate articles that may be conveyed in the trucks; but when it becomes necessary to arrest a train suddenly, the shocks are very destructive to the framework. This evil, great as it is, is aggravated by the circumstance of a variety of wagons being run in the same train; a light and short wagon is probably found between two long and heavy ones, and the irregularity of loading, according to the staple trade of a particular district, still further increases the risk. From the through system of traffic, the wagons of half a dozen companies may frequently be found in one train, and as these are not built to any particular height or breadth, the ends do not strike evenly, and on receiving a check, a tendency to mount (especially if the wagon is unevenly loaded, which must always be the case with some description of goods) is apparent. Covered vans, low timber trucks, and box-wagons, are all run together, in trains of from 30 to 60 vehicles, and at speeds varying from 15 miles to 20 miles an hour. It is, in fact, a wonder that a traffic so conducted is not subject to continual accident, and the circumstance of the comparative freedom from casualty is rather an evidence of the extreme safety of transit over parallel iron bars, than any defence of a system which is no credit to the mechanical skill of the country. Until every wagon is coupled up to spring buffers, in the same manner as a passenger carriage, and until either by general concert, or by compulsory regulation, the standard central height, and central breadth between the buffers, are matter of regulation, the risk of accident and the certainty of damage must continue. The author succeeded, some years ago, in obtaining, through the medium of the railway board, a general concurrence on the subject of the buffers of passenger carriages, but no measures have yet been effectual as regards merchandise vehicles.

Fires in merchandise trains are of frequent occurrence, and from the susceptibility of the tarpaulin covering to ignite, and the presence of straw in the loading, considerable danger must always exist. This fact and the damage which fine goods receive from wet, have caused the introduction of covered wagons. The use of these wagons is now greatly increasing, and for all goods capable of being closely packed, they bid fair to entirely supersede the open truck and tarpaulin. The first cost is greater, but the repairs of the sheets, in three or four years, will fully compensate for the difference.

Journal of Railroad Law.

THE BROADWAY RAILROAD CASE.

Some of the principal points ably urged by the legal Nestor, ex-chief justice Jones, in the case of *ohn Milhan and others vs. Jacob Sharp and others*, were substantially the following:

1. It is absurd to regard the contemplated Broadway railroad as a nuisance. Broadway is fast becoming a place chiefly used for public and commercial purposes, and must consequently be thronged with carriages. Will the rail cars be any more annoyance than the omnibuses, by which it is at present crowded? Will the former occupy a tenth part of the room now needed for the latter. And

again, a nuisance must actually exist, before the court will undertake to enjoin against it; or at any rate, there must be such imminent expectancy of its existence, as will justify the court to say beyond all question, that it is about to take place. A railroad is declared by the Supreme Court not to be *per se* a nuisance. And public opinion is strongly in their favor.

2. The resolution of the common council in favor of the defendants, is a mere legislative act, and not a contract. It matters not that it contained the names of the individuals for whose benefit it was made; it was not the less a *law* on this account. Every act of the legislature creating a corporation, necessarily names the corporators.

3. The resolution complained of was not, as alleged, fraudulent on the part of the corporation. The mayor, aldermen and assistant aldermen have, in the strongest manner, denied, in a deposition which is before the court, that they have received or expect to receive any compensation or gratuity of any kind, for the acts in regard to the resolutions. It is urged, that more advantageous offers were made for the construction of the road by others. But the Common Council were the proper judges in regard to the good faith with which those offers were made. The Common Council, after full and deliberate investigation, and by the votes of thirty out of the forty members of which it consists, decided to reject the offers made by the competitors of the defendants. Now, is it competent for this court to say, that the Common Council, in so deciding, were actuated by impure motives? Judging from the source of these offers, they were a mere device to kill the whole project.

But supposing these competing offers to have been made in good faith, yet they should not have been allowed to supersede the first application. The permission to construct the road was not the property of a private corporation, and could not legally be given away or sold by the corporation. It was a power in trust to be used for the public benefit.

And, moreover, the provision made by the defendants for communications with the main trunk, by means of running omnibuses through the lateral routes, was of such a nature as might well have entitled the proposal of defendants to be preferred to the others.

RAILROAD IRON.

THE undersigned, from their long engagements with the Manufacturers of G L Iron, feeling themselves eminently qualified to assist Railway Companies in America, and Gentlemen proceeding to England for the purpose of purchasing Railroad or other Iron, tender their services free of any charge, and invite communications either personal or by letter.

Address JOHN H. AUSTIN & CO,
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March 9, 1853.

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March 9, 1853.

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HAVING erected an extensive Shop, with the most approved Machinery and Tools, are prepared to execute orders for the various classes of Freight and Passenger Locomotive Engines and Tenders, in the best manner and on the most favorable terms.

Also, Stationary Engines, and the various Tools suitable for furnishing Repair Shops.

The business of Machine making, heretofore carried on by Charles Danforth & Co., is continued by the present firm, and all orders will receive prompt attention.

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INCORPORATED BY ACT OF PARLIAMENT.

NOTICE

IS HEREBY GIVEN, THAT A further Instalment of One Shilling and Threepence per Share on the Stock of the Upper Canada Mining Company has been called in, payable on the Second day of May next ensuing, at the Office of the Commercial Bank, M. D., at Hamilton.

Notice is also given, that all Stock in default at the expiration of Thirty Days from the said Second day of May, shall be forfeited.

J. L. WILLSON,
Secretary.

Hamilton, 4th March, 1853.

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NEW YORK.

To Contractors.

PROPOSALS WILL be received to the 23d of April inclusive, at the Engineer's offices of the Northwestern Virginia Railroad in Parkersburg, West Union and Clarksburg, for the GRADUATION and MASONRY of about 60 sections, averaging 1 mile each, of the road. The work will be mostly of the lighter kind, but embracing many sections of good size and some bridge masonry and tunnelling. There are 103 sections upon the road, of which upwards of 40 are under contract. The route to and along the line is easy—the Baltimore and Ohio Railroad, the Ohio River, and the Northwestern Turnpike, rendering it very accessible at all points.

Specifications will be distributed from the offices named, and also from Fetterman on the Baltimore and Ohio Railroad, near the east end of the line, on and after the 11th of April. Bidders must be well recommended, and will state what other work they may have in hand.

By order of the President and Directors.
BENJ. H. LATROBE,
Chief Engineer.

Baltimore, March 9th, 1853.

Iron, Steel and Hardware.

H. & J. HOPKINS,

93 & 95 Barclay St.,

NEW YORK,

IMPORTERS OF ENGLISH and REFINED IRON of the BEST BRANDS, suitable for LOCOMOTIVE and CAR BUILDERS' use.

Also, Cast, Spring and German Steel, of all sizes—together with a full assortment of Hardware—Contractors and Blacksmiths' Tools, Chains, etc., which we offer at the lowest rates.
March 9, 1853.

Notice to Contractors.

MISSISSIPPI and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUGH, President.
S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

Notice to Contractors.

NEW ORLEANS, Jackson and Great Northern Railroad.—Sealed proposals will be received at the office of the company, No. 45 Carondelet street, New Orleans, until the eighth of April next, for the Grading, Masonry and Bridging, of the remaining part of the first division of the New Orleans, Jackson, and Great Northern Railroad, extending from the line of the state of Louisiana to the city of Jackson, Mississippi, a distance of about 95 miles.

The route, generally, is through a high, healthy pine country, which, with the character of the work, renders it worthy the attention of northern contractors.

Satisfactory evidence of ability will be required with proposals.

Plans and profiles will be ready for examination at the Engineer's office in New Orleans, and information regarding the line given by the Assistant Engineers, at Jackson and Gallatin, after the 28th of March.

JAMES CLARKE, Chief Engineer.
New Orleans, Feb. 28, 1853.

**SCHENCK'S
MACHINERY DEPOT,**

AND

LEATHER BANDING MANUFACTORY,
No. 62 Courtland st., N. Y.

KEEPS constantly for sale Tools suitable for Railroad Repair Shops; and having connection with some of the largest establishments at the East, is prepared to furnish Tools of any description. Also, the principal manufacturer of the justly celebrated Woodworth's Patent Planing Machines, in forty different varieties. Side and Hand Lathes, Iron Planing Machines, Sash and Tonnoring Machines, Mortising Machines, Upright Drills, Chucks, Steam Engines and Boilers, Pumps of various kinds, etc., etc.

Also, Oak-Tanned Leather Belting,

Patent Stretched, with the best machinery, and cemented and copper riveted. Warranted superior to any made. Orders respectfully solicited.

March 9, 1853.

SAMUEL B. SCHENCK.

Railroad Iron.

THE undersigned Agent for the manufacture, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales, or at this port.

For terms, apply to JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

To Contractors.

NIAGARA FALLS HYDRAULIC CANAL.

SEALED Proposals will be received at the Office of the Niagara Falls Hydraulic Company at Niagara Falls until Wednesday the Sixth day of April next inclusive, for the Excavation, Masonry, Bridging, Gates, Waste-Weir, Bulkheads, Docking, &c.

Plans, Profiles and Specifications may be seen at the Company's Office, at Niagara Falls; also at the Office of the Hon. C. S. Woodhull, No. 59 Fulton street, New York, and Walter Bryant, No. 22 Congress street, Boston, Mass.

The Company will have a steam drilling machine on the work after the fifteenth of March, to which they wish to call the attention of Contractors.

The Company reserve the right to accept or reject any or all of the Proposals as they may consider for the interest of the Company.

E. R. BLACKWELL, Chief Engineer,
m5 3t Buffalo, N. Y.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

March 2d, 1853.

JOHN H. HICKS,
90 Beaver st.

To Railroad Contractors.**PACIFIC RAILROAD.**

SEALED Proposals will be received at the office of the Pacific Railroad Company, St. Louis, Missouri, until the first day of April next, for the grading, masonry, bridging and ties for twenty miles, and until the first day of May, for about seventy miles additional, terminating at Jefferson city. This division is mostly in the Missouri valley, and with the facility afforded for transportation on the river, and the ability on the side hill cuts of using a large force advantageously during the best part of the working season, it may be worked promptly and economically. There will be several large bridges on this division. The work will be divided into sections of about five miles, but contractors may take more than one section. Offers received either for cash payments in full, or a portion on the stock of the company. Plans and profiles will be ready for inspection fifteen days before the dates given above, and at any time information will be furnished by the Engineer. Security will be required for the faithful and prompt performance of the work.—The Company reserve to themselves the right to reject such offers as it may not seem to their interest to accept.

Other portions of the road, or of the South West Branch may be put under contract during the season.

THOMAS ALLEN, President.
THOS. S. O'SULLIVAN, Engineer.

To Contractors.

SEALED Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1843, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,
THOMAS B. STEVENSON, President.
CHAS. B. CHILDE, Chief Engineer.
JAMES A. LEE, Secretary.
January 20, 1853.

Fulton Car Manufactory,
CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
Sole Manufacturers,
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held at this city.

November 3 1846.

lv

Pease & Murphy,
FULTON IRON WORKS,
FOOT of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B.—Engines and Boilers repaired. 6tf

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.

HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York, January 28, 1853.

PATENT Locomotive Steam Cylinder BORING MACHINE AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be rebored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by

BRIDGES & BROTHER, Agts.,

64 Courtland St. New York.

January 20, 1853.

IRON.

Pierson & Co.,

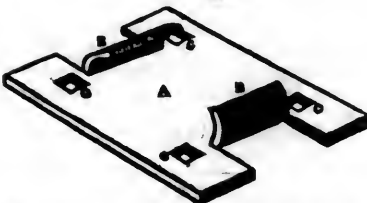
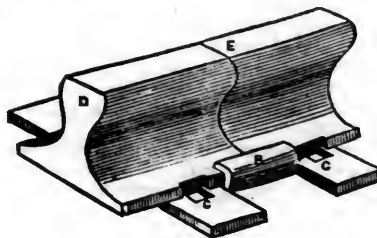
24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTEING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga,
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennbec and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWERIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.



HENDERSON AND NASHVILLE R. R.

SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

In consequence of the inclemency of the season, the high water, and other circumstances, making it in the opinion of the Board of Directors, impossible for our skillful and energetic Chief Engineer, Wm. Bewley, Esq., to execute fully the locating surveys of our Railroad in time for us to exhibit the maps, profiles, plans, estimates, etc., on the 1st day of March, 1853, as stated in our original advertisement, we have determined to make a change in our advertisement, lest Contractors should be deceived, and we now say that the maps, profiles, plans, estimates, etc., of our Railroad, will be ready for exhibition to Contractors at any time between the 10th day of April and the 10th day of May, 1853, within which time bids will be received, and that our original advertisement is thus far changed.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.
Henderson and Nashville R. R. Co.

Wilkinson's EXPLOSIVE RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jameson, Esq., Baltimore.

38

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK,

A. N. GRAY, Cleveland, O.,
RECEIVER AND FORWARDER of Railroad
Iron, Chairs and Spikes.
Also, Cars, Locomotives, and all kinds of Machi-
nery for Railroad purposes.
Office next door to the Custom House, Main st.
January 12, 1853.

R. Groves & Sons,
SHEFFIELD, ENGLAND,
MANUFACTURERS OF

WARRANTED Cast Steel of superior quality for
Tools, Machinery and Engineering purposes.
Single and Double Shear, Blister, German, Spring
and Sheet Steel of every description; also, Cast Steel
Files of high reputation, specially adapted for the use
of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maidenlane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

LOW MOOR IRON.

W. M. BAILEY LANG, 9 Liberty Square, Boston,
and 24 Broadway, New York, Sole Agent in
the United States and Canada for the Lowmoor
Iron Co., is prepared to receive orders for this justly
celebrated Iron, and offers for sale an assortment of
the Round sizes which he now has in store, and which
for strength, soundness and uniform quality, stands
without a rival.

Railroad Iron.

2000 TONS Railroad Iron, weighing about 59
lbs. per yard, "Erie" pattern of G. L. and
"Crawshaw" manufacture, now on the way from the
shipping ports in Great Britain to this port, for sale by
P. CHOUTEAU, Jr., SANFORD & CO.,
No. 51 New street.
December 4, 1852.

Bowling Tire Bars.

40 Best Flange Bars 5 1/2 x 2 inches, 11 feet long.
40 " 5 1/2 x 2 " 7 feet 8 in. long.
40 " Flat " 6 x 2 " 11 feet long.
40 " " 6 x 2 " 7 feet 8 in. long.
Now in store and for sale by
RAYMOND & FULLERTON,
45 Cliff street.

I. Dennis, Jr.,

WASHINGTON, D. C.,

ATTORNEY for Inventors, and Agent for Procuring
Patents—Practical Machinist, Manufacturer and
Draughtsman, of 20 years' experience. Circulars
containing important information, with a map of
Washington, sent to those who forward their address,
and enclose a stamp. 31st

Devlan's Patent
Oil Manufacturing Co.,
12 BROADWAY, NEW YORK.

THIS Oil is extensively used on Railroads and
Steamships, and other Machinery, and is
worthy the attention of every individual or compa-
ny that uses Oil for Lubricating purposes. It is
cheaper than the best Sperin, because it answers the
same purpose and is more durable, thereby making
a saving of from 40 to 50 per cent. The best of
testimonials establish that fact, but cannot be given
in this notice. All that is required is to test the
matter, and if it will not answer as recommended,
it will be taken back and money returned.
New York, Feb. 9, 1853. 2w

Buffalo Car Works.

TOWNSEND & COIT, PROPRIETORS

WE are now erecting an extensive Establishment
for the manufacture of Railroad Cars, which
will be furnished with all the conveniences known to
the business, and ready for operation by the last day
of June next, at which time we will be ready to exe-
cute orders for Baggage, Box, Platform and Cattle
Cars, of the most approved style and finish. Mean-
time we are prepared to make contracts for work to
be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1853.

SIMEON DRAPER, No. 46 Pine-st., offers for
sale, a variety of RAILROAD BONDS and
STOCKS; also CITY, TOWN and COUNTY
BONDS, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R.R.	" 1861-71
7 per ct.—Tioga R.R.	" 1872
8 per ct.—Peoria and Oquawka..	" 1863
6 per ct.—Maysville and Lexing- ton	" 1870
6 per ct.—Dauphin and Susque- hanna Coal Co.	" 1877
1st Mortgage Bonds:	
7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City	" 1866
7 per ct.—Mansfield & Sandusky	" 1860
7 per ct.—Toledo, Norwalk and Cleveland	" 1861
7 per ct.—Vermont Valley	" 1861
7 per ct.—New Jersey Central..	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington. Troy, N.Y.	1862

Also, second mortgage bonds of many of the above
companies, and—

7 per ct.—Saratoga & Washing- ton R.R. bonds.	New York, 1862
7 per ct.—Troy and Boston	" 1864
7 per ct.—Muscookee Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford.	New York, 1862
10 per ct.—Mansfield and Sandus- ky R.R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R.R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
10 per ct.—City of Milwaukee.	" 1857
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wiscon- sin for improvement of Fox River.	" 1862

Troy and Rutland railroad Stock, with guarantee
of 4 per cent. dividend and one half surplus profits
of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of
7 per cent. dividend by Saratoga and Washington
Railroad.

Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York
R. R. Co.
Stock in the Mansfield and Sandusky R.R. Co.
Stock in the Chemung R. R. Co.
Stock in the Southern Bank of Kentucky.
Stock in the New York and Virginia Mail
Steamship Company, paying 20 per cent.
dividends.

**To Railroad Co's, Locomotive
Builders and Engineers.**

THE undersigned having taken the Agency of Ash-
croft's Steam Gauge, would recommend their
adoption by those interested. They have been exten-
sively used on Railroads, Steamers and Stationary
Boilers, where, from their accuracy, simplicity, and
non-liability to derangement, they have given perfect
satisfaction. In fact, for Locomotives, they are the
only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Aug. 28, 1851 5m

A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels
for Cars and Locomotives. Also furnish Wheels
fitted complete on best English and American Rolled
and American Hammered Axles. 31st

**To Railroad Companies, Car
Builders, Machinists, etc.**

SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sta.

HANING completed their arrangements for man-
ufacturing Car and Locomotive Axles, Piston
Rods, Wrought Iron Shafting, etc., either hammered
or rolled, are prepared to offer inducements as to qual-
ity and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc. 151*

The Cold Spring Iron Works,
INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-
setts, manufactures CAR AXLES, and all kinds
of WROUGHT IRON used in the manufacture of
LOCOMOTIVES and CARS; also, BAR IRON of
all descriptions. Particular attention is paid to the
manufacture of CAR AXLES, and the Works being
situated in a region of WOOD and CHARCOAL,
with which their Axles are exclusively made, the Com-
pany feel confident they can furnish an article equal,
if not superior, in quality and finish to any in the
market. They solicit the orders of RAILROAD
CORPORATIONS and CAR BUILDERS, and prom-
ise they shall be promptly attended to: and execut-
ed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Rail-
road, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad Riv-
er and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder, " "

Address HENRY MELLUS, Agent,
Boston, Mass.
or, GEO. W. PRESCOTT, Sup't.
Otis, Mass.

November, 12, 1852.

ly

**Toledo, Norwalk and Clevel-
and Railroad.**

OPEN through, completing the last link in the chain
of Railroads between New York, Boston, Phila-
delphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7,
1853, Passenger Trains will run
daily (Sundays excepted) as follows:
Leave Toledo at 9 A. M. and 10 P. M.
Leave Cleveland at 9:20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Rail-
road, for Chicago and the West.

At Bellevue with trains of Mad River and Lake Erie
Road, for Sandusky City, Dayton, Indianapolis,
Cincinnati, etc.

At Monroeville with Mansfield and Sandusky City
Road, for Sandusky City, Shelby Junction, Col-
umbus, Newark and Zanesville.

At Graton with Cleveland, Columbus and Cincinna-
ti Road, for Shelby Junction, Columbus and
Cincinnati.

At Cleveland with Lake Shore Road, via Dunkirk,
for New York and Boston, via Buffalo, for New
York and Albany and for Western Road and Bos-
ton, with Cleveland and Pittsburg Road for
Pittsburg, Wheeling, Philadelphia, Baltimore, &
Washington City.

E. B. PHILLIPS, Sup't.

Office T. N. & C. R. R.,
Norwalk, O., Feb. 2 1853.

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,

HAVE constantly on hand a good assortment of
Iron and Steel, expressly adapted to the use of
LOCOMOTIVE and CAR BUILDERS,
AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,

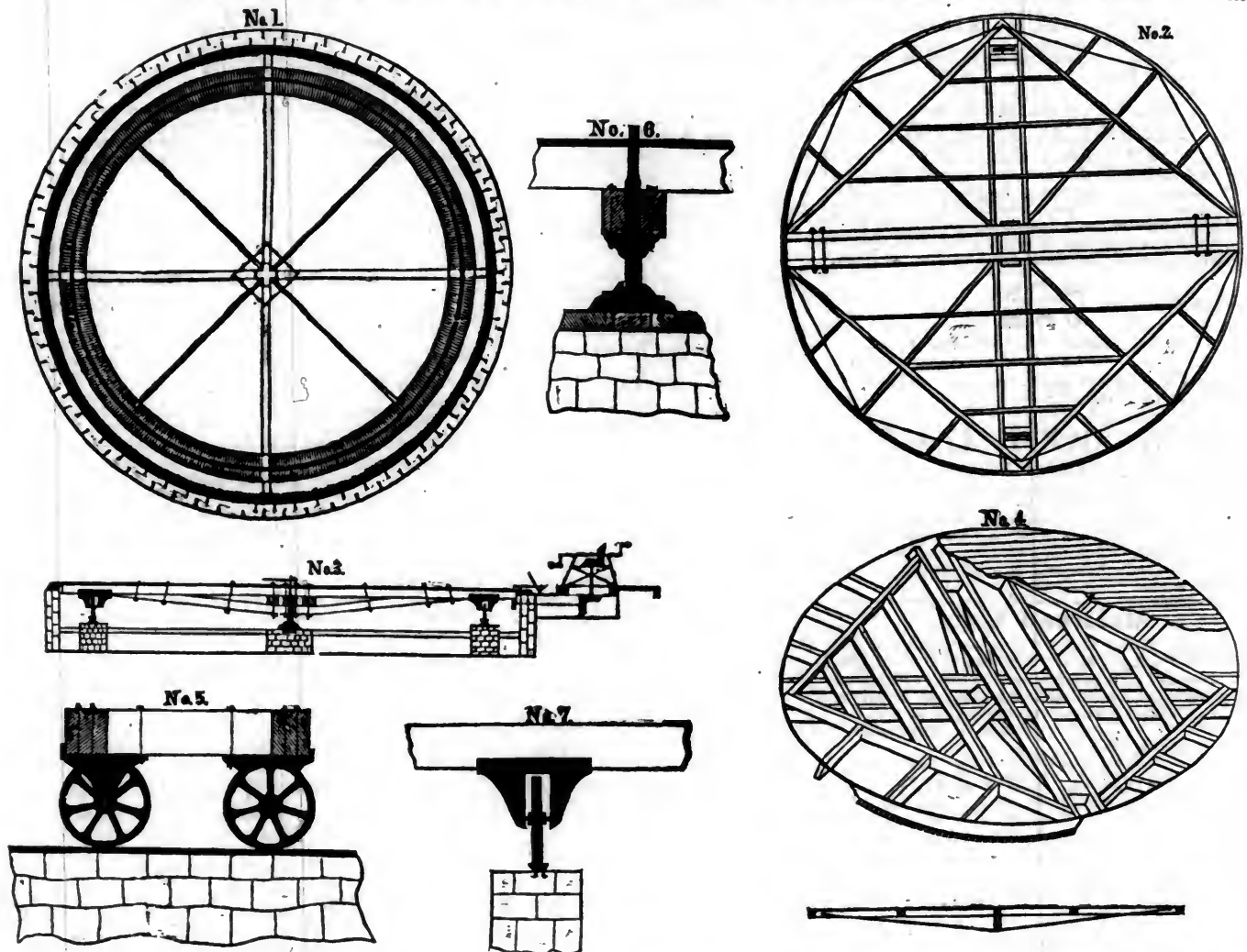
Feb. 16, 1853.

90 Beckman st., N. Y.

Fire Bricks.

Patent—for sale in lots to suit purchas-
ers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
New York.
November 19, 1852.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by ONE MAN in 25 SECONDS.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.

A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent - WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. 17*

E. DeWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use. JAS. PRENTICE, Feb. 9 1853. 315 Broadway, N. Y.

Railroad Iron.

2000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by

P. CHOUTEAU, Jr., SANFORD & CO., No. 51 New street.

December 4, 1852.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,
Sole Agents, 28 Platt st., New York.
New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 12.]

SATURDAY, MARCH 19, 1853.

[WHOLE No. 883, VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, March 19, 1853.

New York and Erie Railroad.

We have a forerunner of the forthcoming report of this company. We have already achieved something, in having drawn the leading persons connected with this company most unwillingly from their covert. The organ of the company, the Tribune, has been favored with an examination of the promised exhibit, an abstract of which appeared in that paper of the 12th instant; which, for the benefit of our readers, and in justice to the company, we give entire:

"An article which appeared in the Railroad Journal, on the 19th of February, attacking with much violence the Erie railroad company, caused a number of the leading stockholders to address a letter to the company, asking for information in regard to its affairs; which has drawn from the president a lengthy reply, containing the statistics of the road, and the reason why the cost has been so largely in advance of the estimates. As the reply will probably be given to the public in full, we annex only an abstract of the principal points.

In regard to the cost being largely in advance of the estimate, the president says, that when the present managers came in, in 1845, they had no knowledge of the road, but were obliged to make up their estimates from the report of the chief engineer employed by their predecessors, and which was made one and a half years before. This estimate did not include the cost of the Newburgh branch, which the Legislature afterwards compelled them to make. The cost was also largely increased by the entire change of line west of Binghamton, and the abandonment of about two millions of expenditures made by previous boards, which it was thought would be available.

Even with all these changes, which were made in many cases east as well as west of Binghamton, the directors might still have built a cheap road, but they considered it to be the true policy of the company, and the true interest of the city, to make a first class road in every respect. Thus, immense amounts were spent in reducing grades by deep cuttings and high embankments, which were not at first contemplated. The curves and the bridges were also made more expensively, so that nothing should be left to be done when the road was declared completed, to make it equal, as a public work, to any in the country.

In the Railroad Journal, a comparison between the Erie and the Baltimore and Ohio road was drawn, unfavorable to the former. The figures are given as follows:

	Length.	Cost.
Baltimore and Ohio.....	380	\$17,000,000
Erie.....	464	27,551,207

This comparison is unfair in many particulars. The Baltimore and Ohio is compared with the Erie, an unfinished work. It requires a large amount of expenditures, which the Erie has made, for turnouts, depot grounds, water stations, machine shops, double track, &c., &c., which will swell the cost largely. Again, the Baltimore and Ohio has 33 miles of grade of 100 feet to the mile, while the Erie has none of over 60 feet to the mile, and more than half the length of the road does not exceed 5 feet to the mile. These easy grades have not been obtained without large, but in the end economical expenditures. Again, the Erie has no curve of less than 1,000 feet radius, excepting one which is 500 feet. Again, the comparison of length is incorrect. Instead of 464 miles, the Erie has in fact 701 miles of road, including turnouts and double track. When the Baltimore and Ohio road is as perfect a road as the Erie, without double track, it will doubtless have cost \$20,000,000, which will be \$50,000 per mile—while the Erie has cost only about \$54,000 per mile, with a much more expensive line. The comparative traffic of the two works proves the expenditures for equipage and all the accessories of a railroad, must very properly have been immensely larger on the Erie than on the Baltimore and Ohio. The gross earnings of 1852 were:

	Per Mile.
Baltimore and Ohio.....	\$1,325,567 3.488
Erie.....	3,567,815 7.690

The earnings of the year on the Erie would have been larger, but for the building of the second track, which employs the machinery and the other track, so as to embarrass the regular traffic of the road.

In regard to the charge of disagreement between the report to the Legislature and the actual cost of the road, the president states, that the Legislative form calls for certain items, which are given, but they do not include every expenditure, and conse-

quently do not represent the entire cost. The general account of the company is as follows:

	Da.	
Stock.....		\$9,612,995 00
1st mortgage bonds.....	\$3,000,000	
2nd ".....	4,000,000	
Income bonds.....	2,649,000	
Convertibles, 1871.....	4,351,000	
Convertibles, 1862.....	3,500,000	
Certificates.....	503,868	
		18,003,868 00
Bills payable.....		3,361,701 31
Cash borrowed.....		11,144 52
Unclaimed tickets.....		1,447 50
Unclaimed dividends and interest.....		60,653 85
Expenses of February.....		250,000 00
		31,301,810 18

	Ca.
Deduct assets, including—	
Cash in hand.....	\$115,552 00
Buffalo and State line railroad stock.....	257,650 00
Steamboats on Lake Erie.....	365,487 50
Union R.R. company ..	25,000 00
Due from sundry parties.....	44,948 92
Due from other roads ..	42,067 04
From station agents, &c.....	104,034 50
	1,024,267 82

Entire cost.....\$30,277,542 36

The expenditure is represented by the following property:

446 miles mail line with many expensive buildings, heavy embankments, deep cuts, &c., 50 miles relaid with heavy rail, &c.
18 miles Newburgh branch.
98 miles sideling, switches, &c.
139 miles double track.

701 miles of road.
149 locomotives.
131 passenger and baggage cars.
1855 freight cars.

Machine-shops, depots, water stations, steamers on Hudson river, pier and buildings at Duane-st., engine houses, between 800 and 900 miles of fencing, wood-land, (\$150,000) wood on hand, (\$335,000) &c., &c.; in all costing \$5,387,524. Including the interest on stock and discounts on Bonds the iron has cost about \$54,000 per mile, and including all the property, about \$65,000 which compares favorably with other roads, the Hudson river having cost \$73,000 per mile and the New York and New Haven, \$79,260 per mile.

The recent loan of ten millions was contracted for the following purposes: To pay off the floating debt, to extend the second track to Corning, and to purchase additional machinery required for the increasing traffic of the road, and to reimburse the 2d Mortgage Bonds (\$4,000,000) when due. Of

the new Bonds, three millions were negotiated, and three millions will not be used until next year. This loan will complete 277 miles double track to Corning, which is all that will be made for several years.

The change in relation to the estimate for double track in the December (1851) report is based on a clerical error. It was intended to state that the double track could be *graded, not built*, for \$10,000 per mile. In regard to dividends, the President states that none have ever been made until the whole subject of receipts and expenditures had been examined and reported on by a committee of the board. The character of the gentlemen composing the board is, we presume, a sufficient guarantee to New Yorkers, who know them, that nothing has been done in this matter of dividends which was not believed to be strictly justified by the results of the business. Nothing could be more ridiculous than the theory advanced in the Railroad Journal, that because the construction expenditures in the last year or two have exceeded the earnings, that therefore the road had made nothing, and should declare no dividend. If it be Railroad Law that railroads are to be built with earnings, then the new revelation has been exclusively monopolized by the Railroad Journal. No other railroad authority ever heard of it.

The President's statement ends with the statistics of the earnings and expenditures of the road since its commencement. We annex the last three years:

	Earnings	Expenses.	Earnings per mile
1850....	1,139,559	623,948	55 per ct. 5,069
1851....	2,281,668	1,277,688	56 per ct. 6,117
1852....	3,569,815	1,877,163	53 per ct. 7,690

The comparative earnings of the five months of the present fiscal year have been as follows:

1851-2.....	1,325,565
1852-3.....	1,689,859

Increase about 28 per cent.....\$364,394

Let us examine this explanatory statement and see what it amounts to.

The report of Mr. Loder under date of September 2nd 1845, estimated the cost of the road with its equipment, to the stockholders at \$8,350,000. In the reports of 1848 and 1849 this estimate was carried up to the sums of \$11,000,000, and \$16,000,000 respectively. The explanations offered in these reports were "that the company at the first date had no knowledge of the road, but assumed the correctness of the estimates made under the preceding organization; that these estimates did not include the Newburgh branch. That the changes and improvements in the line involved a loss of nearly \$2,000,000 of previous expenditure; that a much better road had been built than at first contemplated" etc. etc.

Admitting that in 1845 the company had not the means of making a correct estimate, the vigorous prosecution of the surveys and the work of construction commenced at that time soon supplied the necessary data, and we consequently find in the report of 1848 the following explanations offered for the increased estimate of that date.

"In answer to a call of the board upon the chief engineer, for a careful estimate of the cost of completing the road to Binghamton, a report was submitted, made with great care, with a liberal allowance for contingencies, and believed to be perfectly reliable. It was then found, that taking the bonds at par, together with the amount due on stock subscriptions, there would be, after completing the road to Binghamton, a surplus of about \$1,000,000, including the amount required by law to be deposited with the comptroller, to provide the interest on the bonds till 14th May, 1851.

"The character of the road has been very greatly improved, by altering the grades and changing the line in many places, at a considerable cost to the company, the necessity and importance of which were too great to allow of any hesitancy on the part of the board in deciding to do so, at almost any

sacrifice, and which will make it, when completed, worth millions of dollars more to the stockholders and the public, than if continued on the old line, and at the old grade. In fact, the value of these improvements can hardly be over estimated, when the future working of the road is taken into account. And it may be added with the utmost confidence, that the improvements in the line and grade, which have been secured only by the most determined and persevering efforts of the board—are worth more to the stockholders and the public than the state loan of \$3,000,000. Another fact may be stated, as a consequence of such changes, that the road when completed will furnish about 300 miles of level, or nearly level, grades, or not exceeding five feet to the mile, in favor of the trade coming towards our city.

"About one and a half millions of dollars have been expended on that part of the road between Port Jervis and Binghamton, a distance of about 127 miles (by far the most difficult and expensive part of the road to the lake,) more than half of which is nearly graded, and the company will commence laying the superstructure within a few weeks. The iron rails are being rapidly delivered on the line of the road, and the board intend, and believe they will be enabled, to open the road to Binghamton during the present year, unless some unforeseen difficulties occur to prevent.

"The board have just closed a very advantageous contract with a company of gentlemen of great respectability and wealth, from the interior of the state, to grade the road from Binghamton to Elmira, a distance of about sixty miles, to lay the superstructure, and to furnish all the materials except the iron rails; that portion of the road between Binghamton and Owego to be finished within sixty days after the road is extended to Binghamton; and from Owego to Elmira, within six months thereafter.

"This arrangement will secure the completion of the road to Elmira, within fifteen or sixteen months from the present time, with the probability of a similar arrangement to extend it to Corning, sixteen miles further west, within the same period. It may not be unimportant here to state, that from the latter place to Port Jervis, a distance of over 200 miles, there will be no grade opposed to the descending trade, of over five feet to the mile, except at one place, where, for seven miles, the grade will be sixty feet to the mile, leaving 193 miles practically level.

"When the road shall have reached either of these points, it may safely be considered, as to cost and labor, three-fourths finished."

Previous to the first date, the capital stock had been increased \$3,000,000, and the first mortgage of \$3,000,000 had been negotiated. The means in hand from these sources, at the above date, were estimated at \$2,862,433. In reference to the amount then necessary to complete the road, we copy from the report as follows:

"From two to three millions of dollars will be required to complete the road to Lake Erie. And within six months after the road shall have been extended to Elmira, we hazard little in saying, that such results will follow one half year's working the road, as will make the stock of the company a desirable investment, and sought after, at or above par."

In reference to the value of the work done under the previous organizations, and represented by the state loan and surrendered stock, the report says:

"This road, when completed, will cost the stockholders less, per mile, than any other road in the country, and not exceeding half the cost per mile of the Western railroad from Albany to Boston. Massachusetts has in operation within her limits seven hundred and twenty-eight miles of railroads, costing about \$35,000,000—or about \$50,000 per mile.

"It would appear, from the low price at which some of the stock of this company has been recently sold, that the stock bonus of \$3,000,000 had been entirely forgotten or overlooked—a bonus which practically adds thirty per cent. to the intrinsic value of the stock."

On the 2nd day of September, 1848, therefore,

the lack of information in reference to the final cost of the road, had been supplied by "the most careful surveys, which were believed to be perfectly reliable," upon "by far the most difficult part of the line, for a distance of 127 miles, more than one half the work of grading had been completed." The improvements effected had reduced the grades upon 300 miles of the road, to five feet to the mile; so that the improvements and changes, which are now offered as an apology for the immensely increased cost of the road, were already effected, and were then offered as an explanation of the increased cost of the road to some \$11,000,000, over \$8,350,000, in the report of 1845. At this period also, when an accurate estimate could have been made, if ever, the value of the work which was a bonus to the stockholders, was stated to be over \$3,000,000. This is evidence taken at the time, and which may be considered as *res gesta*, a part of the transaction itself. If, at the above date, the directors were allowed the explanations now offered in extenuation of the increased cost of the road since that time, we submit, that they are not to be allowed a similar apology for two distinct and widely separated acts.

So much for the report of 1848. In May, 1849, the company published a further report issued on the occasion of the sale of the second mortgage Bonds. This report commences with a repetition of the reasons already stated, for the increased cost of the road over the estimates made five years previously. A detailed account is given of the route and the principal works east of Binghamton, which is well known to be the difficult part of the line, were well advanced toward completion. To this point, the road was opened, on the 27th day of December, 1848. Upon reaching Binghamton, all the great obstacles had been surmounted. "The immense sums spent in deep cuts and high embankments" had already been made, and in reference to the favorable changes effected in the grades, the report of 1849, says:

"The grade is now improved so that there is no grade in the whole distance, going east, exceeding 5 feet to the mile. On the line west of Binghamton for miles in extent, the grade was fixed at from 2 to 4 feet below the level of high water mark of the Susquehanna river. In order to raise the grade out of the reach of high water, and to improve the line as above stated, it became necessary to change it for several miles. The propriety of these changes having been called in question by some parties, it may be proper to state that the directors did not decide upon them without due and proper consideration, and they can point to these improvements with pride and pleasure. Their value in a series of years will amount to millions of dollars, and as the importance of easy grade, is more and better understood, will be more and more appreciated. The result of these improvements can be seen when a map of the road is spread out before you, and starting from Hornellsville and running over the whole line to Port Jervis, a distance of 250 miles, there is no grade exceeding 5 feet to the mile, except from Lanesboro' to the summit, a distance of 8 miles, where we meet with a grade of 60 feet to the mile, and where with the assistance of a relieving engine, in case of necessity, that whole distance of 250 miles is rendered practically level; the saving on which, to the stockholders and the public, in a few years running the road will be equal in value to the State lien relinquished to the company."

For a second time have this company had the benefit of the same changes that have effected such an immense improvement in the line of this road.—Nearly one half, and by far the most difficult portion of the road, had been completed, and the cost necessary to the improvement of this part of the line actually expended. We object to these excuses

being again brought forward as apologies for an excess of future expenditures, over estimates. At the above date the financial condition of the company is stated as follows:

Stock paid in.....	\$5,468,600
1st Mortgage bonds.....	3,000,000
Certificates.....	500,000
Floating debt.....	833,833
	\$9,802,433

In reference to the value of the company's property the report says:

The estimated value of the property of the company, (which is represented by the present liabilities, as stated above,) is as follows: which is much less than its actual cost, but it is considered best to place it below, rather than above, its real value.

1. 200½ miles of road, extending from Piermont to Binghamton, including equipment, viz: 27 locomotives, 20 passenger cars, 400 freight cars, machine shops, machinery in shops, depot buildings, etc., etc., \$50,000 per mile.....	\$10,025,000
2. Two steamboats, three barges, improvements at pier, etc., etc.....	136,322
3. Newburgh branch, 19 miles in length, nearly graded.....	262,397
4. 5,300 tons railroad iron, \$50 per ton.....	\$265,000
Less amount advanced thereon.....	135,000
	\$130,000
5. Amount expended on the road west of Binghamton, before the present managers assumed the control of the work, which amounted to nearly \$2,000,000, and is now worth to the company, according to the estimate of the Chief Engineer, say.....	600,000
6. Amount expended by the present board in purchase of right of way, depot grounds, engineering, etc., etc., on account of the extension of the road west of Binghamton, during the past year (The property purchased being represented by this sum).....	122,333
7. Balance in the hands of Comptroller to pay interest on the \$3,000,000 mortgage bonds till May 14, 1851.....	526,143
8. Value of materials on hand and paid for, say.....	80,000
	\$11,882,195

By comparing the aggregate amount of liabilities with a fair and safe valuation of the property of the company, it will be seen that there is an excess of about two millions of dollars, over and above all liabilities, as a surplus in favor of, or as a bonus to, the stockholders.

In consequence of the release of the State lien and the consolidation of the old stock, it may be stated, with entire confidence, that no railroad in the country, of so expensive a character, including equipments, has ever cost the stockholders less per mile than this road, or which in the aggregate has been represented by a less sum in proportion to the amount of property owned by the stockholders of this company.

It will be observed from the statement of the present liabilities of the company, that there is a large discrepancy in its financial condition, since the road has been extended to Binghamton, from what was estimated by the board in their address to the stockholders, dated 19th May, 1848. It was there stated as the best estimate that could be made "that taking the bonds at par, together with the amount due on stock subscriptions, there would be, after completing the road to Binghamton, a surplus of about \$1,000,000, including the amount required by law to be deposited with the Comptroller to provide the interest on the bonds till the 14th May, 1851." In explanation of and to account for this discrepancy, it will be observed that the estimate was made as, "the cost of completing the road to Binghamton," and was not intended to include engines, passenger and freight cars, depot buildings, water stations, machinery, etc., for running the road,

This discrepancy is accounted for as follows:

1. There has been expended for equipments of the road, including the items above named, over.....\$250,000
2. The balance yet due on instalments on the new stock subscriptions, which were taken at their full amount in that statement (probably about half of which will yet be collected,).....263,265
3. Amount expended on account of the extension of the road west of Binghamton, (a large portion of which was expended before the road reached that place,)....122,333
4. The amount expended on account of purchase of railroad iron, for the extension of the road west of Binghamton...130,000
5. The interest on the stock, due on the 1st January last, was not taken into account in the estimate referred to about.135,000
6. The extra cost of the work on so long a line, involving so large an expenditure, will account for the balance of such discrepancy.

All who have had any experience on so difficult, and heavy a work, extending over so many miles can well understand that no skill of engineers can decide with certainty as to the cost, involving as it does so many contingencies.

It may now very properly be asked, what have the directors to present to the stockholders, as the result of their efforts, and the expenditure of so much money? To which it may be replied—they have added to the main line 154 miles of road: 147 of which is new, and for the most part carried through a country, combining a greater amount and variety of obstacles than probably exist on any other in our country, of equal extent: besides which they have been compelled by circumstances to divert over \$1,200,000 from the legitimate objects of extending the road west of Middletown. The question then very naturally arises, whether the amount of work done by the directors has cost the stockholders more than works of a similar character? From the reports of other railroads, it is believed that the average cost of the New York and Erie railroad, considering the magnitude and difficulties of the work, is at least as low, if not lower, than any other of a similar character in the United States. The board could have constructed a railroad over irregular, undulating grades, at much less cost to the stockholders. They could have constructed a road, with its vast amount of masonry, in piers, abutments, walls and cuttings, of an inferior character from that which has been made, and at less cost. They could have made a cheaper road in very many particulars; but they never could have paid the damage, nor repaired the injury to the stockholders and the public, by consenting to make the road on a worse line and grade than has been adopted, nor by constructing the work less substantial, or inferior in character.

To provide the means of carrying on the road to Hornellsville, and to Lake Erie, a new loan, which is now represented by the second mortgage, of \$4,000,000 was proposed. In reference to this we copy from the report as follows:

"The question now very naturally arises, whether the intended issue of bonds for \$4,000,000, will secure the objects proposed? To which it may be answered, that careful surveys and estimates have recently been made, under the direction of the Chief Engineer, of the whole line from Binghamton to Hornellsville; and the estimate of cost, with a liberal margin for contingencies, does not exceed \$2,500,000. The character of the country through which nearly the whole line passes, is comparatively level, (as the grade indicates,) and furnishes the best grounds of confidence, that the construction of the road can be accomplished within the estimate above made. The balance of the bonds will pay off the floating debt, and amply provide machinery for working the road to Hornellsville, at which point, as stated above, the branch road to Buffalo will meet this road; thus opening a direct communication with the lake within eighteen months.

The account, upon this basis of calculation, (which is believed to be safe and reliable,) will then stand thus:

The present liabilities, as stated in another place, are.....\$9,802,433
To which may be added balances due contractors on final settlement, for grading the road to Binghamton, which, according to statement of Chief Engineer, will amount to about \$125,000; but will assume for that and other contingencies.....197,567

Total.....\$10,000,000

To which add estimate of road from Binghamton to Hornellsville.....\$2,500,000

From which should be deducted the following, as already provided and paid for:

1st. On account of purchase of iron rails.....\$130,000

2nd. Purchase of right of way, depot grounds, &c., &c.....122,333

252,333

2,247,667

Estimated cost of completing Newburgh branch, which is intended to be put in running order, on or before the extension of the main line to Elmira—say.....220,000

Add for contingencies, purchase of locomotives, cars, machinery, &c. &c. say.....532,333

Total.....\$13,000,000

as the entire cost of the road to Hornellsville, and equipments for running it, including the Newburgh branch; also the ferry equipments from New York to Piermont.

Upon the completion of this road to Hornellsville, 320 miles in length, and the Newburgh branch, 19 miles, making in all 339 miles of railroad, the lowest estimate that can be made of its value, including equipment for running it, cannot fall short of \$15,000,000, and will be represented at that time by its liabilities, which will not vary materially from the following statement:

1st. The State mortgage bonds, payable in 1866.....	\$ 3,000,000
2d. The second issue of mortgage bonds payable in 1859.....	4,000,000
2d. The certificates of old indebtedness exchanged for those of a similar character, payable in 1854.....	500,000
4th. The old and new stock at present stands thus:	
Old stock, number of shares....	8,945
New stock, number of shares....	45,741
5th. To which may be added, as an estimate of the amount of stock which may be used to advantage in payment to contractors, purchase of locomotives, cars, machinery, &c., by the time the road shall be extended to Hornellsville* say, shares..	5,314
	531,400
	\$13,500,000

From which aggregate liabilities should be deducted the amount deposited with the Comptroller, to pay interest on the State mortgage bonds, till the 14th May, 1851.....500,000

\$13,000,000

The above estimate and calculations are believed to be as nearly correct as any that can be made. The Board are equally unwilling to deceive themselves or the stockholders, in relation to this or any other matter. The character of the country through which this portion of the road is to be carried, is of such a description as will allow of more reliable estimates and calculations, and they think it as likely to fall short of, as to exceed, the above estimates.

* This item is intended to cover all possible contingencies that may arise in building the road to that place.

The next important question that may be asked is, how is the work to be extended to the lake? or what means or resources are at the command of the company, to complete the road to Lake Erie? To which it may be answered—If the plan submitted above will carry the road to Hornellsville, which appears to us plain, simple and perfectly practicable, and not attended with one-half the difficulty that has been met and overcome in carrying the road to Binghamton, then is the plan now submitted to extend the road from Hornellsville to Lake Erie, equally plain, simple and practicable.

From surveys recently made under the direction of the Chief Engineer, the cost of completing the road from Hornellsville to Lake Erie, is estimated at less than \$2,500,000, with a liberal margin for contingencies. (This portion of the line, it will be remembered, was partially graded some years since, at an expense of nearly \$1,000,000, about half of which is estimated by the Chief engineer to be available.)

To provide the balance necessary to carry the road to Lake Erie, it was proposed to issue stock, which it was believed would be available after the road had reached Hornellsville.

In reference to the security which the road offered for the proposed loan of \$4,000,000, the report says:

"From the facts above stated, it is not seen how or in what way the security can be improved, or in what particular it is defective. And with the sale of these bonds, and without the intervention of any very unfavorable circumstances, the stockholders and the public may look forward with more certainty to the completion of this road to Lake Erie within two years—than they could reasonably have done twelve months ago, to the completion of the road to Binghamton by the first of January last.

It will be seen in another part of this report, that the cost of completing the road to Hornellsville is estimated at..... \$13,000,000
To which is now added the estimated cost of the road from Hornellsville to Lake Erie..... 2,500,000

15,500,000
Add for contingencies, purchase of machinery, &c., for running the road—say..... 500,000

Total..... \$16,000,000

The above estimate is deemed large, and is based upon recent surveys and estimates, made under the direction of the chief engineer. Beyond the amount of his estimate, over \$1,000,000 is added for contingencies for the work between Binghamton and the lake, for the purchase of machinery, &c., for running the road. Besides that sum, over \$500,000 in stock is included, which, it is assumed, may be advantageously used, during the next two years, in payment to contractors; also, in purchase of locomotives, cars, machinery, &c. From the fact that the cost of public works has very generally exceeded their original estimates, the public have, in consequence, become distrustful of their correctness; it has therefore been determined, in this case, to assume a liberal margin for contingencies.

The whole cost of this road will be large; so will the property be large which it represents,—the largest and most important of any which is owned and controlled by private capital in this country. But will the cost be large, per mile, compared with other railroads? To which it may be answered, that the cost to the stockholders will be much less per mile than any other railroad of a similar character in our country; the reasons for which have been before explained.

Length of road from Piermont to Lake Erie	Miles. 451
Length of Newburgh branch.....	19
	471

which cost \$16,000,000, or about \$34,000 per mile, including equipments for running the road. The average cost per mile, from Piermont to Binghamton, has been much larger, but west of that place it will not cost more than half of the amount per mile

that it has cost east of Binghamton, on account of the light and easy character of the work."

We ask every unprejudiced person whether the above extracts, which present the substance of the reports of 1848 and 1849, do not satisfy him that the road could have been built within the estimates last given? The most difficult portions of it had been completed, and what remained were of the easiest construction. "Careful surveys had been made, and the most liberal margin assumed for contingencies." As good a road as is the Erie at the present time, could have been built for \$16,000,000, in addition to the \$3,750,000 state loan and surrendered stock! Such, we venture to assert, is the opinion of every competent engineer in the United States who has examined the work. All beyond \$16,000,000 has been lost to the stockholders. If the opinion of competent engineers, or, in fact, of the president of the company, be worth any thing, there can be no doubt of the truth of our assertion.

On the 1st day of February, 1850, the company, having expended the proceeds of the second mortgage bonds, were forced into market for a new loan. The exhibit then published states the financial condition of the company to be as follows:

Stock.....	\$5,778,891
1st mortgage bonds.....	3,000,000
2nd ".....	4,000,000
Certificates.....	500,000
Floating debt.....	1,150,000
	\$14,428,891
Estimated amount necessary to complete the road to Lake Erie.....	2,750,000
	\$17,178,891

At the last date, the road had been completed to Corning, a distance of 301 miles from New York. The Newburgh branch had also been completed. In reference to the cost of the unfinished portion of the road, the report says:

"It will be proper here to exhibit an estimate of the additional amount necessary to complete the road to Lake Erie. From surveys originally made by Major Brown, and subsequently carefully examined by S. Seymour, Esq., it is found that the sum required for this purpose amounts to \$2,750,000. The extension to Hornellsville, as before remarked, has already been contracted for with responsible parties, at a sum considerably within the estimate of the engineers, and from the fact that near one million of dollars have been expended for grading and masonry west of Hornellsville, we cannot doubt that full reliance may be placed on these estimates. It should be borne in mind, that west of Corning the route is through a country exceedingly favorable for constructing a railroad, and that there is little or no heavy work to be done."

To raise the necessary amount, the income bonds, payable in 1855, to the amount of \$3,500,000, were issued.

After the report of 1849, we have no further changes and improvements in the line of the road offered in explanation of the increased cost, for the reason that none were made. The explanation now offered and insisted upon, was only applicable to the estimate of 1849, when the improvements had been effected, and has nothing to do with any subsequent excess.

On the 1st day of January, 1851, the company, having run through with the proceeds of the income bonds, were forced into the market for a new loan. In the exhibit of the company, under the above date, the financial condition of the company is stated as follows:

Stock.....	\$5,790,000
1st mortgage.....	3,000,000
2nd ".....	4,000,000
Certificates.....	500,000

Income bonds.....	3,500,000
Floating debt.....	2,988,045
Probable cost of completing the road to Lake Erie.....	300,000
Add for contingencies.....	210,000

Total cost of road.....\$20,288,045

Of this sum, the company state that \$2,500,000 was charged to the equipment account.

To raise the money necessary to complete the road and fund the floating debt, the first issue of convertible bonds was made. This issue changed the financial statement as follows:

Stock.....	\$5,790,000
Funded debt.....	14,500,000
Floating debt and contingencies.....	210,000
	\$20,500,000

In reference to this statement, the report says:

"The whole cost of the road, with ample depot grounds and buildings, and equipments for operating the road, together with the Newburgh branch, and valuable and extensive grounds and docks at Dunkirk, Newburgh, Piermont and New York, with extensive machine shops, barges, steamboats, etc., will be, at the time of reaching the lake, about \$20,500,000; or, after deducting the value of the equipments, \$2,500,000—\$38,706 per mile; a cost by no means large, when compared with other important railroads in the country."

At the above date, the entire road had been completed, with the exception of about 40 miles; so that the company were in condition to make an entirely accurate estimate of the cost of the road.

On the first of May following, the road was opened to Dunkirk, and on the 24th of December of the same year, the company having already exhausted the proceeds of the first issue of convertibles, again threw themselves into the street for another loan. The exhibit which accompanied their application states that the sums previously provided for the construction of the road had proved insufficient by the sum of \$2,852,368 30, to provide which the second issue of convertibles was proposed, carrying up the cost of the road to \$24,000,000, as follows:

Stock.....	\$ 6,000,000
1st Mortgage bonds.....	3,000,000
2nd Mortgage bonds.....	4,000,000
Certificates.....	500,000
Income bonds.....	3,500,000
Convertibles.....	7,000,000
Total.....	\$24,000,000

In reference to the final cost of the road we copy from the exhibit as follows:

"The total cost of the Erie railroad including 60 miles of double track, sidings and turnouts, wharves, locomotives, cars, stations and property of every description (excepting \$250,000 Buffalo and State Line stock) is \$50,172 per mile, or, exclusive of engines, cars, steamers, stations, etc., \$43,333 per mile."

The next time we hear from the company is upon the 30th of September last, in their annual report to the Legislature. At that date, the cost of the road is stated to have increased to 27,551,205 71. Although the vouchers given for this sum amount to only about \$20,000,000, as stated in the *Journal* of the 12th inst. The increased cost over the previous estimate, in the period of only nine months, was \$3,551,205 71, without any explanation save that the items that made up the construction account had been increased over the previous figures.

At the commencement of the year, we expected as usual the company's report, which had appeared regularly for the five previous years. We felt great solicitude to learn something of the operations of the company for the past year. We desired to see a report similar to what other leading companies

never omit publishing, containing a detailed statement of the doings of the company, the amount earned, expenses, condition of the company, property, equipment, road-bed, etc., etc. But instead of the expected document, we were astounded by the announcement of the fact that the company had placed a new mortgage upon its road, to the amount of \$10,000,000! which sum took precedence of the \$10,500,000 previously borrowed, without security. As if the act were an infamous one, it was done in secret. The first intimation that the company was in want of money, was the announcement of this immense loan, the reasons for which we have given in the company's words at the commencement of this article.

We believe we have, in the extracts given from the several reports of the company, presented a distinct and impartial view of the history of the work of the company from 1845 to the present time. Such has been our intentions. With this history before them, the public must judge whether the vast sums that this company has received, have been properly or improperly expended.

We have thus given five different estimates of the cost of the road, all made under conditions favorable to entire accuracy.

We shall now notice some of the leading points in the recent vindication put forth by the company.

1st. The comparison with the Baltimore and Ohio railroad.

The route of the Baltimore and Ohio railroad is known to be immensely more difficult and expensive than that of the Erie. There can be no doubt that the Erie road could have been built at nearly two-thirds the cost of the former. But without resorting to such general comparisons, the correctness of which cannot for the purposes of this discussion, be satisfactorily proved, or disproved, there can be no doubt that the Baltimore and Ohio road is much nearer completion as a double track road than the New York and Erie road. The former is graded and bridged for a double track for its entire length, (with only some very slight exceptions,) while the Erie road is graded and bridged only for a single track, and upon only about one third of its line is the double track even in progress. Again, the more favorable grades upon the Erie road have not been obtained at a great expense compared with the amount expended upon the Baltimore and Ohio road for similar objects. The greater part of the route of the Erie road is remarkably favorable for a cheap road, with low grades, and easy curves, as we have been repeatedly assured by the company. But were the fact otherwise, the expenses involved in improving the grades and curves had been made, while the cost of the road was estimated at a less sum than \$16,000,000; so that no portion of the excess above that sum, was expended for these objects.

2nd. The discrepancies between the cost of the road, as represented by its capital and debts, and the amount of the items that make up the construction account, Mr. Loder says, that the Legislature calls for certain items, which are given, but these do not include every item of cost. We reply, that the calls made by the Legislature do embrace all the items of cost; and such is the construction given to them by other companies. What is the object of the Legislature in calling for reports from companies? It is to give publicity to their acts—that every member in the community may be informed as to the real condition of their affairs, for his own safety and protection.

By virtue of what right, does Mr. Loder claim to conceal the true condition of the road of which he has charge, from the public? Will the public sustain this acknowledged concealment, especially when he neglects, to say the least, all voluntary exhibitions of the affairs of the road; a neglect of duty which no other person, holding an equally responsible position, could be guilty of, without being ignominiously driven from his place. What are these items of cost that must be kept from the public gaze? Should this company be able to conceal them from the public eye, they will not by this means allay public curiosity, nor increase the confidence felt towards the road or its management.

3d. We now come to the matter of the increased cost of the road over the report to the Legislature, in September last.

In the latter report the cost of the road is stated as follows:

Capital stock	\$7,766,991 17
1st mortgage bonds	3,000,000 00
2nd "	4,000,000 00
Certificates	500,000 00
Income bonds	3,500,000 00
Convertible bonds	7,000,000 00
Floating debt	1,323,053 55

Total

Cost of road as per recent statement:

Capital stock	\$9,612,995 00
1st mortgage bonds	\$3,000,000
2nd "	4,000,000
Certificates	503,868
Income bonds	2,649,000
Convertibles, 1871	4,351,000
" 1862	3,500,000

Floating debt	3,361,710 31
Cash borrowed	11,144 62
Unclaimed tickets	1,447 50
" dividends	60,653 85
Expenses of February	250,000 00

Total

Total cost 1st October, 1852

Increase during 5 months

It would be interesting to know for what objects this vast sum has gone. As in both the present statements, and in the report to the Legislature, the items that make up the cost of the road are given, we will compare the two, that the public may see for themselves, that only a very small portion of the increase has gone into construction.

	Sept. report.	1st of March statement.
Miles of road	446	446—increase, nothing.
" "	18	18 " "
Newburgh Branch.		
Sidings, switches, etc 80½	98	" 17½ miles.
Double track in progress	139	139 " nothing.
Locomotives	142	149—increase 7
Passenger and baggage cars	134	131—decrease 3
Freight do.	1834	1855—increase 21

The double track is only in progress as it was in September last. During the five months past, 3 of which have been winter months, the payments on account of this could not have been large. In his report of December 24, 1851, Mr. Loder stated that the double track could be built for \$10,000 per mile. He now says he meant graded, (which we think we shall show he did not.) But the difference is entirely immaterial, and does not affect the general result. To say that \$400,000 have been paid out in double track, and \$200,000 for other items which belong to construction account, since October 1st, we believe, to be a liberal estimate.—What then has become of the \$3,600,000 increase, for which no explanation can be deduced from the

statement just published by the company; are we not irresistibly drawn to the conclusion that the report to the Legislature did not express the true state of the company's affairs, and that the capital stock and debts made an aggregate of some \$3,500,000 greater than the amount shown to be by the Treasurer. Could such an excess exist without his knowledge? We leave it for the public to decide.

We have already expressed our opinion of the transaction in which money, borrowed under the express representation that no further sums would be wanted to accomplish a specific object, is made the basis of other loans, which may render the previous security worthless.

With regard to the clerical error in Mr. Loder's estimate of 1851, of the cost of a double track, it is a matter hardly worth discussing. It is a mere trifle, which, if admitted, does not affect the result in the slightest degree. How far will 5 or 6 thousand dollars per mile, for a hundred miles or so, go to account for the proper expenditure of \$4,000,000?—especially when only a small portion of this \$6,000 per mile could have been expended in the short time that had elapsed since October. But to show that this was no clerical error, we copy the two paragraphs in which this unlucky word was used:

"To pay this floating debt, and to aid in building 100 miles of double track from Great Bend westward, the company propose to issue bonds payable in ten years, (the remaining unissued stock, \$4,500,000 being as yet unavailable,) convertible into stock, and bearing 7 per cent. interest.

The portion of double track which the company propose to build is of easy grade and construction, and can be built at the rate of about ten thousand dollars per mile; and is imperatively required by the increasing business of the road."

If the road were of easy construction, it could have been built for \$10,000 per mile. The word build is used in the above paragraphs three times in the same sense, which does not admit of the idea of any clerical blunder. If such an error had been made, why not correct it before this late day? But this is a mere bagatelle. Are the other mistakes clerical errors?

A comparison is instituted between the Erie and the Hudson river and New Haven roads, for the purpose of showing that the former has cost less per mile than the latter. This proves nothing. The Hudson river road was originally estimated to cost nearly \$60,000 per mile, and a great deal of money has gone into it, for which the stockholders are no better off. The mistakes of other companies are no excuse for mismanagement in the Erie. If we have shown that the road could have been built at less than its present cost, it is no justification to say that other companies are in the same dilemma. The two roads cited are much more expensive works than the Erie, so that no comparison can be properly instituted.

In conclusion, we ask the true friends of this road, if they are satisfied with the manner in which its affairs are conducted? Are they contented to see millions upon millions go into this concern, after solemn assurances are given that no further sums will be required? Do they not wish to see where all this money goes? Does not a comparison of the reports of the company demonstrate incompetency or unfaithfulness somewhere? If the several estimates of the company have been at the time correct, is not mismanagement proved? If they have all been incorrect, does not such uniform blundering prove an incompetency, utterly

unfit for the superintendence of such a vast work as the Erie? One horn of the dilemma the managers must take. From this there can be no escape.

Other companies tell us what they have done, and are doing, and why should not the Erie? The public will demand the vouchers for the enormous sums that have gone into this road. They will be content no longer with general statements, which only mislead. Let us have details. Tell us, gentlemen, how many cubic yards of earth have been moved, how many feet of masonry and bridging have been constructed; how much rock has been excavated, and so on: and then we can tell whether the sums received have been needed for construction or not. You have all these matters before you. A few dollars will copy and print all. Shall we have these data? The managers of the road may rest assured, that the spirit of enquiry now aroused will not be silenced with any other answer.

Influence of Railroads upon Property.

The recent report of the Naugatuck railroad company, presents some very interesting statistics showing the effect of railroads in stimulating the business, and promoting the prosperity of the districts traversed by them. We copy as follows:

The effect of the construction of your road upon the interests of the section of country through which it passes, has been astonishing; probably more so than the construction of any other railroad in New England. As it may be of interest to the proprietors of the Naugatuck railroad, to know to what an extent they have benefited the communities lying upon the line of their road, and what are the prospects of increased business to the company for the future, it may not be improper to give at this time some statistics of the increase of the business interests and value of property of the respective villages and towns along the line.

Also doing this we will commence with Derby Station, which comprises Birmingham and Derby Narrows, one village in fact, as they are merely separated by the Naugatuck river, which is crossed by a bridge. This station is 14 miles from Bridgeport, the Southern terminus of the road. Here there have been, within the past year, erected and put in process of erection, forty-four dwellings and stores, two school houses, and large additions made to the Iron Foundry, the Pin Factory, and to the establishment of the Derby Building company. A large addition is also contracted for to the Birmingham Iron and Steel works, involving the erection of a large steam engine of 300 horse power. The Roman Catholic church at Birmingham has been doubled in size, and an addition to the Episcopal church, involving an expenditure of several thousand dollars is on foot. The entire water-power of this place, at present improved for use, is already fully occupied, but a removal of the Copper works from Birmingham to Ansonia, is contemplated, and it is estimated by the citizens of Birmingham, that a judicious appropriation of the water-power which will thus be vacated, to the use of the place, will nearly double its present population. This place has also an immense water-power, not as yet improved for use, which is equal in capacity to one-half of that of the city of Lowell, and consists of twenty-five feet fall of the whole Housatonic river. When we take into consideration, that this power is located at navigable water, only eighty miles by water from the city of New York, it is impossible to estimate its effect upon the growth of Birmingham.

The increased value of real estate, at this station, has been in Birmingham, for village property 40 per centum, in Derby Narrows, for property of the same description 30 per centum, and for farm lands in both places, 15 per centum, since the construction of the Naugatuck railroad.

The next station above Derby is Ansonia, sixteen miles from Bridgeport. At this station there have been erected, and put in process of erection during the past year, 63 dwelling houses, a large schoolhouse, a clock, a car-spring, two India Rub-

ber, a brass and iron, a brass and battery, and a sash and blind factories. At this station only about two-thirds of the permanent water-power is employed as yet. The whole power here consists of 32 feet head and fall of the Naugatuck river. The increased value of real estate here, since the construction of the road is 100 to 500 per centum.

The next station above Ansonia is Seymour, formerly Humphreysville, situated about twenty miles from Bridgeport. There were here, previous to the construction of the railroad, one tool, two augur, one axe, one cotton and three paper manufactories; one grist mill, one tannery, six small stores and three or four mechanic shops; the whole employing about one hundred and forty hands, and manufacturing goods to the amount of about \$200,000. There are now one tool manufactory using two large shops, one copper-rolling mill, (one of the largest in the United States,) one car manufactory with six large shops, one foundry, one forge hammer shop, one power-loom silk factory, three paper manufactories, three augur manufactories, one axe factory, eight stores, and six or eight mechanic shops; the whole employing about 450 hands and manufacturing goods to the amount of \$1,400,000 to \$1,500,000.

The sales of the stores before the construction of the road were about \$60,000, they now amount to \$120,000. The number of buildings has doubled since the construction of the road, and the value of real estate has increased about 75 per centum. Not over one-half of the available water-power of this place is now used. Since the commencement of the road a bank has been established, and three churches erected. The population has increased about 75 per cent. The establishments at this place will probably consume during the current year, 5,000 tons of anthracite coal, 1,200 tons of pig iron, 1,800 tons of bar iron, 1,000 tons of copper, 700,000 feet of hard timber, 700,000 feet of pine lumber, and a large quantity of rags, brick, building materials, merchandise, etc.

At Naugatuck, the next station north of Seymour, twenty-seven miles from Bridgeport, the increase in business, population, and value of real estate has been large, but as no statement has been received from any of the citizens of the place, it is impossible to give the particulars with accuracy. It is sufficient to say, that the tonnage of this place has more than doubled since the commencement of the road, and is now about five thousand tons.

Waterbury, the next station above Naugatuck, is situated about thirty-two miles from Bridgeport. This is the most flourishing town in the Naugatuck valley, and probably in the State. There have been erected at this place during the last three years 450 to 500 houses; there have been established and organized in the last two years 21 manufacturing establishments, with an aggregate capital of \$1,110,000, and more soon will be. Companies have been organized during the same period for the purpose of business foreign to the place with an aggregate capital of from \$400,000, to \$500,000. The mercantile business of the place, has nearly quadrupled since the construction of the railroad, and is about \$500,000 per annum. A bank has been established here during this time with a capital of \$510,000, two first class hotels have been erected; a high school has been established at a cost of \$15,000. Real estate has advanced from 100 to 500 per centum, and in the vicinity of the railroad it has advanced in a much higher proportion. The citizens of Waterbury as a class or community, are men of greatly enlarged views, and the most energetic and enterprising in the State. All their undertakings have therefore been highly successful.

The next station Waterville, is situated about three miles north of Waterbury station, and thirty-five from Bridgeport. An extensive pocket cutlery establishment is located in this place, which has been more successful than any other in the Union. The number of buildings has been doubled here since the road has been constructed, an Episcopal Church has been erected, and real estate has increased in value, 100 per centum.

Plymouth, the next station north of Waterville, is forty-one miles from Bridgeport. Previous to the construction of the road, there were here, the extensive and well known clock and cotton factories of Messrs. S. Thomas & Son, and ten other

manufactories of woolen goods, clocks, locks, &c., and the business of the town was about four thousand tons. The manufacturing of the place has increased since that time, about 50 per centum. The assessors estimate the increased value of real estate about 50 per centum, since the construction of the road, but others in the place estimate the increase somewhat less. There is at this place, a tendency to increased activity and enterprise in manufacturing, and several projects for manufacturing corporations are on foot. Several dwellings are to be erected the coming season. There is about 150 horse power of water-power, unoccupied at this place.

Camp's Mills station is about forty-seven miles from Bridgeport. There is a fine water power at this place, comparatively unoccupied, consisting of about thirty feet head and fall of the whole Naugatuck river, which will probably be occupied the coming year. As this is a small station, and yielding to the road timber transportation principally, it has not been considered worth while to collect any statistics in regard to it. It is more than possible however ere the next annual report is issued, that it will be a flourishing manufacturing town.

Litchfield station is forty-nine miles from Bridgeport. The town of Litchfield is situated about four miles west of the station house, and is one of the largest and wealthiest towns in the interior of the State. There were in Litchfield four carriage factories, one paper mill, and one satinet factory, previous to the opening of the road. Since that time the business of all these has been much increased and a large papier-mache and clock factory has been established, and another large carriage establishment is in process of erection. There have also been erected two Churches. The value of real estate is estimated by different citizens of that place, to have increased since the road was constructed from 10 to 20 per centum. The impetus given to towns in the immediate vicinity of the road, has not been felt to the same extent in this place owing to its distance therefrom.

Wolcottville is the next station north of Litchfield, and is fifty-two miles distant from Bridgeport. At this station there have been erected, during the past year, thirty-five dwellings and ten manufacturing establishments and stores. The new manufacturing establishments are a papier-mache, a carriage, a hardware, a sawing and planing, a scythe, a woolen knitting, and a lock manufactory; also a tannery. The increased value of real estate at this place is estimated by its citizens at 75 to 100 per centum. There is here about 800 horse power, of available water power, unoccupied. There is a strong tendency, at this place, to an increase in manufacturing business. The tonnage of this place previous to the construction of the road was 3,200 tons.

Burrville, the next station north of Wolcottville, is a small station, and no statistical information has been solicited in relation to it. It furnishes considerable timber and brick, and very large quantities of cheese and other agricultural productions, for transportation over the road, and has one tannery of considerable magnitude. Two of the wealthiest mercantile establishments in Litchfield county are served by this station.

Winsted, the northern terminus of the road, is sixty-two miles from Bridgeport. The additional manufacturing capital invested here since the opening of the road, is about \$160,000, and over one hundred buildings have been erected during the same period, and from forty to fifty more are under contract for erection at the present time; among the latter is a large hotel, for the accommodation of New York and other visitors, to contain over one hundred rooms; this is to be a first class establishment. This apparently large increase of tenements has been made, without in the least diminishing the demands arising from accessions to the population. Among other manufacturing establishments, there have been set up, since the opening of the railroad, a tannery, of the largest producing capacity in the state, (being one hundred and forty feet long, and four stories high) a cutlery establishment of nearly equal dimensions, a large machine shop, a coach axle establishment, an establishment for making planters' hoes, and establishments for making augers, planes, and

carpenters' tools, pins, shovels and tongs, sashes and blinds. The other branches of manufacturing existing previous to the building of the railroad, have also been much increased. Real estate has increased in value here from 75 to 100 per centum. The manufacturing of Winsted is to be increased during the present year, more than ever before. At this place there is the most permanent water power in the state, which is furnished by a succession of lakes of great extent, at a great altitude above the town. A large portion of this power is unoccupied, and what is already used may be so economized as to nearly double its efficiency. There is also extensive water power on other streams of great value, still unoccupied. As this place is the northern terminus of the road, it enjoys a flourishing mercantile trade, which is rapidly increasing.

In view of these statistical facts, it may be reasonably presumed, that the increase of business upon your road will go on without interruption for years to come, as it has ever done since its construction.

While such has been the influence of this road in developing the resources of the country traversed, its receipts have been nearly doubled since its opening in 1849, and were last year nearly equal to a net revenue of ten per cent. upon its capital stock, after deducting interest on its funded debt. We believe the above not to be an exaggerated picture of what the average of our railroads effect for the districts traversed by them.

The road is 62 miles long, and cost \$1,366,000, as follows:

Stock.....	\$926,000
Funded debt.....	440,000
	1,366,000
Gross revenue for the past year	210,984
Net " " " "	115,781

Bellefontaine and Indiana Railroad. FIFTH ANNUAL REPORT.

At the date of our last annual report, it was anticipated that our entire line could be opened for business at the beginning of this year. Several unexpected circumstances have conspired to retard our operations and defer the completion of the track for a few months; chief among these were great delays in shipping the iron from Europe. There was also an unusual scarcity of laborers, and the sudden breaking out of the cholera among the hands on the Deep Cut west of Sidney, drove off our force from that important work for some four or five weeks during the best working season of the year. Notwithstanding these drawbacks and impediments, we shall succeed in opening the entire line within three years from the period of the first letting in May, 1850. I congratulate you, then, upon the approaching completion of this important line of road, and upon the prospect of its entire success.

The graduation and track-laying were completed between Galion and Marion, a distance of 20½ miles, in August last, and since the 17th of that month, a mixed freight and passenger train has been run daily, with great regularity, and without accident. The business has of course been entirely local, gathered from a portion only of the single county of Marion, has been carried on for so short a period and with an equipment so entirely inadequate to its full developments, as to furnish but little indication of its ultimate amount and value. But even under these unfavorable circumstances, the income of this short section of the road has considerably exceeded the running expenses. For the details of this business, I refer to this subject now merely as a part of the history of our progress. In this connection, I would remark, that our prediction of last year respecting the completion of a continuous railroad along the southern shore of Lake Erie, from Buffalo and Dunkirk to Cleveland, has been fully verified. And even without the through business anticipated from the opening of our line, these Lake Shore roads are tasked to the utmost capacity of their rolling stock. By means of these roads, we have a direct connection with the city of New York, the great commercial

emporium of this continent, and with New England, the great produce market of this country.

The Indianapolis and Bellefontaine road in Indiana, will be opened in a few days to the State line at our western terminus. While we give our Indiana friends all credit for their perseverance and success, we should at the same time bear in mind that our road, of greater length and more difficult construction, was not commenced for more than a year after theirs. The Ohio and Pennsylvania railroad, which was opened in May last as far as Massillon, has since been extended to Wooster, 133 miles from Pittsburgh. The officers of that company anticipate its completion to the junction with the Cleveland, Columbus and Cincinnati railroad, during the month of March next, when we shall have a continuous railroad communication by that route, with Pittsburgh, Philadelphia, and Baltimore. To render our connection with the Ohio and Pennsylvania railroad complete, it will be necessary to construct a connecting track from Crestline to Galion, four miles, which it is understood between the officers of the two companies, will be constructed the ensuing spring and summer. A junction between the Ohio and Pennsylvania and Pennsylvania railroads by a track across the Allegheny river, and the completion of the new track over the Allegheny Mountains, avoiding all the inclined planes, will perfect this route to Philadelphia and the other Eastern cities. Thus the two great lines of road from Philadelphia and Baltimore on the one hand, and New York and Boston on the other, will converge together at Galion, and thence pass united over our road, and its western connections, through Indianapolis and Terre Haute, to St. Louis, the great commercial center of the Mississippi Valley. These entire lines will be complete as far west as Terre Haute in the spring, and in eighteen months from that time will extend to St. Louis, where they will connect with several hundred miles more of finished roads running through Missouri. About one month since, our track was completed between Bellefontaine and Sidney, a distance of 22½ miles, and the contractors are now putting on the gravel ballasting. The grading between Marion and Bellefontaine, and from Sidney, westward, is so far advanced as to permit the track-layers to proceed regularly, and they are now engaged in laying track westward from Marion and eastward from Bellefontaine. In a short time they will resume the track-laying through the deep cut and proceed westward from Sidney. This is a departure from the plan of procedure previously marked out, (which was to complete the track from Bellefontaine to the State line first); but the non-arrival of the iron has forced this change upon us, and upon the whole I believe it will work but little if any injury.

According to the report of the chief engineer, the total amount required to finish the grading, masonry and bridging on the entire line, is \$56,723 42.

The arrangements of the cross-tie contracts are such as will ensure their delivery along the line as they may be needed by the track-layers. Enough iron has arrived in the United States to lay the main line and the necessary turn-outs. A portion of it arrived at Toledo at so late a period in the Fall, as to prevent its shipment by the Miami and Erie Canal to our line, and I ordered it re-shipped to Cleveland, from which point it is now being delivered by railroad. There is still a considerable quantity remaining at Toledo, which could not be got off before the close of navigation on the Lake, and we shall probably transport it by railway to our line during the present winter. Some 2,000 tons arrived at New York at so late a period, as to prevent its being sent forward before the close of navigation, and we expect to have this sent forward by the New York and Erie railroad this winter. The contract for the iron last purchased, (ten thousand tons), was closed at the most favorable time, when iron was selling at the lowest rates; and notwithstanding the failure of the manufacturers to send it forward as early as called for by the contracts, thus occasioning us large additional charges for transportation between New York and the Lake ports, and the delay of several months in laying down some portions of our track, still we must regard ourselves as exceedingly fortunate, as the additional cost of that amount of iron, were it now to be purchased, would exceed \$300,000. The

rise in the price of iron, has affected us to some extent also in consequence of the increase of duties which are levied, not upon the value when purchased, but on the value in the British markets at the time of shipment. The delay in shipping from England and Wales, has therefore added considerably to the calculated cost of the iron when delivered, added to all of which, is several month's business on the entire line of the road. Of the 10,000 tons referred to, 5,000 were rolled on the compound rail pattern, as patented by John F. Winslow, Esq., and they were manufactured under his immediate direction, at the Chillington Iron Works, in Staffordshire, England, being the first of the kind made in Europe. The remaining 5,000 tons are of the solid T rail pattern, and were manufactured at the Eberdale Works, in Wales. The spikes for the entire line were made at the Albany Iron Works, in Troy, N. Y. We have been fortunate in obtaining materials of the best kind and quality, at these several establishments. I would have contracted for a larger quantity of the compound rail, but for the apprehension that it could not be manufactured in time. The track laid with the compound rail, is superior to any track which can be laid with the ordinary rail. Although it costs some thing more in the first instance, the difference will soon be compensated by the saving in chairs (which are entirely dispensed with) in the wear and tear of machinery and in the cost of repairs on the road; it is besides a safer rail to run on and much more pleasant for passengers. I trust the time is not far distant when the compound rail will be introduced on all our most important thoroughfares.

The chief engineer has made a revised estimate of the cost of the line, with gravel ballasting complete, including right of way, damages, engineering, ordinary expenses and contingencies, and five mile of side track—

Amounting to	\$1,542,182 74
Depot grounds, buildings, water stations, and machinery	90,000 00
20 locomotives	160,000 00
306 cars	194,500 00
Total estimated cost.....	\$1,986,682 74

This estimate includes 10 more locomotives, and 111 more eight-wheeled cars, than were estimated in our reports of 1851; adding \$155,500 more to the rolling stock, and \$20,000 more set down for depots and machinery. The estimated cost of the road thus equipped is \$16,836 per mile.

The locomotives and cars are of the latest and most approved patterns, constructed of good materials, and in the best manner. The report of the superintendent presents further details respecting these items.

According to a statement recently received from the Hon. O. H. Smith, president of the Indianapolis and Bellefontaine railroad, there are now completed and running into the union track at Indianapolis, 488 miles, from nine different railroads, and 318 miles more in the course of construction, and soon to be completed, without including the central road being built to Richmond, and the contemplated road to Springfield, Illinois, which would swell the length of roads constructed and being constructed into Indianapolis, to over 1100 miles.

The bulk of the business accumulating at Indianapolis from all quarters of the rich agricultural state of Indiana, destined for the eastern markets, will seek an outlet through this line the moment our road is opened. When we recur to this fact, coupled with the facilities our line will furnish for cheap and convenient intercommunication between the fertile regions of the west and the great markets of the east, we must anticipate a crowded business over our road almost from the commencement. In view of this, and of the advanced state of agriculture, and the other leading branches of industry along the line, and of the fact, that all the roads in the west have been short of machinery and other facilities to transact the business offered to them the past year—we have made the additions mentioned to our machinery and equipments, and we now think we have made sufficiently liberal provisions to transact the business that may be offered to us. We now have, delivered and contracted for, 20 locomotives, 100 gravel cars, 105 house cars, 40 platform cars, 6

post office and baggage cars, 10 passenger cars, and 45 stock cars, making an aggregate of 306—all with eight wheels, except the gravel cars. Additional rolling stock will be provided to meet the demand for its employment.

During the past summer we have purchased, in addition to what the company held before, the requisite grounds for depots, &c., at the different stations where additions were required.

For a more detailed account of the track and of the arrangements made for temporary depots, water stations, &c., I refer you to the accompanying report of the chief engineer, to which I invite your special attention, replete, as is every thing coming from his pen, with useful information.

The Dayton and Michigan railroad is, I learn, very nearly completed from Dayton to Troy, 20 miles, and its friends express their determination to extend it to Sidney this year. This road will open a very short and direct connection between Sidney and Cincinnati, a distance of 97 miles.

The Owl creek valley railroad company have surveyed their line from Marion to Mount Vernon, and express their determination of commencing work on the line the ensuing spring. This road will open a very short and direct connection with the flourishing manufacturing town of Mt. Vernon, with Steubenville, Wheeling, the Muskingum valley, abounding in salt and coal, and with all southeastern Ohio.

We have made a satisfactory arrangement with the Cleveland, Columbus and Cincinnati, and the Indianapolis and Bellefontaine railroad companies, for the formation of a through line for passengers and freight between Indianapolis and Cleveland; and we have assurances of an equally satisfactory arrangement with the Ohio and Pennsylvania company.

At the Indiana line, you are doubtless aware, there is a change of gauge, from 4 feet 10 inches to 4 feet 8½ inches. We are now having a baggage car constructed at Cincinnati, under the direction of G. E. Sellers, Esq., arranged on a plan of his invention, to run on *both gauges*. Should it work as well as he anticipates, we shall have a number of freight cars built on the same plan, so that the cars may run through from Cleveland to Indianapolis. I feel quite confident that this plan of constructing cars, with the shifting wheels, will prove successful, and thus obviate the inconveniences attending a change of gauges on all the railroads lines of the country.

At Bellefontaine, our line crosses and connects with the Mad river and Lake Erie railroad, and the officers of that company have given assurances of a disposition to enter into arrangements for the proper transfer of business between the two roads.

Should the weather prove any way favorable during the residue of the winter, and no extraordinary delay occur in the transportation of the iron yet remaining in New York, we expect to open the entire line early in May next, so as to be ready for regular transportation some time during that month.

Having, in our last annual report, entered very fully into the subject of our various railroad connections, east and west, north and south, and pointed out the commanding position of this line, with respect to the immense commerce which must forever flow between the east and west through this channel, I do not deem it expedient or necessary, at this time, to go into any details upon these subjects. But every day's experience since tends to confirm the views then expressed, and to show that the future practical results will, in all probability, exceed any calculations which might now appear reasonable.

Bridging the St. Lawrence.

The magnificent project of spanning the St. Lawrence river by a tubular bridge, similar to that erected over the Menai Straits by Stephenson, is likely to be one of the triumphs of modern science and mechanics. The following particulars in relation to the proposed bridge are furnished by a Canada paper:

The bridge it is calculated will cost £1,250,000: its greatest span, over the deep channel of the riv-

er, is to be 360 feet in length, and the carriage-way will be 100 feet above high water level. As the far-famed Britannia Bridge, over the Menai Straits, consisting of four spans—two in the center being 460 feet each in length, and those next the shores 230 feet each—its carriage way being 102 feet above the high water line, only cost £601,865 sterling, we take it for granted the much increased estimated cost of the proposed bridge across the St. Lawrence is attributable to the great expense of constructing, over the land and shallow-water, the approaches to what may be called the bridge proper. It will be observed that the Britannia Bridge, from land to land, is only 1380 feet in length—or little over a quarter of a mile—while the St. Lawrence opposite Montreal is nowhere less than two miles, from shore to shore. It must also be borne in mind that, from the character of both shores of the St. Lawrence, immense embankments will be required, at either end of the bridge, to afford sufficiently gradual approaches, for railroad purposes, to the level of the bridge-track, 100 feet above that of the water. If our information prove correct respecting this projected bridge, when completed, it will not fail to act as an irresistible point of attraction to all intelligent travellers. As an object of interest, it will be inferior only to the mighty Falls of Niagara, in so far as Art must yield in grandeur to Nature; for it will very far exceed, as a triumph of engineering, enterprise and skill, any work now existing.

American Railroad Journal.

Saturday, March 19, 1853.

Railway Extension into the City of Boston.

The directors of the Lowell railroad have petitioned the Legislature for authority to extend their road to Traverse street. By this arrangement the cars would cross Causeway street. An order of notice has been served upon the city, and a remonstrance against the extension from Henry N. Hooper and others was presented to the Mayor and Aldermen yesterday, and properly referred.

The Eastern railroad company has ordered surveys and estimates to be made for an entrance into the city upon an elevation of about sixteen feet above the present grade of Causeway and Traverse streets. Should the plan be deemed feasible, it is proposed to commence an up grade upon the new track of this road in south Malden, so that the road can pass over the Boston and Maine road in Somerville. If this plan is adopted, the bridge over Charles river will be at an elevation of about fifteen feet above the bridges of the Fitchburg and Maine roads. The company contemplate having a row of warehouses, to let for business purposes and for storage, under the line of their road from Causeway to Market street. The Eastern railroad crosses the Merrimac river at Newburyport, at a greater elevation than will be required to raise the track of the road over the streets of Boston and Somerville, and the line of the Maine road.

Finances of California.

The debt of this state, 15th December, 1852, was as follows:

In 7 per cents of 1851.....	\$400,218
In 7 per cents of 1852.....	790,781
Miscellaneous.....	197,214

Total civil purposes.....	\$1,388,213
12 per cent war bonds of 1851.....	\$239,811
7 per cent war bonds of 1852.....	489,650
Unfunded.....	41,729
	771,990

Total.....	2,159,203
State owes to school fund.....	190,080

Whole indebtedness..... \$2,349,483

The war debt, it is expected, will be ultimately assumed by the general government. The civil bonds of 1852 all run to 1870, interest payable in New York.

Louisville and Covington Railroad.

The locating engineers of this road says the Covington Journal, Messrs. Noxon and Hudnut, are progressing on the lower part of the route to the entire satisfaction of the Directory. They have finished the profile of the road from Little Kentucky river to Harrod's creek, which comprises the highest grades and most difficult part, and it is highly encouraging. The survey is nearly completed from Louisville to the mouth of Kentucky river. In a few days Mr. Noxon will begin at the mouth of the Kentucky the survey of the upper section, and may be expected to reach Covington in about a month.

The work will be put under contract as soon as the location is made and prosecuted to completion with the utmost vigor.

Columbus, Piqua and Indiana Railroad.

At a meeting of the "Columbus, Piqua and Indiana railroad company," held on the 17th of February last, the following named gentlemen were elected a Board of Directors, of said company for the ensuing year: M. G. Mitchell, R. Walkup, D. D. Hunter, D. Alexander, S. G. Brecount, J. A. Bean, Thomas M. Gwynne, Erastus Martin, Samuel Medary, Robt. E. Neil, Wm. Dennison, Jr., J. R. Hilliard.

Subsequently, at a meeting of the new board, held at Columbus, March 1st., the following persons were elected officers:

M. G. Mitchell, President; Wm. Dennison, Jr., Vice President; Wm. Scott, Treasurer; J. M. Ewing, Secretary; A. G. Conover, Chief Engineer.

Railroads in Minnesota.

From the Minnesota of the 18th ult., we learn that much interest is now felt in Minnesota upon the subject of railroads. It says that "before the adjournment of the present Legislative Assembly" charters will have been passed, incorporating companies to construct a road between St. Paul and St. Anthony; from the Mississippi to Fond du Lac on Lake Superior: from St. Paul or St. Anthony to the Ohio line—our part of the Louisiana and Minnesota railroad; and we hope, also, to announce the passage of a charter looking to the construction of a road directly across the State of Wisconsin, towards Milwaukee and Chicago."

Fort Wayne and Cincinnati Railroad.

A company was organized at Winchester, Indiana, on the 24th ult., for the purpose of constructing a railroad from Fort Wayne to Cincinnati, and the following directors elected:—William Young, of Wayne county, Asahel Stone, John Neff, jr., and John Mumma, of Randolph county; Anthony Pittman, of Jay county; Sylvanus Church, of Wells county; P. P. Bailey, Joseph K. Edgerton, and R. E. Fleming, of Allen county. P. E. Bailey, was chosen president, and E. Gest of Cincinnati, chief engineer.

A resolution was adopted instructing the directors to connect the road with the Four Mile Valley railroad and consolidate the stock and property of both in one joint company.

Wilmington and Manchester Railroad.

The Wilmington and Manchester railroad company has completed about 100 miles of their line, about 50 miles at each end. The entire line (161 miles) will be completed and in operation by the 1st of June next. They now carry the great southern mail, using stage coaches between the completed portions. Iron rails to complete the

whole road have been purchased, and are on the ground, and are being laid down as fast as possible. These rails were purchased and paid for at very low prices, at a cost of \$375,000 less than present prices. Already a considerable amount of cotton has been transported over this road.

Wabash Valley Railroad.

The Fort Wayne Times states that the stock of this road has been taken, to the amount of \$2,000,000, mostly by eastern capitalists; that, in pursuance of an understanding to that effect, the present board of directors will resign, and a new one be elected—seven of whom will be selected from the New York stockholders, and six from those along the line. Albert S. White, Esq., the present president, is to be retained.

The eastern directors will probably be—Hon. A. Boody, of Rochester, Hon. E. B. Holmes, of Brockport, John A. F. Sandford, of New York, (of the firm of Sandford, Chouteau & Co.,) Isaac C. Colton, of Lockport, (president of Rochester and Niagara falls railroad,) Rufus H. King, of Albany, Edward Whitehouse, of New York, and A. D. Patchin, (president of Patchin bank,) Buffalo.

The same capitalists have also purchased the charter of the Ohio portion of the work, from Toledo to the state line.

Stock and Money Market.

We have little change to note since our last issue, the depression in the fancy stocks continues, with a tight money market. It will take some little time to remedy the causes that have produced the evils under which the market is suffering, but these are fast working out their own cure. The inflation which is in process of contraction is local, the general condition of business throughout the country is sound. Prime railroad securities are in great request, there never was a better demand for first class Western railroad bonds than at the present time.

The following were the earnings of the Michigan Central railroad for the first quarter of the fiscal year of the company, ending February 28th, as compared with the same time last year:

	Passengers.	Freight.	Miscel.	Total.
1853...	59,835 47	78,104 37	4,025 00	141,964 84
1852...	39,049 92	45,533 32	296 00	84,879 49
	20,785 55	32,571 05	3,729 00	57,085 35

Average increase over last year, 67 per cent.

The receipts of the Cleveland, Columbus and Cincinnati, and Cleveland and Erie roads for February were:

C., C. & Columbus road for Feb. 1853.	\$65,725 40
Cleveland & Erie road for Feb. 1853..	55,774 44

Total.....	\$121,499 84
The receipts of the C., C. & C. road for Feb. 1852, were.....	\$29,781 48
Showing an increase in 1853 of.....	35,943 92

The Cleveland and Erie road was not in operation in February, 1852.

The following statement will show the quotations of the leading Railroad Bonds and United States and Federal Loans dealt in for Banking purposes or Foreign Account.

U. S. 6s, '67-'68....	120	Erie, 1868.....	118½
U. S. 6s, '62.....	116½	Erie, 1859.....	108½
U. S. 6s, '56.....	107½	Erie, 1855.....	98½
U. S. 5s, '65.....	107	Erie, 1871.....	96
New York 5s, '68.....	107	Erie, 1865.....	98
N. Y. 5½s, '60-'65.....	111½	Hudson, 1890.....	105
N. Y. 6s, '64-'67.....	121	Hudson, 1860.....	98
N. Y. 6s, '60-'62.....	116	Hudson, 1867.....	90
Ohio 6s, '60.....	109½	Reading, 1770.....	93
Ohio 6s, '75.....	118	Reading, 1860.....	96½
Pennsylvania 5s, ..	98	North Indiana	99½

Penn. 5s, coup.....	104	Ohio and Penn.	109
Kentucky.....	109	Cincinnati 6s.....	103½
Tennessee, 1890 ..	110½	St. Louis.....	101½
Virginia.....	111	Pittsburg.....	102
Georgia.....	111	Chicago.....	100
California.....	83	San Francisco.....	95
Indiana 5s.....	99½	N. Y. City 5s. long	105
Indiana 2½s.....	56½	N. Y. City 6s, '58-'60	100½
Illinois, 1847.....	92	Philadelphia 6s ..	107½
Illinois Interest.....	63	Louisville.....	98½

The recent sale of \$1,000,000 ten per cent. bonds of the Great Western railroad, of Illinois, were made at par.

The gross receipts of the Madison and Indianapolis railroad, for the year ending the 31st December, was upwards of \$500,000, against \$382,406 63, for the year prior thereto.

The public debt of Pennsylvania on the 1st of December was as follows;

Funded debt, viz:	
6 per cent Loans.....	\$1,131,168 06
5 per cent. Loans.....	39,149,437 65
4½ per cent. Loans.....	398,200 00
4 per cent. Loans.....	100,000 00

Total funded debt.....\$40,769,805 71

Unfunded debt, viz:	
Relief notes in circulation.....	\$650,163 00
Interest on certificates outstanding.....	54,626 47
Interest on certificates unclaimed.....	4,448 38
Interest on outstanding and unclaimed certificates, when funded.	2,594 22
Domestic creditors....	43,237 59

Total unfunded debt..... 755,069 66

Total public debt.....\$41,524,875 37

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK, MARCH 19, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853.....	100½
U. S. 6's, 1856.....	107
U. S. 6's, 1862.....	116
U. S. 6's, 1862-coupon.....	116½
U. S. 6's, 1867.....	119½
U. S. 6's, 1868.....	120½
U. S. 6's, 1868-coupon.....	120½
Indiana 5's.....	99½
Indiana 2½.....	56½
Canal loan 6's.....	96
Canal preferred 5's.....	36
Alabama 5's.....	98
Illinois 6's, 1847.....	92
Illinois 6's—interest.....	62½
Kentucky 6's, 1871.....	110
Maryland 6's.....	108½
New York 6's, 1854-5.....	108
New York 6's, 1860-'61-'62.....	116
New York 6's, 1864-'65.....	121
New York 6's, ½ y., 1866.....	121
New York 5½s, 1860-'61.....	111
New York 5½s, 1865.....	112
New York 5's, 1854-'55.....	106
New York 5's, 1858-'60-'62.....	108
New York 5's, 1866.....	113
New York 4½s, 1858-'59-'64.....	101
Canal certificates, 6's, 1861.....	—
Ohio 6's, 1856.....	104½
Ohio 6's, 1860.....	109
Ohio 6's, 1870.....	115½
Ohio 6's, 1875.....	117
Ohio 5's, 1865.....	106
Ohio 7's, 1851.....	105½
Pennsylvania 5's.....	98
Pennsylvania 6's, 1847-'53.....	99
Pennsylvania 6's, 1879.....	101
Tennessee 5's.....	95
Tennessee 6's, 1880.....	101
Virginia 6's, 1886.....	110

CITY SECURITIES—BONDS.

Brooklyn 6's.....	106
Albany 6's, 1871-1881.....	107½
Cincinnati 6's.....	103½
St. Louis.....	101
Louisville 6's 1880.....	98½
Pittsburg 6's, 1869-1871.....	102
New York 7's, 1857.....	106
New York 5's, 1858-'60.....	101½
New York 5's, 1870-'75.....	103
New York 5's, 1890.....	104½
Fire loan 5's, 1886.....	—
Philadelphia 6's, 1876-'90.....	107½
Baltimore 1870-'90.....	109½
Boston 5's.....	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867.....	118
Erie 2d mortgage, 7's, 1859.....	107½
Erie income 7's, 1855.....	97½
Erie convertible bonds, 7's, 1871.....	95½
Hudson River 1st mort., 7's, 1869.....	104
Hudson River 2d mort., 7's, 1860.....	98
New York and New Haven 7's, 1861.....	106
Reading 6's, 1870.....	92½
Reading mortgage, 6's, 1860.....	96½
Michigan Central, convertible, 8's, 1860.....	111½
Michigan Southern, 7's, 1860.....	102
Cleveland, Col. and Cin. 7's, 1859.....	123
Cleveland and Pittsburg 7's, 1860.....	102
Ohio and Pennsylvania 7's, 1865.....	109
Ohio Central 7's, 1861.....	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Mar. 17.	Mar. 10.
Albany and Schenectady.....	114½	115½
Boston and Maine.....	105	105½
Boston and Lowell.....	105½	106
Boston and Worcester.....	101½	102½
Boston and Providence.....	88	89½
Baltimore and Ohio.....	84½	86
Baltimore and Susquehanna.....	32½	34
Cleveland and Columbus.....	127½	127½
Columbus and Xenia.....	—	—
Camden and Amboy.....	150	150
Delaware and Hudson (canal).....	130	119
Eastern.....	96½	98
Erie.....	85½	82½
Fall River.....	104½	105
Fitchburgh.....	99½	102
Georgia.....	—	—
Georgia Central.....	—	—
Harlem.....	64	64
" preferred.....	108	109
Hartford and New Haven.....	129	129
Housatonic (preferred).....	35	35
Hudson River.....	64	62½
Little Miami.....	117½	116½
Long Island.....	36½	35½
Mad River.....	99	99
Madison and Indianapolis.....	101½	105
Michigan Central.....	106	106
Michigan Southern.....	121½	123
New York and New Haven.....	108½	109½
New Jersey.....	136	136
Nashua and Lowell.....	110	—
New Bedford and Taunton.....	117	117
Norwich and Worcester.....	51½	49½
Ogdensburg.....	26	26
Pennsylvania.....	50½	50½
Philadelphia Wilm'gton & Balt.....	38½	37½
Petersburg.....	—	—
Richmond and Fredericksburg.....	105	105
Richmond and Petersburg.....	35	35
Reading.....	88½	88½
Rochester and Syracuse.....	126	129
Stonington.....	57	56½
South Carolina.....	122½	122½
Syracuse and Utica.....	144	144
Taunton Branch.....	115	115
Utica and Schenectady.....	148	149
Vermont Central.....	17½	17½
Vermont and Massachusetts.....	18	19
Virginia Central.....	40	40
Western.....	100½	101½
Wilmington and Raleigh.....	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

Railway Accidents.

(Continued from page 172.)

Allusion has now been made to those points connected with the road, and the machinery employed upon it, from which loss of life and injury to person and property most generally arise. The whole of these causes, however, do not produce a tithe of the accidents which result from inattention to signals, and the neglect of regulations. Of all sources of danger on a railway, these are the most prolific. Human agency is necessarily imperfect, and it cannot be expected that the servants of a railway company, however carefully selected and diligently tutored, will be exempt from such a general law. The effects of a momentary forgetfulness, or an instant's neglect, are frequently fraught with tremendous consequences, and the miscalculation of a few yards may produce the most lamentable results. There is, therefore, no part of the system to which the railway manager looks with more anxiety, than to the efficiency of the signals on the line. If these are either defective, or too limited in number, the casualty which will probably result, must be attributed to the carelessness which has overlooked the danger, or to the injudicious economy which has permitted it. Railway stationary signals have, within a few years, been greatly improved. The introduction of the lofty semaphore has left little to be desired in this respect, while the further use of the auxiliary signal has completed this most necessary adjunct to safe working. The distance at which these signals should be planted, must depend on the nature of the ground and the character of the gradient. Generally speaking, with the prevailing high speeds and heavy trains, the extended arm of an auxiliary signal should be seen at a distance of from 800 to 1500 yards.

The space within which a train can be pulled up varies very much, according to the state of the weather, as well as to the tenacity of the brakes, the speed, the inclination of the road, and the weight of the load; but for practical purposes, the distance named above will be found to answer, and less than this should not be accepted, where circumstances permit its being obtained. Not only is the positive safety of the train secured by such a signal, but the nerve and steadiness of the engine driver is supported by the feeling, that the means of protection are provided for him. Care should be taken to fix the signal, so that no distant object may interfere with the free sight of it, and as the speed, weight, and number of trains on the line increase, opportunity should be taken periodically to revise the distances, to ascertain that every doubtful point is covered, and that nothing which may be provided against by caution, is left to contingency.

Some difference has existed among railway managers, as to the mode of dealing with signals, at junctions with branch lines. It has, however, been gradually ruled, that the safest course is to keep the danger or stop signal fixed against the branch, so that no train may be allowed to enter on the main line, until such signal be removed. The safety of the trains moving between stations, and temporarily impeded from any cause, depends on the attention paid by the guards to the regulation, to proceed back a certain distance with the hand signal. This distance varies from 500 to 800 yards, according to the rules of different companies. Probably the latter is too far, unless the distance terminates in a curve—as a hand signal may be seen, under ordinary circumstances, from 300 to 500 yards further. Nothing is more difficult, however, than to secure strict obedience to this rule, and the most particular attention should attach to any breach of it. Upon it hinges the safety of the train, and the fact of no accident happening, should not be a bar to the most severe punishment of the offending party.

A careful guard will also be guided by the state of the rails and the atmosphere; if the former are what is termed "greasy," or the latter is heavy, a longer distance than ordinary is evidently required to protect the train. Until recently, no special means existed of securing a train against collision during a fog. The detonating signal supplied this deficiency, and has become one of the most useful protections which the railway manager possesses. Its use, therefore, is universal, as, in

a humid climate like that of England, it was absolutely necessary to complete the code of signals. During a recent dense fog, which lasted two days, and was so thick as to render objects invisible at a distance of a few yards, the London and North-western railway was necessarily worked entirely by the detonating signals. The experiment was successful, and although irregularities were very frequent, no accident occurred, although nearly 400 trains ran during that anxious time.

Great weight is generally attached to the question of regularity in the times of the trains, as an essential element in their safety; and whenever an accident occurs, the press, and public opinion as expressed through a jury, seize on this point as the primary cause of the mishap.

The author would by no means undervalue the importance of punctuality, and as rigid an adherence as possible to the published time-tables, but it may be doubted whether undue stress has not been attached to it. Under a well regulated system of signals, and with a well disciplined staff, the greatest irregularity, whatever inconvenience it may produce, ought not to lead to danger. To a certain extent, the very uncertainty of the passage of trains produces safety, by the continual vigilance it necessitates; and as few accidents occur in the most busy thoroughfare of London, so the most crowded parts of a railway exhibit the greatest freedom from casualty.

It is fortunate, indeed, that the public safety is not necessarily linked with punctuality, for the extension of the system, and the connexion with cross lines, by coaches and steamboats, is daily importing into the long trains fresh chances of delay.—The mail train of the London and North Western company starts from Dublin on the west, and Aberdeen on the north; during its passage it connects with a great number of railways, the irregularities of each and all of which become multiplied as the train advances. When, therefore, it reaches the London and North Western line, it has probably missed its appointed turn; it consequently becomes an exceptional train during its entire transit, yet none is better protected, or passes along the line with greater safety. The facility of working a trunk railway, with a heavy traffic, under the variations alluded to, has, however, been greatly promoted by the introduction and extensive use of the electric telegraph. Just as the demands on the railway system were beginning to outgrow its existing machinery for safety, this remarkable power came to its aid, and extended its capacity in an incalculable degree. The effect cannot be better illustrated than by a reference to its operation on the London & N. W. R.R. during the great Exhibition. Prior to the opening, the directors had been much pressed by the Royal Commissioners, for greatly reduced fares, to afford all classes of the community an opportunity of participating in an enjoyment which could not be expected to recur. The result is well known. The most distant parts of the kingdom poured their population into London, and the aggregate number exceeded expectation. In addition to the passengers by the ordinary trains on the railway, which were very largely increased, 775,000 persons were conveyed to and from London by the excursion trains, for whose conveyance 24,000 extra carriages passed through the Euston station. The receipts of the railway rose to £70,000 in a single week. That such an extraordinary traffic centering in a single focus, arriving at irregular hours, and in almost unlimited numbers from more than thirty railways, should have been carried on for six continuous months without the most trifling casualty, or without interruption to the very extensive business in merchandize, coals, and cattle, continually moving on the line, and with a remarkable punctuality (looking to the contingencies arising from the irregularities of neighboring lines,) is due, not more to the discipline and good conduct of all the servants, than to the power of regulation which a liberal use of the telegraph placed at their disposal. The author, who had the charge of the whole arrangements, foresaw the impossibility of reliance being placed on ordinary measures to govern so irregular a traffic. From the very great distance many of these trains had to traverse before reaching the North Western railway, dependent in many cases, also, on steamboats, and the delay incident on overloaded trains, it was impossible

to rely on any time bill framed by the forwarding company, while the number of these excursion trains, flowing from every quarter, and amounting sometimes to between twenty and thirty a day (many of them not known to be *en route* till they reached some one or other of the termini of the line,) rendered it impossible to fix any specific time for their transit. The attempt would have so clogged and impeded the service as to have introduced the greatest irregularity into every department. Under these circumstances the following plan was adopted, and continued with success throughout the whole period of the Exhibition. The running speed of all excursion trains was fixed with reference to their weight, and a general rule in accordance was issued. Instant notice was given by telegraph of the arrival at and the departure of each train from every terminus, and this information being re-transmitted to every important station, and repeated as the train passed in both directions, a time bill was immediately constructed, according to the prescribed table of speeds, from which correct information was obtained and acted on with promptness and precision, and thus, instead of dependence being placed on theoretical time tables, which in the majority of cases would have created difficulty and confusion, the telegraph, by tracing every train through its entire journey, became a practical instrument of safety of infinitely greater value. On every long line of railway the first class stations are rarely more than twenty miles apart. It is evident, therefore, that by the establishment of telegraphic instruments at these distances, the railway becomes a system of detached and corrective links, and the irregularities inseparable from the system are modified and adjusted. Some years ago a strong impression prevailed in high quarters, that the trunk line of the London and North Western railway was overloaded with traffic, and relief lines were talked of as a consequent necessity. By the improvements since introduced, and by the assistance which science has thus placed at the disposal of that company, the traffic has been double in quantity, and there is at this moment a greater capacity for increasing it further, than at any previous period of its history. The value of the telegraph, for the working of tunnels, and the absolute protection from collision which is thus afforded, cannot be overlooked.

The length to which these remarks have extended, renders it necessary to be very brief in alluding to other and less important causes of accident.

Defective brakes and fractures of couplings on steep inclines, have not unfrequently led to accident, yet the working of the Lickey incline is evidence of the safety of the system, if only ordinary care and caution are exercised. More than one accident has arisen from trees falling across the rails. Care, should, therefore, be taken to remove all that are likely to be affected by storms, or by the slipping of the ground. Trains have occasionally been thrown off the rails by cattle jumping out in transit, and some very narrow escapes have occurred in consequence. Level crossings are also a fruitful source of danger if they are not very carefully watched. A sad catalogue of deaths at these crossings will be found in the parliamentary returns, and their increasing number indicates the necessity for greater vigilance, or a change of practice. Lastly, reference must be made to the tendency of Parliament, in recent sessions, to extend what are termed "running powers." It is to be greatly feared, that if this system is permitted to extend, a new element of the greatest danger will be introduced, the effect of which it is at present scarcely possible to calculate. If, with the whole energies of a concentrated establishment, under well known rules and discipline, danger cannot be avoided, what must be expected from strange and rival executives using the same line of rails, and unacquainted with its peculiarities?

The regulations of most companies have now a very general similarity of principle, modified by the circumstances of each line. These rules are constantly undergoing improvement, and any fresh cause of danger is provided for, as it develops itself. Accidents, however, very rarely happen from foreseen circumstances. They are generally of a compound character, and result from the simultaneous conjunction of several causes. It is easy to be wise after the event, but so long as machinery is

material, and human nature is fallible, it is to be feared, that although experience and skill may diminish, they will not prevent the recurrence of events that startle society, and cast blame on railway management. The rapid glance which has been thrown on the more salient points of danger, show the variety of causes from which it may at any moment arise. The increasing nature of the transit renders such casualties possible at any moment. In the year 1851, during which 7,900,000 passengers (nearly one-third of the population of England) traveled on the London and North Western railway, only one individual met his death—yet this casualty, from which the author also suffered, was the effect of the gravest disobedience of orders. The exception proves the rule, and it is due to the engine drivers and guards of Great Britain, to state, that there is probably no class of men, to whom such serious duties are intrusted, and who repay with such fidelity, attention, and skill, the confidence reposed in them. Kind and considerate treatment, and good wages, combined with the utmost strictness of discipline,—a readiness to reward merit, and a rigid determination to punish severely any dereliction of duty, are the best means of forming good and attentive servants. Inebriety should never, under any circumstances, be overlooked, or pardoned, whatever claims the offender may otherwise possess in regard to general efficiency, or length of service. A system of regular promotion, wherever it can be applied, is perhaps the greatest stimulus to good conduct; and experience has clearly shown, that, in general, better results have been obtained by rewarding obedience, than by the greatest severity in punishing misconduct. The habits of order and regularity which are thus generated, extend beyond their immediate sphere, and react on society at large. As an instrument for advancing the social position of the country, the railway system, with all its admitted defects, exercises no light influence, and although the benefits are not unmixed with evil, the advantages are purchased at a less cost of personal suffering and sacrifice, than (looking at the conditions under which they are obtained) might reasonably be expected.

Journal of Railroad Law.

THE SECOND AVENUE RAILROAD CASE.

This was an application for an injunction by *Gerard Stuyvesant against the Mayor and Aldermen and others*, on the alleged ground that the complainant is a tax payer of the city, owning property upon the proposed route of the said railroad:—that Chatham street, the Bowery, Grand street, Allen street, etc., are ancient streets, and should be only used for the customary purposes; that the Common Council had no right to grant permission to lay down a railroad over such streets; and that their resolutions on this question were void, as having been made after their stated session had expired.

It will be perceived that the points on each side respecting the *actual merits* of this case, must be nearly the same with those of the Broadway railroad case, which has of late been so fully discussed.

It was insisted by Mr. Noyes for the complainants that the digging up and breaking of portions of the streets as alleged in the complaint, is, *prima facie*, a nuisance—and that consequently defendants must show that they have been already authorized by law. That before the parties named as grantees should be empowered to act under the permission given them, it had been provided that they should enter into a good and valid agreement in respect to the matter with the Mayor, Aldermen and Commonalty, which agreement has never been entered into, and the preliminary condition was unfulfilled. That the board adjourned from 4th to 8th November, more than the three days allowed, and when they met on the day to which they thus adjourned, it was not a legal assembly, and in consequence the above charter was invalid. That the

Corporation of this city has no power to establish a railroad in any of the streets named in the resolutions, or to carry on, in any way, the business of transporting passengers in the city; nor has it any power to authorize such railroad, or to confer upon any one an exclusive or other right to use a particular or any portion of any of the streets for that purpose.

That the executive duty of providing for the construction of this road upon the best terms and in a proper manner, should have been left by the Common Council to the head of the appropriate department, and that the grant of the monopoly in question, without consideration, was a palpable breach of trust.

On the other hand, Mr. Brady commented on the answer of Mr. Pearsall, denying all fraud in regard to the grant in question, and stating that the plaintiff himself had agreed to aid in obtaining the grant provided the route should be laid down in the First Avenue instead of the Second. The Counsel further argued that the court has no power to consider or determine whether or not the construction of the railroad would be a public injury or a public benefit, nor whether it would increase or diminish taxation—nor does the authority to interfere by injunction exist on any ground.

That the Corporation of the city of New York has power to prescribe in what manner the surface of the streets shall be paved, or arranged for the several kinds of vehicles traversing it for public or private accommodation. The laying of a railroad track is but an adjustment of the street, to adapt it for a railroad car. If the cars or the track be so used as to create a nuisance, the remedy for any injury to a party aggrieved, when such injury occurs, can be applied as in any other case of nuisance. Neither the track nor the car can be *per se* a nuisance.

That if the grant could be avoided for fraud, it could only be done upon the application of the Common Council for that purpose, and that this court had no power to decide whether the Common Council had in the exercise of their Legislative power acted judiciously or otherwise—the said corporation being the sole judge of the expediency of exercising its Legislative power, without being subject to review or control, on the part of any court, on the ground that their action was either injudicious or corrupt.

The decision is reserved.

CAUTIONS TO RAILROAD PASSENGERS.

Peter Townsend vs. The President and Directors of the Paterson and Hudson railroad company.—In this case, tried at our late Supreme Court circuit, the plaintiff is an iron manufacturer, at Ramapo, New Jersey, and sued the defendants for an alleged negligence in the construction of the bridges over the Passaic river, in consequence of which he had his arm broken.

It appeared that the plaintiff was a passenger from Ramapo to Jersey City, on the 21st of June, 1851; and that, while crossing the Passaic bridge, the plaintiff had rested his arm outside the window of the car, and it came in contact with the timbers of the bridge. And the result was that the arm was severely fractured, and the plaintiff put to much pain, trouble, inconvenience, expense, and the other *et ceteras*, for which he claimed to recover the damages. On the part of the defence, it was contended, that the injuries the plaintiff sustained were the result of his own imprudence and negligence, and that proper cautionary notices were posted in the cars, to prevent the passengers from risking their heads and arms. The evidence to this fact was not satisfactory.

The Court charged that the only question for the jury to consider, was whether the plaintiff was

guilty of such negligence as would excuse the defendants for what had occurred. If there was no negligence on the part of the plaintiff, the inference *prima facie* is, that there was negligence, either in the construction of the bridge or of the cars. If there was a notice to the passengers to keep their arms inside the windows, and the plaintiff had disregarded the caution, deliberately, imprudently and without excitement or cause, why, he cannot recover. If, on the other hand, he did not put out his arm farther than a prudent man would do, and there was no notice to caution or forbid him, why, he can recover.

The jury came into court with a verdict for the plaintiff—damages, \$500.

A QUESTION OF DUE DILIGENCE.

In the case of *Walker vs. The York and North Midland Railway Company*, recently tried before Lord Chief Justice Campbell, in England, is well worthy of the attention of all engaged in the business of transportation.

The plaintiff was a fish merchant, and sent by the defendants, several tons of herrings and bladders from Scarborough to Liverpool, Manchester and London, intending that they should be delivered in due time for the wholesale markets, which are held in those cities weekly.

The defendants denied that any such agreement was made.

It appeared, that if the fish had been sent by the train which left Scarborough at 4½-5 o'clock, P. M., it would have arrived at its several points of destination in season. It was, however, in fact sent at 5 P. M. by a special train, after the train above mentioned, and, consequently, did not arrive at the destined points until too late for the wholesale markets of the ensuing day. It was sold out to hawkers, and a loss sustained. The line of railway owned by the defendants was only 66 miles in length, extending to Normantown. At this place they are in the habit of transferring goods to other roads, over which they have no control. It was insisted that, from the great quantity of fish sent, it was necessary to employ a special train, and that reasonable diligence had been exercised in forwarding the goods.

An unsuccessful attempt was made to show that the defendants had served upon plaintiff a special notice, by which they refused to become liable for the due delivery of fish under the circumstances above mentioned.

The jury considered the conduct of the defendants negligent, and rendered a verdict of £60 for the plaintiff.

THE LIABILITY OF ALLOTTEES OF PROPOSED RAILWAY COMPANIES.

While the liability of allottees has, since the railway mania of 1845, been very frequently discussed in the English courts, it is only lately that it has formed a subject of controversy in the courts of Scotland. We refer to the case of the *East Coast of Scotland Junction Railway Company*.

It appeared, in this case, that certain parties had associated for the purpose of forming the railway in question; and widely issued prospectuses, caused surveys to be made, obtained subscriptions, and allotted shares. On the faith of subscriptions, they had incurred great expenses. They also alleged that the defendants, whom the managers of the contemplated company prosecuted, in the case above referred to, were subscribers to the scheme in question, but had refused to pay the stipulated deposit of £2 12s. 6d., and sign deeds; so that due application to Parliament for a charter could not be made, and never had been made. The object of the present prosecution was

to compel the allottees to pay for their shares, agreeably to their original stipulation.

The Lord Ordinary, in deciding this case, observed in effect, that "the defendants were allottees of the shares of the projected company; that the managers of this scheme had incurred considerable expense in the formation of the company, and that the undertaking had, in the end, proved to be an abortive one.

No case had been established, which would justify the Court in compelling the defendants to pay the required deposits. What the deposits were to have been paid for, was not in existence. The projected company was not formed, and it was not to be formed. So that neither the defendants, nor any other person, can ever obtain shares in such company. It had been decided in the British House of Lords, and in several of the English courts, that the allottees could not in such case be compelled to pay up their subscriptions, under the circumstances. See the cases of *Hutton vs. Thompson*, in the House of Lords, and *Morris vs. Cooper*, decided 8th August, 1851. Railway Cases, VI. 708.

The principle of those decisions was also recognised in the case of *Learmouth et al. vs. Adams & Co.*, decided on 23d June, 1830.

In fine, the court decided that the plaintiffs had not made out such a case, as would justify them in compelling the defendants to pay their deposits. Nor, in the present cause, could they make such a decree as would require the defendants to bear their proportional part of the expenses incurred in getting up the company.

Lawrenceburg and Upper Mississippi R. R.

We have been favored with the following extract from the proceedings of the Board of Directors of the above company at a meeting recently held in this city. The intelligence thus conveyed will be gratifying to all our citizens, who anxiously look for this connection with Cincinnati.

"Resolved, That this company will provide for a direct and independent connection between the cities of Indianapolis and Cincinnati by a railroad line of uniform gauge, and united with the road of this company, capable of being run, in the shortest practicable time between said cities."

We learn further that a company has been organized in Ohio to bring the line of connection to the Indiana State line, and another organized in this State, to continue such line to the present line of the above company, and active measures are taking to bring the entire line into operation this year, giving a clear track of uniform gauge from Indianapolis to Cincinnati, ultimately to be consolidated.

This company has been steadily progressing with their work through the winter without making much noise about it.

A daily train for passengers and freight runs out 27 miles into Ripley county, and four other trains are constantly employed in hauling out gravel for ballasting. The company, we learn, have not been able to keep their ballasting quite up with the track, but they have put six inches of gravel under the cross-ties for over 20 miles, and have over some part of that distance, filled the track the second time, with the same quantity, and they hope to keep within a short distance of the track all the way to Greensburg. This is doing very well, considering that all the gravel for 42 miles must be hauled from the Ohio river. Between Greensburg and this place gravel is found in many places, and the ballasting will be much more cheaply and readily done.

It is the intention of the company to have this important operation in road making fully performed, and to have at least one foot of gravel under their cross-ties before their road is opened for general business.

We learn that over two miles of track was laid last week and at that rate the road will be at Greensburg in less than two months. Iron is being ship-

ped to Indianapolis and Shelbyville and when received the company will lay track in four directions at the same time.

The daily receipt for freight and passage is over \$50 although the road stops in the woods and passes through no town or village of any note.

When it reaches Greensburg, as it will in a few weeks, the receipts will be largely increased. We understand satisfactory laws have been passed by the Legislature authorizing the consolidations with railroads in other States, which will enable this company to have a united line from this city to Cincinnati.—*State Sentinel*.

Notice to Contractors.

Office of Racine, Janesville & Miss. R. R. Co.,
Racine, Wis., March 10, 1853.

THE Racine, Janesville and Mississippi Railroad Company give notice, that they will on the first day of April next, at their office in the city of Racine, let the Grading, Masonry, Bridging, and Superstructure of that portion of their road, extending from the city of Racine to the village of Beloit, being about sixty-four miles.

Proposals will be received for the whole, or any portion of the above work, from this date until the first day of April next, at 5 o'clock, P. M.

Profiles, Plans and Specifications are now ready for inspection at the Office of the Company, and full particulars may be obtained by parties interested, by calling at the office, or addressing CHAS. L. PRESCOTT, Esq., Chief Engineer, at Racine.

Parties are also referred to
John A. C. Gray, Esq., Director, New York City, and Simeon Draper, Esq., Treasurer of the Company, at N. Y. City.

By order of the Board of Directors.
HENRY S. DURAND, President.

Railroad Iron.

3000 TONS superior quality, delivering from April forward, with 5 to 600 tons per month, for sale by

121f NAYLOR & CO.,
99 & 101 John st.

SCHENCK'S MACHINERY DEPOT,

AND
LEATHER BANDING MANUFACTORY,
No. 62 Courtland st., N. Y.

KEEPS constantly for sale Tools suitable for Railroad Repair Shops; and having connection with some of the largest establishments at the East, is prepared to furnish Tools of any description. Also, the principal manufacturer of the justly celebrated Woodworth's Patent Planing Machines, in forty different varieties. Slide and Hand Lathes, Iron Planing Machines, Sash and Tennoning Machines, Mortising Machines, Upright Drills, Chucks, Steam Engines and Boilers, Pumps of various kinds, etc., etc.

Also, Oak-Tanned Leather Belting,

Patent Stretched, with the best machinery, and cemented and copper riveted. Warranted superior to any made. Orders respectfully solicited.

March 9, 1853. SAMUEL B. SCHENCK.

GLENDON REFINED IRON.

Bars, Rods, Band Iron, etc., for sale by
GEORGE GARDNER & CO.,
March 9, 1853. Boston, Mass.

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer.
Address "H. W.," this office. 3*12

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are exclusively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

4t 12 WM. BAILEY LANG.

Notice to Contractors.

OFFICE N. O., OPELOUSAS & GREAT
WESTERN RAILROAD CO.,
New Orleans, March 5th, 1853.

SEALED PROPOSALS will be received at this office, until the 10th of May next, for the construction of that portion of the road between Bayou Lafourche and Berwick's Bay, a distance of 31 miles; also from Berwick's Bay to Washington, 92 miles, including a branch road of 18 miles. Proposals will be made for the entire completion of the road, (except furnishing iron.)

References of ability, and security, will be required.

Plans and specifications of the work to be seen at this office, after the 10th of April.

JAMES G. GIBBES, Chief Engineer.

Locomotive Engines.

DANFORTH, COOK & CO.,
PATTERSON, N. J.,

HAVING erected an extensive Shop, with the most approved Machinery and Tools, are prepared to execute orders for the various classes of Freight and Passenger Locomotive Engines and Tenders, in the best manner and on the most favorable terms.

Also, Stationary Engines, and the various Tools suitable for furnishing Repair Shops.

The business of Machine making, heretofore carried on by Charles Danforth & Co., is continued by the present firm, and all orders will receive prompt attention. 1y49

RAILROAD IRON.

THE undersigned, from their long engagements with the Manufacturers of G. L. Iron, feeling themselves eminently qualified to assist Railway Companies in America, and Gentlemen proceeding to England for the purpose of purchasing Railroad or other Iron, tender their services free of any charge, and invite communications either personal or by letter.

Address JOHN H. AUSTIN & CO.,
2 Ingram Court, Feuchurch Street,
LONDON.
March 9, 1853.

IMPROVED SAFETY FUSE.

THIS superior article, manufactured of the best material, for igniting the charge when blasting, is kept for sale in any quantity by

BRIDGES & BROTHER,
64 COURTLAND STREET,
NEW YORK.

Iron, Steel and Hardware.

E. & J. HOPKINS,
93 & 95 Barclay St.,
NEW YORK.

IMPORTERS OF ENGLISH AND REFINED IRON of the BEST BRANDS, suitable for LOCOMOTIVE and CAR BUILDERS' use.

Also, Cast, Spring and German Steel, of all sizes—together with a full assortment of Hardware—Contractors and Blacksmiths' Tools, Chains, etc., which we offer at the lowest rates.

March 9, 1853.

Alton, Mt. Carmel and New Albany Railroad.

NOTICE is hereby given, that there are no Bonds of this company in circulation, as the books of this company will testify that no bonds have ever been issued or authorized.

And, as all the stock formerly subscribed on the books of this company was, on the 4th and 18th of December, 1852, sold by the sheriff, under executions issuing from the Circuit Court of Edwards county, Illinois, and was by the purchasers at such sales, or by their assignees, surrendered to the present board of directors, on the 29th of January, 1853: All Certificates of Stock bearing date previous to that time are worthless.

It having been reported, that bonds and certificates of stock of this company have been offered for sale or pledge by parties formerly connected with this company, the board have thought it right thus to put the public on their guard.

F. B. THOMPSON,
Pres't. Mt. C. & N. A. R.R. Co.

SAMUEL THOMPSON, M. D.,
Sec'y to the Board.

March 7th, 1853.

1m12

To Contractors.

PROPOSALS WILL be received to the 23d of April inclusive, at the Engineer offices of the Northwestern Virginia Railroad in Parkersburg, West Union and Clarksburg, for the GRADUATION and MASONRY of about 60 sections, averaging 1 mile each, of the road. The work will be mostly of the lighter kind, but embracing many sections of good size and some bridge masonry and tunnelling. There are 103 sections upon the road, of which upwards of 40 are under contract. The route to and along the line is easy—the Baltimore and Ohio Railroad, the Ohio River, and the Northwestern Turnpike, rendering it very accessible at all points.

Specifications will be distributed from the offices named, and also from Fetterman on the Baltimore and Ohio Railroad, near the east end of the line, on and after the 11th of April. Bidders must be well recommended, and will state what other work they may have in hand.

By order of the President and Directors.

BENJ. H. LATROBE,
Chief Engineer.

Baltimore, March 9th, 1853.

Notice to Contractors.

MISSISSIPPI and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUGH, President.

S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

To Contractors.**NIAGARA FALLS HYDRAULIC CANAL.**

SEALED Proposals will be received at the Office of the Niagara Falls Hydraulic Company at Niagara Falls until Wednesday the Sixth day of April next inclusive, for the Excavation, Masonry, Bridging, Gates, Waste-Weir, Bulkheads, Docking, &c.

Plans, Profiles and Specifications may be seen at the Company's Office, at Niagara Falls; also at the Office of the Hon. C. S. Woodhull, No. 59 Fulton street, New York, and Walter Bryant, No. 22 Congress street, Boston, Mass.

The Company will have a steam drilling machine on the work after the fifteenth of March, to which they wish to call the attention of Contractors.

The Company reserves the right to accept of reject any or all of the Proposals as they may consider for the interest of the Company.

E. R. BLACKWELL, Chief Engineer,
m5 3t Buffalo, N. Y.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

Notice to Contractors.

NEW ORLEANS, Jackson and Great Northern Railroad.—Sealed proposals will be received at the office of the company, No. 45 Carondelet street, New Orleans, until the eighth of April next, for the Grading, Masonry and Bridging, of the remaining part of the first division of the New Orleans, Jackson, and Great Northern Railroad, extending from the line of the state of Louisiana to the city of Jackson, Mississippi, a distance of about 95 miles.

The route, generally, is through a high, healthy pine country, which, with the character of the work, renders it worthy the attention of northern contractors.

Satisfactory evidence of ability will be required with proposals.

Plans and profiles will be ready for examination at the Engineer's office in New Orleans, and information regarding the line given by the Assistant Engineers, at Jackson and Gallatin, after the 28th of March.

JAMES CLARKE, Chief Engineer.
New Orleans, Feb. 28, 1853.

CAUTION.**India-rubber Car Springs.**

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA—Awarded by the American Institute to F. M. RAY, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed, JAMES TALLMADGE,
President.

N. MEIOS, Recording Sec'y.

ADONIRAM CHANDLER, Cor'g. Sec'y.

New York, Oct., 1851.

New England Car Spring Co., No. 104 Broadway,
New York. 7tf.

Hoole, Staniforth & Co.,**MINERVA WORKS,****SHEFFIELD,**

Steel Converters and Refiners;

Manufacturers of Improved Cast Steel Engineering and Machine Files;

Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by

43 RICHARD MAKIN,
Agent for the Manufacturers,
24 Broadway.

FORGINGS.

AXLES, SHAFTING, AND OTHER FORGINGS from the GLENDON FORGES, for sale by

GEORGE GARDNER & CO.,
BOSTON.

March 9, 1853.

Virginia Locomotive and Car Works.

Wolfe Street and River Potomac, Alexandria, Va.
SMITH & PERKINS, Proprietors.

MANUFACTURE

Locomotive Engines and Tenders.

Marine and Stationary Engines and Boilers.

Chilled Car Wheels and Axles.

Patent Chilled and Wrought Slip-tire.

Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

Lt of the Alexandria Iron Works.

THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.

July 22, 1851

To Railroad Contractors.**PACIFIC RAILROAD.**

SEALED Proposals will be received at the office of the Pacific Railroad Company, St. Louis, Missouri, until the first day of April next, for the grading, masonry, bridging and ties for twenty miles, and until the first day of May, for about seventy miles additional, terminating at Jefferson city. This division is mostly in the Missouri valley, and with the facility afforded for transportation on the river, and the ability on the side hill cuts of using a large force advantageously during the best part of the working season, it may be worked promptly and economically. There will be several large bridges on this division. The work will be divided into sections of about five miles, but contractors may take more than one section. Offers received either for cash payments in full, or a portion on the stock of the company. Plans and profiles will be ready for inspection fifteen days before the dates given above, and at any time information will be furnished by the Engineer. Security will be required for the faithful and prompt performance of the work.—The Company reserve to themselves the right to reject such offers as it may not seem to their interest to accept.

Other portions of the road, or of the South West Branch may be put under contract during the season.

THOMAS ALLEN, President

THOS. S. O'SULLIVAN, Engineer.

To Contractors.

SEALED Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1843, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,

THOMAS B. STEVENSON, President.

CHAS. B. CHILDE, Chief Engineer.

JAMES A. LEE, Secretary.

January 20, 1853.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

33 So. Manufacturers, &c.

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1849.

ly

Pease & Murphy,**FULTON IRON WORKS,**

FOOT of Cherry st., E. R. Office, 27 Corcoran, corner of Cherry st. Manufacturers of Land and Marine Engines.

N. B.—Engines and Boilers repaired.

6tf

RAILROAD CONTRACTS.

THE MOBILE AND OHIO RAILROAD CO.
HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING
OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York, January 28, 1853.

PATENT Locomotive Steam Cylinder BORING MACHINE AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be rebored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

IRON.

Pierson & Co.,

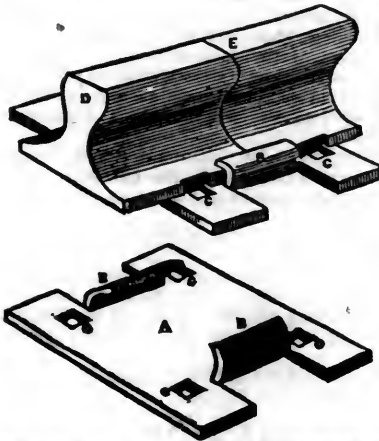
24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga, "
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennecob and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWERIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.



HENDERSON AND NASHVILLE R. R.

SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure.

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

In consequence of the inclemency of the season, the high water, and other circumstances, making it in the opinion of the Board of Directors, impossible for our skillful and energetic Chief Engineer, Wm. Bewley, Esq., to execute fully the locating surveys of our Railroad in time for us to exhibit the maps, profiles, plans, estimates, etc., on the 1st day of March, 1853, as stated in our original advertisement, we have determined to make a change in our advertisement, lest Contractors should be deceived, and we now say that the maps, profiles, plans, estimates, etc., of our Railroad, will be ready for exhibition to Contractors at any time between the 10th day of April and the 10th day of May, 1853, within which time bids will be received, and that our original advertisement is thus far changed.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.
Henderson and Nashville R. R. Co.

Wilkinson's EXPLOSIVE RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable. They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,**
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
**Railroad Iron, Chairs, or
any kind of Machinery.**

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
G. C. Jamieson, Esq., Baltimore.

38

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK,

R. Groves & Sons, SHEFFIELD, ENGLAND, MANUFACTURERS OF

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Blister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maidenlane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

LOW MOOR IRON.

WM. BAILEY LANG, 91 Liberty Square, Boston, and 24 Broadway, New York, Sole Agent in the United States and Canadas for the Lowmoor Iron Co., is prepared to receive orders for this justly celebrated Iron, and offers for sale an assortment of the Round sizes which he now has in store, and which for strength, soundness and uniform quality, stands without a rival.

Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.
40 " " 5½x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by

RAYMOND & FULLERTON,
45 Cliff street.

I. Dennis, Jr.,

WASHINGTON, D. C.,

ATTORNEY for Inventors, and Agent for Procuring Patents—Practical Machinist, Manufacturer and Draughtsman, of 20 years' experience. Circulars containing important information, with a map of Washington, sent to those who forward their address, and enclose a stamp.
31tf

Devlan's Patent Oil Manufacturing Co., 12 BROADWAY, NEW YORK.

THIS Oil is extensively used on Railroads and Steamships, and other Machinery, and is worthy the attention of every individual or company that uses Oil for Lubricating purposes. It is cheaper than the best Spermin, because it answers the same purpose and is more durable, thereby making a saving of from 40 to 50 per cent. The best of testimonials establish that fact, but cannot be given in this notice. All that is required is to test the matter, and if it will not answer as recommended, it will be taken back and money returned.
New York, Feb. 9, 1853. 2w

Buffalo Car Works.

TOWNSEND & COIT, PROPRIETORS

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1853.

Upper Canada Mining Co. INCORPORATED BY ACT OF PARLIAMENT. NOTICE

IS HEREBY GIVEN, THAT A further Instalment of One Shilling and Threepence per Share on the Stock of the Upper Canada Mining Company has been called in, payable on the Second day of May next ensuing, at the Office of the Commercial Bank, M. D., at Hamilton.

Notice is also given, that all Stock in default at the expiration of Thirty Days from the said Second day of May, shall be forfeited.

J. L. WILLSON,
Secretary.
211

Hamilton, 4th March, 1853.

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R.R.	" 1861-71
7 per ct.—Tioga R.R.	" 1872
8 per ct.—Peoria and Oquawka.	" 1863
6 per ct.—Maysville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield & Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington. Troy, N.Y.	1862

Also, second mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga & Washington R.R. bonds.	New York, 1862
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Muscogee Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford.	New York, 1862
10 per ct.—Mansfield and Sandusky R.R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R.R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
10 per ct.—City of Milwaukee.	" 1857
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855

12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River. 1862

Troy and Rutland railroad Stock, with guarantee of 4 per cent. dividend and one half surplus profits of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.

Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York R. R. Co.
Stock in the Mansfield and Sandusky R.R. Co.
Stock in the Chemung R. R. Co.
Stock in the Southern Bank of Kentucky.
Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.
Aug. 28, 1957. 5m*

A. Whitney & Son, PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31tf

To Railroad Companies, Car Builders, Macinists, etc.

SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.
Warehouse Nos. 109 Water, and 140 Front sts.

HANING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture Boiler Plate and Rivets, Railroad and Boat Spikes, Car and Locomotive Springs, " " Spring Steel, Solid Box Vices, etc., etc. 1517*

The Cold Spring Iron Works, INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to; and executed on terms as advantageous as can be had elsewhere. They refer to—

John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.
A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wethrell, Car Builder, " "
Address HENRY MELLUS, Agent, Boston, Mass.
or, GEO. W. PRESCOTT, Sup't, Otis, Mass.

November, 12, 1852. 4y

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7, 1853, Passenger Trains will run daily (Sundays excepted) as follows:
Leave Toledo at 9 A. M. and 10 P. M.
Leave Cleveland at 9.20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Railroad, for Chicago and the West.
At Bellevue with trains of Mad River and Lake Erie Road, for Sandusky City, Dayton, Indianapolis, Cincinnati, etc.
At Monroeville with Mansfield and Sandusky City Road, for Sandusky City, Shelby Junction, Columbus, Newark and Zanesville.
At Grafton with Cleveland, Columbus and Cincinnati Road, for Shelby Junction, Columbus and Cincinnati.
At Cleveland with Lake Shore Road, via Dunkirk, for New York and Boston, via Buffalo, for New York and Albany and for Western Road and Boston, with Cleveland and Pittsburgh Road for Pittsburgh, Wheeling, Philadelphia, Baltimore, & Washington City.

E. B. PHILLIPS, Sup't.
Office T. N. & C. R. R.,
Norwalk, O., Feb. 2 1853. }

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,

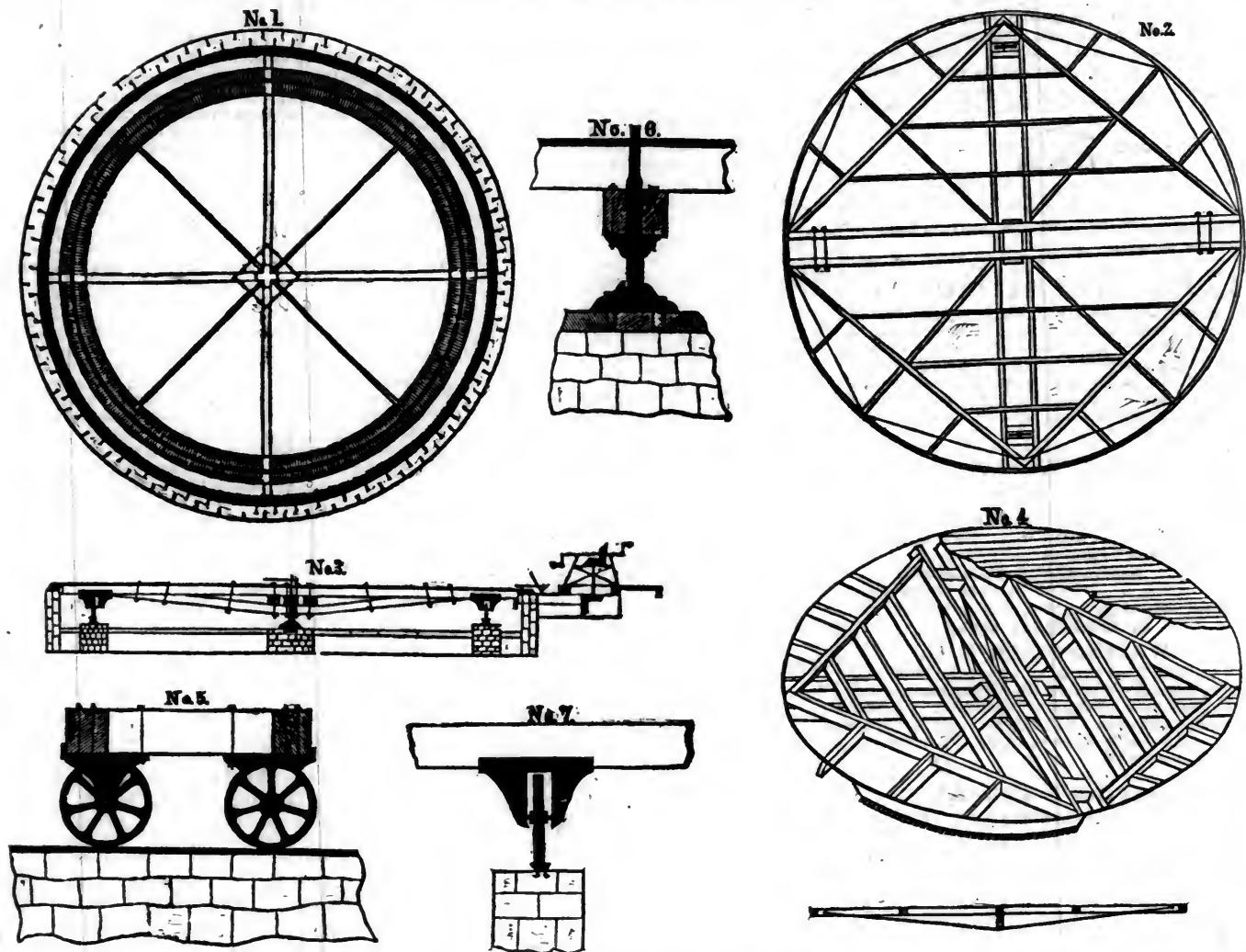
HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE AND CAR BUILDERS, AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,
90 Beekman st, N. Y.
Feb. 16, 1853.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN in 25 SECONDS.**

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.

A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

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Oct. 2, 1852. 17*

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THE undersigned Agent for the manufacture, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales, or at this port.

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90 Beaver st.

March 2d, 1853.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

Krupp's Prussian CAST STEEL AXLES.

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THOS. PROSSER & SON,
Sole Agents, 28 Platt st., New York.
New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

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SATURDAY, MARCH 26, 1853.

[WHOLE No. 884, VOL. XXVI.

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, March 26, 1853.

New York and Erie Railroad.

Below we give in full the reply of this company to the article in the Journal of the 19th ultimo, impeaching the management of this road.

OFFICE NEW-YORK AND ERIE RAILROAD CO., }
NEW YORK, March 10, 1853. }
Messrs. Daniel Drew, Moran Brothers, Strachan & Scott, George D. Post, and others.

GENTLEMEN: I am in receipt of yours of a recent date, calling my attention to a late publication, in which you say, "the undersigned stockholders and bondholders of your company respectfully ask your attention to an article in *The American Railroad Journal* of the 19th inst., in which the character of your company is most unfavorably, and we believe, most unjustly represented." You then proceed to say that "justice to your Directors, and those who are interested with us in its affairs, require that the public, be at once furnished with the means of refuting the charges referred to, and we feel confident that a simple statement of the present condition of the company, with a full schedule of the property owned by it, will in itself be a sufficient answer," &c.

In compliance with your request, I have read the article to which you call my attention, and must say that a more unfair and disingenuous statement, to say nothing of its insinuations and misrepresentations, has rarely been presented to the public in any journal, claiming to be respectably conducted.

No notice would have been taken of this plausible, yet abusive article, but for the fact, that our attention is called to it by a respectable body of stockholders, to whom we cheerfully concede the right, at all times, to be placed in possession of the facts necessary to a full understanding of the condition and prospects of the company. It is not our custom to take any notice of articles of the character referred to, believing that the Directors are sufficiently well known in this community, not to require any certificate of character to sustain them against these, or any similar attacks. Besides

which, they very well know, whenever the stockholders are not satisfied with all or any of those having the control of the road, they have a remedy within their power, which is, simply, to place others in charge, in whose competency and fidelity they have confidence.

The article to which you call my attention, opens with a statement made up from our last Report to the Legislature, showing the construction account to have been increased during the preceding year, some Three Millions and a half of dollars, but without the slightest allusion to the cause of such increase; and then asserts that it is understood, that "no annual report is to be made; and accounts for the supposed omission upon the ground that "a full exposure of the affairs of the company is feared by the leading Directors, as convicting them of either unwise and imprudent expenditure or incompetence."

The directors have heretofore considered it their duty, during the progress of the work, to present from time to time, statements of the affairs and condition of the company; but after the road was so far finished as to be brought into general use, it was not deemed necessary to present any other report to the stockholders than the one called for by the General Railroad Law, which requires a full and minute report to be made up to the 30th September of each year, under the oath or affirmation of the Treasurer and Superintendent; which report is sufficiently explicit to a full understanding of the condition of any railroad. No other report, that I am aware of is generally made by railroad companies in this State, after they are brought into general use.

It may be proper to say, that nearly the whole article in *The Journal* is made up of quotations from the several reports made by the company, during the progress of the work, and of comments thereon, showing discrepancies that exist between the estimate of cost, made from time to time, and the actual cost of the work; and especially from the last annual report made to the Legislature, showing that the construction account had been increased about \$3,500,000, during the preceding year, without any allusion to the fact, which must have been well known to the writer, that during the last year, the company had been actively engaged in building a large amount of double track. Comments are next made upon the meagerness of the reports of the New-York and Erie railroad company, compared with those of other companies, and especially those of the Baltimore and Ohio railroad, and a parallel is run, not only as to the reports, but to the comparative cheapness of construction, &c. The article states: "The Erie with its branches is 464 miles long; the Baltimore and Ohio, 380; and as far as the characteristics of the two routes are concerned, there is no comparison between them." We have always been accustomed, before this, to consider the difficulties of construction on the Erie railroad, take them as a whole, to be of

quite a serious and expensive character—quite as much, if not more so, than those of any other railroad in the country. This opinion has heretofore been entertained, not only by ourselves, but by Engineers of large experience, and others, thoroughly acquainted with railroad construction in this country; all of whom it appears have labored under a delusion. And we now learn that "as far as difficult and expensive obstacles are concerned in the way of construction, those encountered on the Erie sink into insignificance compared with the other." It is further stated, to carry out the comparison between the two roads, that the Baltimore and Ohio, of 380 miles in length, has cost but little more than \$17,000,000, while the Erie, of 464 miles, including branches, has cost \$27,551,207; and that "upon the Baltimore and Ohio there are twelve tunnels, having an aggregate length of 10,500 feet, and more than 33 miles have grades of over 100 feet to the mile."

I am happy to be able to say to you, that the Erie has not a single tunnel on the whole length of the line; neither is there one single mile of any thing like 100 feet grade to the mile. It is precisely because the managers would not consent to have any tunnels, or excessively high grades, or sharp curves, that the Erie may have cost more than some other roads. If the present managers would have consented to build their road over grades of "more than 100 feet to the mile," with curves of 400 or 600 feet radius, they might have built a cheap road at the outset, but in the long run it would have been the worst possible economy. It was because the managers were determined to get the best line, the nature of the country would admit of, both as to curves, grades, and permanency of character, that their road has cost more, much more than the original estimates.

It may be proper here to mention, for the information of all who are not familiar with the characteristics of the New York and Erie Railroad, that the main line from Piermont to Dunkirk is 446 miles in length, exclusive of the Newburgh branch, 18 miles in length; and has no grades exceeding sixty feet to the mile, and less than 25 miles, in the aggregate, of such grades. More than half of its entire length, in the direction of its heaviest tonnage, is practically level, the grades not exceeding five feet to the mile. It has one continuous line of 140 miles, going east, with grades not exceeding 5 feet to the mile, and going west, not exceeding 10 feet to the mile; also one continuous grade of 90 miles of level or slightly descending grades going east, with no grades exceeding 15 feet to the mile, going west. The remaining grades vary from 15 to 50 feet, and but 7 miles, between 50 and 60 feet to the mile. It has no curves of less radius than 1000 feet, except one of about 800 feet. But these comparatively easy grades and curves throughout the entire length of the road, have only been obtained at a large expenditure of money.

The whole extent of these improvements in the line, grades, and character of the work, were not fully determined on for two or three years after the present managers assumed the control, and not until they had made considerable progress in the work, and, after careful examination, were fully convinced of the propriety, expediency and necessity of building an entirely different road from that originally contemplated.

That the true interests of the company demanded these changes and improvements, does not admit of a doubt. We very frankly regret that they have cost so large a sum. We frankly admit that they have cost more, much more, than we had hoped they would have cost. We have labored hard, very hard, for nearly eight years, to build this road for the benefit of our city and state, and believe its importance and value are generally acknowledged and appreciated.

When the present managers assumed the control, they had but little practical acquaintance with the work, and the difficulties that lay in the way of its construction. A cheap road was all that was at first anticipated; but as the work progressed, a better acquaintance with railroads convinced them of the necessity of changing the character of the work, and of building a road of an entirely different, and of a more permanent character. A cheap road, with high grades, sharp curves, and of a temporary character, might have been built at a saving of expense of millions of dollars; and would have saved the directors a vast amount of present abuse and misrepresentation, but they would have proved recreant to their duty, to have built such a road, in view of the vast amount of tonnage destined to pass over it.

It may be proper here to state, that when the new organization was formed in 1846, the managers, not having any acquaintance with the work, or the character of the country through which it was to be built, their estimate of the cost was based upon a report of the chief engineer, made to the predecessors in office, and by them published more than one year and a half before the new organization was formed. This estimate, it may also be proper to state, did not include the Newburgh branch, which the company were afterwards required by law to build, as a condition of certain legislation. Beside, that estimate was based upon the expectation that the \$2,000,000, which had been expended west of Binghamton, in piling 90 miles of track, the purchase of timber to complete it, and the grading of 37 miles of road, could be made available.

To get a better and a shorter line, this portion of the old road was nearly all abandoned; and the decay of the piles and timber before that part of the road was reached, had rendered the whole of this large expenditure worse than valueless; as the cost and damages consequent upon the change of the line, were more than the value of all the work and materials that were available.

The propriety and expediency of these improvements have been so frequently stated, as to render a fuller explanation, at this time, unnecessary. Experience demonstrated the inexpediency of making a piled road, where one of a more permanent character can conveniently be made.

The ultimate productiveness of a railroad does not so much depend upon its first cost, as upon its permanency of character, and its suitable and proper construction. I hope we shall be pardoned in carrying the comparison between the two roads above named, still further, as it has been forced upon us in the article referred to, and as we have the example of the Company alluded to, as a precedent.

In comparing the cost of the Baltimore and Ohio, and New York and Erie Railroad, it is stated that the Baltimore and Ohio, of 380 miles in length, has cost a little more than \$17,000,000, but it is not stated whether it is yet finished with all the necessary appendages of turn-outs, stations, &c. The gross earnings per last report, for the preceding year, were \$1,325,563, or about \$6,438 per mile.

The New York and Erie Railroad, of 484 miles, including Newburgh Branch, cost \$27,551,207, as per report of Sept. 30, 1852. The gross earnings for the preceding year were \$3,537,766, or about \$7,720 per mile, inclusive of the Newburgh Branch.

We will not express an opinion how far the comparative features or characteristics of the two Roads have, or have not contributed to these results. The earnings of the last year on our road would have shown a much more favorable result, the earnings of the last year on our road would have shown a much more favorable result were it not that the business of the Transportation Department was very greatly embarrassed and interfered with, by the building of a double track of about 180 miles, parallel to the main line, requiring the constant use of the track and machinery, to transport materials for building such double track, while it was already overtaxed by the regular transportation business.

The article referred to then states that the "Erie Company have never voluntarily made a public exhibition of its affairs, unless forced to do so by the want of money," and then asks "whether it be not an outrage upon all decency, for this Company to go into the market and borrow \$10,000,000," &c. "without the slightest authentic information as to the objects for which this sum is wanted, and without furnishing any evidence to enable the public to judge whether the previous conduct of the Directors has been such as to entitle them to have the expenditure of so much money."

The idea that lenders of money have sufficient confidence in the character and management of the Directors, and the capability and value of the work, to loan the Company money "without furnishing any evidence to enable the public to judge" whether they are entitled to so much confidence, explains the reason of this outburst of virtuous and patriotic indignation. It is because they have, by this arrangement, secured the means to build a double track, and to make such further additions and improvements as are needed to place this great work in a proper condition, that this indignant remonstrance and warning are indulged in. This, or some unexplained cause, has produced this exhibition of abuse and malignity, which, out for the reasons stated in the first part of the letter, would have been entirely disregarded.

The facts in regard to the loan of \$10,000,000 are these: The Company have made a mortgage on the road, to cover the proposed issue of Bonds in manner following:

\$3,000,000 of Bonds are sold, principally on foreign account.

\$3,000,000 are not to be issued for one year.

\$4,000,000 are to be reserved to pay a like amount of what are known as "2d Mortgage Bonds," due in 1850.

\$10,000,000.

The object of this issue is to provide as follows:

1st. For the payment of the floating debt.

2d. For the extension of the double track as far as Corning, (and as far as will probably be required for several years.)

3d. For the purchase of additional machinery, which is indispensable.

The next item commented on is that of Dividends on the Stock. The writer remarks: "For a Company to declare a dividend, without accompanying it with a financial statement of its affairs, to enable the public and the stockholders to judge whether it has been earned, or not, carries with it a badge of fraud." He then proceeds to comment upon the fact that the "construction account from January to September 30, was increased \$3,551,205. Hence he concludes that the declaring and paying a dividend on the stock, with a knowledge of the vast increase of the construction account, carries with it a "badge of fraud," and again indulges in another outburst of indignation, and triumphantly asks, "Can fatuity, or incompetency, or dishonesty, even parallel such effrontery as this?"

From this sage conclusion it is seen that the writer considers it a fraud for the Company to pay a dividend, if they do earn it, so long as they require money for construction account. The Company, which is held up as a model of imitation is progressing with the work of construction; and yet, from their last report, it appears that they declared a dividend of seven per cent. in stock; and who calls in question the propriety of such decision?

In relation to the dividends of the Erie Company, it may be proper to state, for the information of all concerned, that no dividend is declared until the

whole subject of transportation earnings and expenses has been carefully examined by a select Committee and reported to the Board of Directors, for discussion and final action.

The Directors consider that they have quite as much at stake in the proper management of the Road as the author of the article referred to, or those who dictate, encourage or applaud his abuse, if any there may be, and are quite as deeply interested in everything that affects the value, credit or character of this work. Owning between two and three millions of its stock and bonds, or nearly the tenth of all the capital and effects of the Company, it would appear reasonable that they would endeavor to take good care of their own property, at least, and by doing that take care of the interests of those associated with them.

The next commentary is upon the Company's last report to the Legislature, pointing out apparent discrepancies in the aggregate amount or cost of all the items called for by the General Railroad Law. In relation to this, it may be proper to say that every item of information called for was given, the Directors not deeming it necessary to volunteer information, not called for, which might have been stated, however, (to make up the whole cost of all the property and effects of the Company,) under the head of "other articles and property not enumerated" or called for by the law.

I will now proceed to furnish, in accordance with your request, "a simple statement of the present condition of the Company, with a full schedule of the property owned by it," as follows:

Stock issued to date (March 1)	\$9,612,995 00
1st mortgage bonds, due	
1st July, 1867	\$3,000,000 00
2nd mortgage bonds, due	
1st March, 1859	4,000,000 00
Income bonds, due 1st	
February, 1853	2,649,000 00
Convertible bonds, due	
1st February, 1871 ..	4,351,000 00
Convertible bonds, due	
1st January, 1862	3,500,000 00
7 per cent. certificates,	
due 1st January, 1854	503,868 00
	<hr/> 18,003,868 00

Bills payable for all purposes	3,361,701 31
Cash borrowed	11,144 52
Due for unclaim'd tickets	1,447 50
Due for construction & transport'n payments to 1st March, for the preceding month, say	250,000 00
Due for unclaimed dividends on stock and bonds, some of which have been standing for years	60,653 85
	<hr/> \$3,684,947 18

Deduct assets:	
Cash on hand \$115,552 00	
Buffalo and State line R. stock	257,650 00
Stock & cash advanced to establish a line of steamers on Lake Erie, to run in connection with the road	340,487 50
Loaned to parties to establish a line of propellers to run in connection with the road	25,000 00
Balance due from Post-office department	40,527 86
Advanced to Union R.R. for improvement of road, &c.	45,000 00

Due from sundry parties...	44,498 92
Due from other railroads.	42,067 04
Due from station agents & customers...	104 034 50
	1,024,267 62
	2,660,679 36

Total.....\$30,277,542 36

Thus it will be seen that the New York and Erie railroad, including all its assets, property, and effects, of every name and description, has cost the stockholders, up to the 1st March, 1853, the sum above named, viz. \$30,279,542 36.

The questions which now naturally present themselves, are: What have the directors to show for this large expenditure of money? Has the road and its fixtures, property and effects, cost more than was necessary—or more than works of a similar character? Has the large and expensive machinery necessary for carrying through a work of such magnitude, been wielded as prudently and economically, (amidst the unnumbered difficulties and embarrassments incident to such a work,) as the nature of the case would admit? Or as much so as a watchful and anxious solicitude could accomplish? These questions must be answered to the stockholders, and to that end we present the following schedule of property and effects of the company:

1st. 446 miles main line of road, of a solid and permanent character, nearly all well fenced on both sides, including several large and expensive bridges, rebuilt during the past year, (which were found to be too light or insufficient structures for the heavy engines and trains on the road); also, the substitution of heavier iron on nearly fifty miles, in the place of rails which were too light in weight.

2nd. 18 miles Newburgh branch, of an equally solid and permanent character.

3d. 98 miles of sidings or switches, which, in many cases, have cost as much per mile as the main track.

4th. 139 miles double track, principally built during the last nine months, a portion of which is now in use, and the iron laid on nearly all the remainder, making in all 701 miles of single and double track, including sidings and switches—or, 701 miles of iron rails laid.

There is one explanation, which it may not be improper to make in this connection. In the report of the 24th of December, 1851, it is stated, that the portion of double track which the company proposes to build, is of easy grade and construction, and can be built at the rate of about \$10,000 per mile. This error occurred through inadvertence either in writing or printing, and was not noticed till the report was circulated, and too late to be corrected. It should have been printed *graded*, instead of *built*. Before the road was put under contract, however, it was determined to build a portion of the double track on a different part of the road, where it was more necessary, though doubly expensive.

To the 701 miles of track may be added the cost, and, in a few cases, the present value, of the following items; all of which, and more, is made necessary by the present and increasing business. These items are necessarily much larger than they would be in a road of ordinary magnitude, capacity and business; and I take the liberty to add, in this connection, that persons but partially acquainted with the subject of railroads, are apt to overlook these matters somewhat in making estimates, and to think that the construction account is closed with the grading and superstructure.

149 locomotives cost.....	\$1,351,226 00
131 passenger and baggage cars.....	287,283 00
1855 freight and burden cars.....	1,223,654 00
Machine and work shops.....	2 2,972 00
Machinery in shops.....	142,486 00
Materials on hand, connected with shops.....	160,000 00
Wood on hand.....	335,000 00
Freight and passenger depots.....	480,683 00
Water stations.....	207,816 00
Steamboats and barges on Hudson	

river ferry.....	205,586 00
Block of stores, offices at pier, including pier buildings, (the value of which is more than double the cost,) cost.....	102,670 00
Telegraph line.....	50,000 00
Land purchased to obtain supplies of wood, including surplus lands to be disposed of, at Sasquehanna and other places.....	150,000 00
6,644 tons English and American iron on hand, distributed on the line, at \$55 per ton (worth \$70 per ton).....	365,420 00
Materials on hand in engineer department.....	112,727 00
464 miles single track, including Newburgh branch.....	24,890,019 36
139 miles double parallel track...	
98 miles sidings and switchings, making in all 701 miles, as above	

Total.....\$30,277,542 36

It will be seen from the above, that the railroad proper, with its double track, sidings, and switches, and including between 800 and 900 miles of fencing—also including interest on stock, regularly paid during the construction of the road, until it was completed to Lake Erie, discount on bonds, old unsettled claims, &c.—has cost to date less than \$25,000,000, or about \$53,640 per mile; or, including all property and effects of every description, \$30,277,542, or about \$65,000 per mile.

By reference to the last annual reports to the legislature of our state, it will be seen, that the other railroads terminating in our city have cost quite as much per mile as the New York and Erie railroad. This is not said by way of disparagement, or by way of making any unfavorable comparisons with, those roads; but simply to show that all railroads terminating in our city are necessarily expensive.

Hudson river railroad, of 144 miles in length, has cost, per last report, \$10,557,654, or \$73,109 per mile.

New York and New Haven railroad, of 61 miles in length, has cost, per last report, \$4,885,937, or \$79,266 per mile.

The recent negotiation, and the provision made under the mortgage referred to, for a further issue of \$3,000,000 of bonds, will, it is believed, be ample to secure the completion of a double track to Corning, a distance of 277 miles. This, it is believed, is as far as will be imperatively needed for several years to come; as beyond that point, there is but one important railroad connection, until the road reaches its terminus at Dunkirk.

The necessity for urging forward this double track to the point named, is deemed imperative, and cannot be delayed without a total disregard of the best interests of the company. The reasons for it are self-evident, a few only of which need be named to convince every stockholder and friend of the road of the fact.

The local business on the line of the road is already large, and rapidly increasing; and when to it is added the large and increasing business resulting from a connection with Lake Erie and the other great western lakes, and the country bordering on them, and the trade of which is reached at Dunkirk and Buffalo, (the latter by Buffalo and New York city railroad via Hornellsville,) and the vast network of railroads in Ohio, Indiana, and the west and southwest—the necessity of a double track, under these circumstances, is too obvious to need any argument, and too urgent to be delayed. And hence the necessity for the loan above referred to.

In addition to the above, there are several railroads of the same width of gauge, now constructed and in progress of construction, connecting with us at different points on the road, viz., one at Great Bend, one at Binghamton, one at Owego, two at Corning, one at Hornellsville, and one of the same gauge just put under contract from Pittsburgh (the point of connection not having yet been definitely settled)—all of which, by their position, are tributary to, and dependent upon this road, to reach the New York market. These roads, in the aggregate, will amount to between 800 and 900 miles in length.

Our duty to the stockholders and bondholders, our duty to these roads, imperatively demand a double track to the extent above named; and when that is accomplished, the business must of necessity be as large as, if not larger than, that of any railroad in our country. All that is necessary to a full understanding of this subject, and the advantageous position occupied by this road, is to spread a map before you, and observe the great number of railroad connections, traversing some of the most fertile and valuable portions of the state, and terminating on our road, as a main trunk, and you cannot reasonably doubt that the stock will be a most desirable and profitable investment.

For the information of the stockholders, a statement of the gross receipts and expenditures, and the average yearly receipts per mile, is submitted, for every year since the road was first brought into use, and appended to this letter.

An earlier reply to your letter would have been furnished, but for some unavoidable delays; and one, among others, has occurred, in getting reports from the heads of the several departments.

Very respectfully yours,

BENJAMIN LODER, President.

(For the Year ending September 30.)

Receipts and Expenses of the New York and Erie Railroad, from September, 1841, to September 30, 1852, as per reports to the Legislature.

Year.	Miles in use.	Freight.	Passengers, &c.	Total Receipts.
1842.	46	\$42,976 35	\$47,991 47	\$90,967 83
1843.	53	101,833 91	69,135 97	170,969 88
1844.	53	100,930 43	60,762 29	161,692 72
1845.	53	82,169 66	44,175 35	126,345 01
1846.	62	120,761 75	64,754 73	185,516 48
1847.	62	153,128 34	100,990 97	254,119 08
1848.	74	185,190 93	125,722 32	310,913 25
1849.	205	446,933 66	363,209 96	810,143 62
1850.	251	564,879 15	574,680 46	1,139,559 61
1851	{ 251	1,091,388 11	1,190,280 54	2,281,668 65
1852.	464	1,905,884 39	1,663,930 90	3,569,815 29
		\$4,795,576 69	4,305,634 73	9,101,211 42

Year.	Expenses*.	Expenses per cent.*	Receipts per mile per annum.	Remarks.
1842.	\$71,809 82	79	\$1,977 00	
1843.	125,020 84	73	2,144 37	18½ months.
1844.	116,991 55	72	3,050 81	
1845.	70,217 74	56	2,283 87	
1846.	123,173 97	66	2,390 53	15 months.
1847.	172,970 68	68	2,485 79	
1848.	195,508 49	62	4,201 53	
1849.	488,926 21	61	3,951 92	From May, 646 miles.
1850.	623,948 06	55	5,069 00	9 months.
1851.	1,277,680 49	56	6,117 00	From May, 464 miles.
1852.	1,871,168 20	53	7,690 00	
	\$5,137,415 95			

* These expenses include all the items of expenditure of Ferry, as well as those of Steamboats on Lake Erie.

Receipts of Five Months of fiscal years 1852 and 1853.

	1851-1852	1852-1853	Increase.
October.....	\$356,553 21	\$376,838 69	\$20,285 68
November..	299,420 40	348,162 17	48,741 77
December..	296,280 00	352,138 33	55,858 33
January ...	171,441 47	304,151 05	132,709 58
February ..	201,870 38	308,569 19	106,698 17

Total...1,325,565 46 1,689,859 63 364,294 81

(1.) We published in the Journal of the 19th of February, the last report of this company to the Legislature, in full. We also gave copious extracts from several of the reports of the company to the stockholders. There is no pretence that these reports were misstated or garbled; or that the quotations were presented, in a manner calculated to impart a different meaning from what they were originally intended, by their authors, to convey. From such data we deduced certain con-

clusions. If our logic was bad, its unsoundness will be detected, to our injury. If our language was unbecoming, under the circumstances, we admit that our motive may be impugned thereby. As both are before the public, we are willing to leave these questions to their decision. If we had impeached the management of the company upon the strength of rumors picked up in the street, and opposed these rumors to the statements of the company, sanctioned, as they are, by the oaths of the treasurer and superintendent, we might perhaps have been censurable. We have only commented upon evidence furnished by the company. We do not write *abuse*, and we certainly had not the most remote intention to give a prejudiced view of the case. Whether we have done so or not, we leave to the public to say, who have the whole record before them.

If it be the test of respectability to become the mouth-piece of a particular party or clique, to blow hot or cold, as suits their interests, to submit our own judgment to their dictation—then our paper is not a *respectable* one. But this question of respectability, between our course and the conduct of the directors of the Erie railroad, we leave, with the others, to the decision of the public.

(2.) Mr. Loder says:

The directors have heretofore considered it their duty, during the progress of the work, to present, from time to time, statements of the affairs and condition of the company; but after the road was so far finished as to be brought into general use, it was not deemed necessary to present any other report to the stockholders, than the one called for by the General Railroad Law, which requires a full and minute report to be made up to the 30th of September of each year, under the oath or affirmation of the treasurer and superintendent; which report is sufficiently explicit to a full understanding of the condition of any railroad.

All that is material in the "statements of the affairs of the company, made during the progress of the road," we have given to the public in our preceding articles upon the management of this road. We have shown that these reports throw no satisfactory light upon its "condition and affairs." If they proved anything, they demonstrated that nearly one half of the present capital has been sunk in construction. They leave us entirely in the dark, as to where the vast sums of money received by this company have gone. Each succeeding report flatly contradicts the statements and estimates of all the preceding; so that a person arising from the perusal of them, is left more uncertain as to the real condition of the company's affairs than before.

None of these reports of the company, since 1844, have been accompanied by any reports of engineers or superintendents. Nor have we, in any instance, the estimates of engineers, presented in such detail as to enable us to form correct ideas of the amount of work done, or to be done; or whether the prices paid were reasonable or extravagant. In fact, the directors have furnished us with *no* data, which we can apply as tests of wise or improvident management. If reports of the character we have stated, are appropriate to a work of such vast magnitude, and involving such immense interests as the Erie, we confess that we entertain very erroneous ideas upon these subjects.

Since the completion of the road, the reports made by the company to the Legislature "are sufficiently explicit," says Mr. Loder, "to a full understanding of the condition of the road." Let us see what

light these reports shed upon the management of the company, and the condition of the company's affairs.

Below we give the reports made by the Erie company, showing the "Cost of Road and Equipment" for the past four years:

Cost of Road and Equipment.

	1849	1850.
Graduation, masonry & bridges.....	\$5,883,242 47	\$7,180,422 51
Superstructure, including iron.....	2,613,817 71	3,612,435 92
Passenger and freight stations, buildings & fixtures.....	271,323, 89	377,458 46
Engine and car houses, machine shops, machinery and fixtures.		
Land, land damages, and fences.....	557,096 60	742,492 44
Locomotives and fixtures & snow plows.	402,332 85	567,312 64
Passenger and baggage cars.....	98,011 97	108,458 21
Freight and other cars.	287,238 13	480,718 98
Engineering and agencies.....	367,736 31	374,200 21

Total, including cost previous to the present organization. 16,430,868 33 20,323,581 03
Correct footings 10,481,880 90 13,452,449 37

	1851.	1852.
For graduation, masonry and bridges.....	9,388,836 38	10,661,624 92
Superstructure, including iron.....	4,230,508 06	4,790,322 46
Passenger and freight stations, buildings, & fixtures, included above.....		
Land, land damages, & fences.....	990,854 85	1,077,365 67
Locomotives and fixtures, and snow plows	1,117,643 96	1,349,987 20
Passenger and baggage cars.....	178,290 84	262,878 78
Freight and other cars	859,255 26	475,821 29
Engineering and agencies.....	443,886 80	475,821 29

Total..... 24,028,858 20 27,551,205 71
Correct footing.... 17,973,582 96 20,823,945 16

The capital account for the several years is stated in the reports as follows:

	1849	1850.
Stock.....	\$5,778,891 00	\$5,801,295 29
Funded debt.....	5,839,918 90	9,856,568 90
Floating debt.....	2,481,647 41	2,475,864 64
Totals.....	14,100,457 31	18,133,718 78
	1851	1852.
Stock.....	\$5,992,289 29	\$7,766,991 17
Funded debt.....	14,503,868 90	18,003,868 90
Floating debt.....	2,957,376 31	1,323,053 55
Totals.....	23,453,534 50	27,093,913 62

SUMMARY.

	Actual cost of road as per items.	Assumed in reports.	Cost as represented by the stock and debts.
1849.	\$10,481,889 90	\$16,430,868 33	\$14,100,457 31
1850..	13,452,499 37	20,323,581 03	18,133,718 83
1851..	17,973,582 96	24,028,858 20	23,453,534 50
1852..	20,823,945 16	27,551,205 71	27,093,913 62

Statement showing the extent of the discrepancies in the several reports of the company, between the *actual* cost of the road, as per *items* or *vouchers*, and the *assumed* cost.

	1849.
Assumed cost.....	\$16,433,868 33
Actual cost.....	10,481,889 90
Discrepancy.....	\$5,951,978 43

	1850.
Assumed cost.....	\$20,323,581 03
Actual cost.....	13,452,499 37
Discrepancy.....	6,871,081 66

	1851.
Assumed cost.....	24,024,858 20
Actual cost.....	17,973,582 96
Discrepancy.....	6,055,275 24

	1852.
Assumed cost.....	27,551,205 71
Actual cost.....	20,823,945 16
Discrepancy.....	6,727,260 55

Statement showing the discrepancy, in the several reports of the company, between the *assumed* cost of the road, and the *cost*, as represented by its stock and debts:

	1849.
Assumed cost.....	\$16,430,868 33
Stock and debts.....	14,100,457 83
Discrepancy.....	\$2,330,410 50

	1850.
Assumed cost.....	20,323,581 03
Stock and debts.....	18,133,718 83
Discrepancy.....	2,189,862 20

	1851.
Assumed cost.....	24,028,858 20
Stock and debts.....	23,453,534 50
Discrepancy.....	575,323 70

	1852.
Assumed cost.....	27,551,205 71
Stock and debts.....	27,093,913 62
Discrepancy.....	457,292 09

Such are the reports to the Legislature, which Mr. Loder informs us, are sufficiently explicit to a full understanding of the condition of the road. If Mr. Loder can translate these reports, and make them palpable to ordinary apprehension, we will give him credit for nothing less than *inspiration*.

We had always supposed the cost of a road to be equal to its *capital stock* paid in, and *debts*. Such is the case with *other* roads, and such must be the fact, except when *earnings* are used in *construction*, which, it will not be pretended, has been the case with the Erie. In such an event, however, it is *always* customary, we believe, to give *stock* dividends to the amount of earnings so expended. But when a discrepancy exists at any one time, between the capital and construction accounts, it must continue to be uniform at every subsequent stage in the history of a company, unless *changed* in the manner stated. We shall again refer to this discrepancy in the case of the Erie railroad by and by.

So far from the company's reports, either to the stockholders or to the legislature, furnishing any correct notion of the state of the company's affairs we venture the assertion, that there is not a banker, no, nor a person in this city, whether in the company or out, who, were he applied to by a foreign stockholder or bond holder, for an intelligent statement of the actual condition of the affairs of the company, could furnish such statement. Every person who reads this paragraph will, in his own mind at least, give an emphatic negative. Is any new light thrown upon this subject by the recent letter of the president of the company? *None whatever*. What a commentary upon this statement, and what a commentary upon the present and past management of this vast enterprise.

(3) It is *common* report that the company are constructing a double track upon a portion of its line,

though no report of the company has ever alluded to the fact. We do not consider rumor a sufficient authority for attacking the management of the company. We do not think safe to consult it to ascertain what the company are doing. We have never quoted rumor in this discussion. We put the company upon the stand and comment only upon the testimony drawn from them. Rumor does not tell us how much the double track has cost, or is to cost; whether it has been paid for or not. Yet Mr. Loder censures us for not taking rumor as a sufficient apology for his acts. When we can get no better evidence of mismanagement, he need fear no assaults from our pen.

(4) This subterfuge wont answer. Mr. Loder has need of a better memory. Improvements effected in the road is an old excuse which has twice been offered, of which the directors twice have had the benefit. It was *functus officio* years ago. We showed all this matter up in the article in the *Journal* of the 19th instant. The "battle of the giants" was fought, and the victory won as early as 1848, when the road was opened to Binghamton. The managers of the road charged, and were allowed, in the settlement of 1849, the vast expense incurred in reducing grades and curves to level and straight lines, for cleaving mountains in sunder instead of tunnelling them; for constructing a first class road instead of a poor one. After all the improvements made, or their cost ascertained, the entire cost of the road was estimated at only \$16,000,000, a sum, for which in addition to the State gratuity and surrendered stock, amounting to about \$4,000,000 more, no competent engineer will say that a road as good as the Erie, with its equipment could not have been built. Since the directors had the benefit of these improvements, they have submitted three reports to the stockholders, in addition to those made to the Legislature; and although, from the vast excess of expenditure over estimate shown at each time driving the directors to make use of every possible apology in explanation. The cost of these improvements have never been alluded to, till the appearance of Mr. Loder's recent letter.

We are not enlightened as to the exact cost of these improvements, but it could not have amounted to a very great sum; as, after they were completed, the whole cost of the road was estimated at only \$16,000,000, less than the cost of the Baltimore and Ohio road.

(5) With regard to the comparative cost of the Erie and the Baltimore and Ohio railroads, our statement that the latter is the more expensive of the two, will not be controverted by engineers. The former has cost about \$17,000,000, graded for a double track throughout; the Erie, \$31,000,000, graded (save that portion now in progress,) for a single track only. The highest summit on the Erie road, which is upon the table lands of western New York, is 1,770 feet above tide water, and is overcome by gradual approaches. The Baltimore and Ohio railroad crosses the Alleghenies, at an elevation of 2,620 feet, and has one plane of 14 miles, of 116 feet grade, and to have avoided this grade would have required a tunnel of 53 miles. The engineer of this road is known to be second to none in this country in his profession; and, in the construction of this road, has spared no expenditure that promised a beneficial result, as far as the future traffic of the road is concerned. It constitutes the only avenue between Baltimore and the west. Hence the necessity felt of adapting it, as

far as money would effect this object, to the accommodation of the vast commerce which is destined to pass over it.

(6.) The comparison of the earnings of the two roads is grossly unfair. On the 30th of September last, the Baltimore and Ohio railroad was opened only to Cumberland, 179 miles from Baltimore. Success has been predicated of this road, only in the event of its reaching the Ohio. The earnings of this division of the road for the past year, were \$1,325,563, or at the rate of \$7,400 per mile, for an unfinished road. The earnings of the Erie, completed to the lakes, with its western connections formed, were \$3,537,766, or only about \$7,000 per mile; for the Chemung branch, leased and run by the company, and the distance from this city to Piermont, or by way of the Paterson and Ramapo road, also run by the company, must be taken into the account. The result shows, therefore, that the Baltimore and Ohio, an unfinished road, earned more per mile the past year, than the Erie, completed to the great lakes.

The proper test would be, to compare the earnings of the Baltimore and Ohio road with what would have been those of the Erie, provided it had been extended no further than Hancock.

Allowing both to have been of equal length there can be no doubt that the earnings of the Baltimore and Ohio road would have been double those of the Erie.

Mr. Loder says:

The article referred to then states that "the Erie company have never voluntarily made a public exhibition of its affairs, unless forced to do so by the want of money;" and then asks, "whether it be not an outrage upon all decency, for this company to go into the market, and borrow \$10,000,000," &c., "without the slightest authentic information as to the objects for which this vast sum is wanted, and without furnishing any evidence, to enable the public to judge whether the previous conduct of the directors has been such, as to entitle them to have the expenditure of so much money."

We reiterate both charges. Nothing but want or the compulsion of law have ever brought the directors before the public. Every preceding loan was accompanied by a statement of the condition of the company. Why did not such a report precede the negotiation of the \$10,000,000 loan? Simply for the reason that the unsecured loans, to the amount of \$10,500,000, expended in construction, had furnished them the means of obtaining a new supply without a fresh appeal to the public. Like King Charles, of parliamentary memory, the directors as suddenly become independent of the people, and as unmindful of past pledges, as soon as supplies are obtained. These being secured, the public is indefinitely "prorogued." Their complaisance is at an end as soon as the coffers of the company are filled; and we shall not hear from them again, till want overtakes them, when some new subterfuge or apology will be invented, as a pretext for a new supply.

(7) Again:

The idea that lenders of money have sufficient confidence in the character and management of the directors, and the stability and value of the work, to loan the company money, "without furnishing any evidence to enable the public to judge," whether they are entitled to so much confidence—explains the reason of this outburst of virtuous and patriotic indignation. It is because they have, by this arrangement, secured the means to build a double track, and to make such further additions and improvements, as are needed to place this great work in a proper condition, that this indignant remonstrance and warning are indulged in. This,

or some unexplained cause, has produced this exhibition of abuse and malignity, which, but for the reasons stated in the first part of the letter, would have been entirely disregarded.

Heaven forbid, that we should be envious of your reputations acquired in the management of a railroad! We hope we have higher standards, both of envy and admiration. We think the public will refer our criticism to a very different motive from that of envy of the success of the directors, or hostility to the road. If it be malignity to publish your own statements to the world, so be it.

(8) We now come to the objects for which the recent mortgage was made.

The facts in regard to the loan of \$10,000,000 are these: The company have made a mortgage on the road, to cover the proposed issue of bonds, in manner following.

\$3,000,000 of bonds are sold, principally on foreign account.

3,000,000 are not to be issued for one year.

4,000,000 are to be reserved to pay a like amount of what are known as 2nd mortgage bonds, due in 1859.

10,000,000

The object of this issue is to provide as follows:

1st. For the payment of the floating debt.

2nd. For the extension of the double track as far as Corning, (and as far as will probably be required for several years.)

3d. For the purchase of additional machinery, which is indispensable.

We are thankful for so much information in reference to the objects of the new loan, though very different from the rumor and expectation when it was first announced. So, it seems that no provision is made for the bonds of 1855. We cannot but admire the self-denial of the directors, who, with a heavy debt impending over them, have put themselves on allowance for a year as to amount; although, since February, 1851, a period of only two years, they have exceeded their estimate \$11,000,000, or more than \$5,000,000 a year! A sudden fit of ambition and repentance seems to have seized hold of these gentlemen. We have seen how these protestations and sudden resolutions have been kept. Under similar protestations, and with a full knowledge of the work before them, the cost of the work has gone up from 11 to 31 million of dollars. Is not a consistent and uniform *past* a better pledge for the future, than these rash and unconsidered vows?

(9) Again:

The next item commented on is that of Dividends on the stock. The writer remarks: "For a Company to declare a dividend, without accompanying it with a financial statement of its affairs, to enable the public and the stockholders to judge whether it has been earned or not, carries with it a badge of fraud." He then proceeds to comment upon the fact that the construction account from January to September 30, was increased \$3,551,205. Hence he concludes that the declaring and paying a dividend on the stock, with a knowledge of this vast increase of the construction account, carries with it "a badge of fraud," and again indulges in another outburst of indignation, and triumphantly asks, "Can fatuity, or incompetency, or dishonesty, even parallel such effrontery as this?"

Can it? we reiterate! Take the stand, gentlemen! In your report of the 24th of Dec. 1851, nearly 8 months after its completion to Lake Erie, you say:

The total cost of the Erie railroad, including 60 miles of double track, sidings and turnouts, wharves, locomotives, cars, stations, and property of every description, (excepting \$250,000 Buffalo and State line stock,) is \$50,172 per mile, or, exclusive of engines, cars, steamers, stations, etc., \$43,333 per mile.

On the first day of January following, the directors declared a dividend of 4 per cent. from alleged earnings. On the 1st day of July three and a half per cent., and on the 1st of January last four per cent.

Neither of the two last dividends were accompanied with any balance sheet or financial statement, showing whether they were earned or not. In the mean time the only report that we have from the company, is that to the Legislature of the 30th of Sept. last, which we have given above. We took the statement in the report of Dec. 24th to be true. If it were true, then the increase of capital account should have been charged to the running, and not to the construction account. You were impeached to be sure by one of the two statements, and we took the probable view of the case.

Our article of the 19th of February, quoted by Mr. Loder, is as follows:

We contend, too, that for a company like the Erie to declare a dividend, without accompanying it with a financial statement of its affairs, to enable the public and the stockholders to judge whether the same has been earned or not—carries with it a badge of fraud. The directors may be entirely mistaken. Take the case of the dividend paid by this company in July. The increased cost of the road from January to Sept. 30th last, was \$3,551,205 71. Assuming this increase to have been uniform, on the 1st day of July the construction account had increased \$2,367,470 46! Yet, in the face of this vast increase, with a knowledge, which the leading directors must have had, that a dividend was not earned, one was declared, without the publication of a syllable, showing the condition of the company. Can fatuity, or incompetency, or dishonesty even, parallel such effrontery as this? The company has never earned a dividend. All that have been declared have been in violation of the rights of the bondholders.

(10) In reply, Mr. Loder says:

From this sage conclusion it is seen that the writer considers it a fraud for the company to pay a dividend if they do earn it, so long as they require money for construction account.

We maintained no such doctrine, and Mr. Loder has grossly, and we fear knowingly and willfully misrepresented us.

When we criticised Mr. Loder, we did him the justice to quote in full his statement or explanation. Why does he not treat us in the same manner? In our article complained of, we took the ground that no dividend had been earned by the Erie road. We said nothing about the propriety of declaring dividends if earned, while the road was in progress. When a company tell us, that they have completed their road, and between that time and the payment of the next dividend increase enormously the capital account, without the slightest explanation offered for such increase, we contend that the natural inference is that such increase is properly chargeable to the running account, and that consequently, the dividend was not earned; and we have demonstrated the fact, gentlemen, that the dividends declared by yourselves have not been earned unless you impeach your own statements.

(11) The company which is held up as a model of imitation is progressing with the work of construction; and yet, from their last report, it appears that they declared a dividend of seven per cent. in stock; and who calls in question the propriety of such a decision?

Let us see. The Baltimore and Ohio road, many years since, was opened to Cumberland, and has proved up to this point, a profitable work. For years not a blow was struck beyond Cumberland. As the company wished to improve the condition of its property, and accumulate means for the extension

of the road, the earnings were paid in stock, and the cash earnings reserved for the objects named. The cost of the extension is kept entirely distinct from the cost of the first division of the road, so that no difficulty could arise as to earnings, nor any impropriety in declaring such dividend in stock, at least, provided such were the terms of subscription. Have distinct accounts been kept of the cost of the different divisions of the Erie road? If not the parallel fails. A dividend in cash may be a direct fraud upon the bond holders. Not so with a stock dividend. We took the ground and proved it out of the mouths of the directors, that no dividend had been earned by the Erie road. We charged the dividend paid therefore, to have been done in violation of the rights of the bondholders, and in reference to this we quote the following from the Journal of the 12th instant:

"We contend that the dividends paid since the opening of the road, and the recent mortgage of \$10,000,000 are breaches of good faith on the part of the company. At the time that the several unsecured loans were negotiated, the public were assured that the present sums sought to be borrowed were all that were needed to complete the road. Each subsequent loan weakened the security of the previous one. Are not the stockholders in good faith bound to redeem the pledges given? Have they a right to create further debts, and still appropriate to themselves money apparently earned, but needed to pay such debts? We answer, no. And further, have they a right to create a debt, under the express statement that no further sums would be required to complete the road, and then make these very sums—so borrowed and expended upon the road—the basis of a mortgage which takes precedence of them and which may render them entirely worthless."

To pay dividends in stock it does not injure the right of the bondholders. It is, in fact, actually paying over to them the entire earnings of the roads; for, if the earnings be reinvested, they add so much to the security of the bonds. To make a stock dividend, does not enrich the stockholders, not injure the creditors. What a rebuke does the very case cited in justification of their management administer.

(12) The increased capital account shows no dividends to have been earned; a fact which may be abundantly proved by other testimony. The Erie road has certainly the general reputation of being marked at much higher cost than the average of our roads.

Upon this question there is certainly no difference of opinion. Such is the universal testimony of such persons we have met with, who have experience in the management of railroads, and who have travelled over this road. From our constant contact with such persons, we claim to know what is the current opinion upon this subject. The longer, too, a single track road, the more expense to operate it. Suppose, on an average, that there are 20 trains running daily upon the Erie road. If one train meets with an accident, the whole will probably be delayed. From such delays, which are inevitable on a road of such length as the Erie, immense loss must constantly be sustained. The equipment upon this road is the heaviest in the country; and as high speeds are maintained, the depreciation from this cause must be enormous. It is the cost of repairs undoubtedly that has so enormously swelled the construction account.

The expense of 8 years upon 8 of the leading railroads of Massachusetts has demonstrated the cost of transporting one ton of freight, or passenger, to have been 1.445 cents per mile. All these roads have an immense business, are of sufficient length to be economically worked, are finished

roads, thoroughly equipped, and have for years been under admirable management, the result of long experience and training. Most of them have double tracks. Now we presume that no one believes that the Erie road has not been operated at a cheaper rate. Our opinion is, that it performed the same service at a much higher cost. In looking at the returns made by this company to the Legislature, we find that they received 1.840 cents per ton, or per passenger, per mile. At the cost for the same items on the Massachusetts roads (see journal of March 12) the net profit upon the Erie the past year was .395 cents per passenger, or ton, per mile; or an aggregate of \$763,900,134, instead of 1,878,191,47 as claimed!

The cost of movement upon the Hudson river road the past year was 1.375 cents per ton or passenger a mile, according to the returns of this company to the legislature, though, from the large increase of construction account, we believe this sum to be much below the mark. It will be seen by this test, the Erie road earned only about \$710,000 the past year; and the Hudson river road has the most favorable grades and curves, in the aggregate, of any road in the United States.

The truth is, the public have been deceived in nothing more than in the net earnings of the Erie road. So long as the running expenses can be charged to construction account, and the money to make this good, borrowed, the true state of affairs can be kept from them. But there must be an end to this way of doing things, and the fearful retribution that must follow will demonstrate the magnitude of the errors that have been committed.

(13) Mr. Loder argues that the directors—

Owning between two and three millions of its stock and bonds, or nearly the tenth of all the capital and effects of the company, it would appear reasonable that they would endeavor to take care of their own property, at least, and, by doing that, take care of the interests of those associated with them.

As Mr. Loder obtrudes the fact of the large ownership of the stock and securities by the directors, for the purpose of showing that they are interested in the proper management of the company, it may be proper to ask by whom, and for what purpose, is this stock held? Is it not held by a leading operator and his friends, for the purposes of speculation? and would not that same party, could they now rid themselves of the immense burden resting upon their shoulders, exert themselves with equal eagerness to depress the stock as far below, as they are now endeavoring to keep it above, its true value? Are not some of the most prominent parties connected with this road, the leading operators in the street for a rise or fall, as interest may dictate? But we do not wish to refer to private matters. They are no concern of ours. But when personal or private interests or parties are referred to in vindication of their public acts, it is right that the motives which lie at the bottom of these acts should be known.

We now come to the question of the increased cost since the report to the Legislature of the 30th of September last.

The cost of the road at that time, as represented by its stock and debts, was as follows:

Stock.....	\$7,766,991 17
Funded debt.....	18,003,868 90
Floating debt.....	1,323,053 55

Total..... 27,093,913 62

Cost of the road on the first day of March, as per recent statement:

Stock	\$9,612,991 00
Funded debt	18,003,868 00
Floating debt	3,684,947 15
Total	31,301,806 15
Deduct for assets	1,024,267 82
	30,277,538 33
Total September 30th	27,093,913 62

Increase

With the exception of a few small items, the only explanation offered for this increased cost is the double track. For aught that appears to the contrary, the value of the assets on the 30th of September was as great as at the present time.

The cost of grading the double track Mr. Loder now estimates at \$10,000 per mile. Adding \$6,000 per mile for the superstructure, the whole cost of the 139 miles would be \$2,185,000.

The work upon the double track has been in progress nearly a year. It is yet incomplete. Mr. Loder does not tell us how much it is to cost, when it is to be completed, nor what sums will be required for this purpose. He does indeed state in one part of his letter, that the rails for the 139 miles are all laid; although it is palpable, from other parts of his letter, that they are not. From the fact that the company embrace in assets 6,640 tons of iron, sufficient to lay 66 miles of road, we presume that the extent of line already laid is 73 miles.

As it is the policy of this company to say nothing about their affairs that is not *wrong* from them, we are compelled to resort to other, in lack of direct evidence, to show the probable amount of expenditure upon the double track since September last.

The road was completed in May, 1851. On the 30th of September, of the same year, the entire cost of the road was stated at \$24,453,534 50. The increase of the capital account, for the year ending September 1, 1852, was \$3,640,379 12. As this immense sum could have been wanted for no other purposes, a very considerable portion of it must have gone into the double track.

We estimate the grading of the double track to be three fourths completed; that one half of it was done on or before the 30th of September, and that one quarter of the work has been done, and all the iron purchased and paid for, since that date. Let us see to what results such an estimate would lead us:

Grading done since Sept. 30	\$347,500
Total cost of iron—13,900 tons at \$55 per ton	764,500
Track laying, etc.	50,000

	1,162,000
Increase since September	3,183,000
Excess for other purposes	2,021,000

As there has been but a slight increase in the other items of the construction and equipment account, is not the evidence irresistible, that the above excess, or the greater part of it, existed in the shape of a floating debt, on the 30th of Sept. last, the date of the returns to the Legislature, and that the report which Mr. Loder says is sufficiently explicit to a full understanding of the affairs of the company, did not state the amount of the floating debt by the sum of 2,000,000. If this be so, and we submit whether there can be any other view taken of this matter, where does this place Mr. Loder's assertion that the Legislative reports convey a full and correct idea of the state of the company's affairs and property?

Is not the double track a part, and an important part of the road? Is not the knowledge of the cost

and condition of the work upon it, necessary to a proper knowledge of the state of the company's affairs? Has Mr. Loder in his reports to the Legislature ever alluded to the fact that the double track was even contemplated? No. He may say that he is not required by law to state such matters. Granted for argument's sake. But has he a right to withhold all information in reference to most important matters in construction, and at the same time state that he has given all the information that exists in reference to them? Do not such palpable contradictions place him in a most unenviable position before the public. When these contradictions are taken in connection with a crowd of similar statements, which have almost universally proved incorrect, do they not tend to throw a suspicion upon all that he says, or does? We again refer the reader to the reports to the Legislature.

As if experience was incapable of instructing him, he is still at the old business of making estimates, that a few weeks will totally disprove. He would have us believe that the company has 701 miles of road, at a cost of \$31,301,806 15, knowing at the same time, such not to be the case. The company have not 701 miles of road laid as he states. To complete the 139 miles of double track a large expenditure will yet be required, and that immediately. These habits of erroneous estimates would seem to have become too strong to be broken away from. The directors have never had the courage to look at the difficulties that have surrounded them full in the face. At no one time have they dared to tell more than one half of the truth. Hence no two estimates ever agree, and no one has ever nall come up to the ultimate cost.

In conclusion, Mr. Loder endeavors to show what has become of the money which has gone into the company, by adding the apparent deficit, to the cost of the road in the aggregate. The same thing has been done in all the reports to the Legislature. The Legislature calls for items, and these will not foot up the aggregates given. When the public, who have no means of compelling answers, call for the cost of the road, a gross sum only is given. In this way the directors dodge from one hiding place to the other. They remind one of the ostrich, who thinks himself safe so long as his head is concealed. These evasions do you no credit, gentlemen. The public see that a clean breast has not been made, and they will be very likely to impute the fact to a worse cause than really exists. Let us have an explanation. This is what, and all, that we have been calling for. It may exculpate you entirely. By putting it off you only aggravate the evil.

In balancing the capital and construction accounts, Mr. Loder seems to think he has made everything smooth and easy. By referring to the company's report to the Legislature of 1849, it will be seen, that the construction account is \$2,330,410 50 greater than the capital account, for the very good reason that the cost of that portion of the road completed under the previous organization, in operation when the present managers took command, about equalled the above sum.

It was paid for by the state loan and surrendered stock. Its cost, therefore, appeared in the construction, but not in the capital account. The former was the larger by the above sum, to show the true state of the case. If nothing had been lost in construction, this account would have been some \$4,000,000 greater than the capital account.—Whatever portion of this sum was made available, should now appear in the construction account;

and if the directors credit themselves with what was accomplished by state loans and the surrendered stock, they should charge themselves with an equal sum. This was done in the report of 1849; the same should be done now. This would unbalance Mr. Loder's balance, by the sum of about \$2,500,000, to say nothing of other items. Do not balances so easily shown to be incorrect, smell of *cookery*? Do they not tend to throw discredit upon all statements, whether true or false?

But enough. We have devoted too much time to this subject already. No reply to Mr. Loder's letter was necessary. It answers itself. It will, in fact, inflict a severe blow upon the credit of the company. The public will see that they are no wiser than before. They will see in it only a lame attempt to *film* over an old sore. For the want of proper answers to our strictures, they will believe that none can be given. For the want of a proper explanation for the immensely increased cost of the road, they will conclude there is none. Do you not see, gentlemen, the position in which you are placing yourselves?

Our censures of the policy of this company are not new. More than a year since, we published several articles substantially the same as those recently published. They were couched in very mild and gentle language, and for this reason, we presume, produced no change in the policy of the company. Their persistence in a course which we regard as radically wrong, has driven us into the present discussion, and forced us to adopt a different tone. We have endeavored to conduct the discussion fairly and temperately. All that we want is light. Shall we have it, gentlemen?

East Tennessee and Georgia Railroad.

We have read the annual report of this company, submitted to the stockholders on the 3d day of January, 1853.

The following statement will show the financial condition of the company:

The amount expended in the construction of the 82 miles of road from Dalton, Georgia, to Loudon, on Tennessee river, to 1st January 1852	\$1,309,922 46
Construction since	55 070 61
Floating debt	68,000 00
Miscellaneous items	19 642 18

Total

This sum is made up as follows:

Capital stock owned by the state of Tenn.	\$125,500 00
Capital stock owned by individuals	409,500 00

Making this sum paid stock	835,000 00
Bonds of the state of Tennessee	350,000 00
Due contractors	8,634 25
Floating debt	68 000 00
Bonds of the company. 191,000 00—	\$1,452,634 25

By the above statement (says the report) it will be seen that the 82 miles completed from Dalton, Georgia, to Loudon, on the Tennessee river, will have cost the present company only \$1,452,634 26, being a fraction over \$17,500 per mile, equipped with all the necessary engines, cars, depot houses, water stations, engine houses and shops, including every necessary expenditure for the successful running of the road.

It will be remembered that after the old Hiwassee company failed, that the state of Tennessee, by legislation, agreed with the shareholders in 1848, to reorganize under the present name, the individual stockholders and the state agreeing to give up two shares of old stock for one of new, thus reducing

the cost of the road one-half, excepting a small floating debt, in the shape of scrip and judgments, which was assumed in full by the new company.

Total cost of the road as follows:
 Expended by the Hiwassee company. \$909,662 00
 Floating debt in scrip judgments, etc. 68,026 27
 Expended or appropriated since reorganization..... 929,776 98

Total cost..... 1,907,465 25
 Deduct old stock relinquished..... 454,831 00

Total cost of 82 miles to present stockholders..... \$1,552,634 25

This amount is made up as follows:
 Old stock of \$909,662 reduced one-half..... \$454,831 00
 New stock subscribed and paid in... 383,776 98
 State loan for iron and equipments, secured by mortgage..... 350,000 00
 Company 6 per cent coupon bonds.. 19,000 00
 Floating debt..... 68,026 27

\$1,452,634 25
 Engineer's estimated cost of extension to Knoxville..... 514,000 00

Total cost of entire road to Knoxville to present stockholders..... \$1,996,634 52

Funds for the extension to Knoxville are provided as follows:

Loan from the state for Tennessee river bridge..... \$100,000
 " " " iron and equipments..... 240,000
 Stock subscribed along the line..... 156,000
 Required to complete the road..... 48,000

Cost of extension to Knoxville..... \$544,000

Of the above statement \$156,000 has been subscribed in stock by persons principally living along the line of the road, north of the Tennessee river, for the purpose of doing the grading, masonry, preparing timber and laying track, which according to the engineer's estimate would not be sufficient by \$45,000.

The amount received on stock and paid out on work north of the Tennessee river.

Amount of cash received on stock north of the river..... \$20,317 75
 Amount of notes received on stock north of the river..... 3,264 00

Total amount of receipts..... 23,581 75
 Deduct amount paid on work..... \$13,547 84
 Deduct amount paid on expenses..... 2,436 40— 15,984 24

Amount of cash and notes on hand..... \$7,597 51

The work upon the division north of the river is making good progress, and it is believed if the stockholders meet the calls promptly, that the road can be completed to Knoxville by the 1st of July, 1854.

The gross earnings of the road for 11 months, commencing the 1st January, and ending 30th November, 1852, were..... \$57,936 54
 Expenses charged to transportation..... \$21,499 51
 Expenses charged to maintenance of way..... 14,422 31—35,921 82

Net profit..... \$22,004 75

The earnings, says the report, though small, have come fully up to the expectations of the directors, and show conclusively that the road will, in future, be able to take care of the interest on State debt of \$350,000, and the bonds issued by the company, and besides have a handsome sum, either to apply to the extension of the road to Knoxville, or to pay on the floating debt of the company. A small business only was expected till the road reached

the Tennessee, and such arrangements have now been completed as promise to give to the road a large portion of the traffic of this important river. A steamboat has been chartered to run between Loudon and Knoxville the present year, in connection with the road.

We copy the following from the report, in reference to the relation of this to other roads.

The position of our road is such as to show to you that we can never have a rival road; that we are almost on an air line from New Orleans to New York. It will be seen by reference to Mr. Poor's railroad map of the United States, which undoubtedly makes it the line for the Great Southern mail, that we will have the shortest line between those points by at least 200 miles, when all the connections are made that are now in process of construction. The Virginia and Tennessee railroad is progressing very rapidly from Lynchburg towards the Tennessee line, the cars now running from Lynchburg to Salem, a distance of 60 miles, and extending the track every day so that in less than two years this work will be completed to the Tennessee line, where it connects with the East Tennessee and Virginia road, from Knoxville to the Virginia line. The whole of this road to Knoxville, including grading, masonry and bridges, is now under contract and the work progressing well, except fifteen miles of light grading from Knoxville to the Holston river, and the means provided for the completion, and the president of the company has informed me that he will let that part of it early in the spring, thus showing beyond a doubt that the whole line north will be completed in less than three years.

Our connections south will be through the Western and Atlantic railroad, leading to Augusta, Charleston and Savannah, and also with the roads built and building in Alabama and Mississippi, towards Mobile and New Orleans. The aggregate length of roads south will include 1200 miles finished road, and as much more in contemplation and process of construction. Through the Western and Atlantic road westwardly, a connection is formed with the Nashville and Chattanooga, and the Memphis and Charleston railroads—also with the New Orleans and Nashville road. It is also in contemplation to extend the Rome branch of the Western and Atlantic railroad, to the Alabama and Tennessee river railroad—thus making a second route to Mobile and New Orleans. To all of these routes this road will be common. By all of which you will see, your road must not only be of great importance to the travelling and trading community, but a source of wealth to the stockholders.

In addition to the above roads, a road has been chartered from Knoxville, the northern terminus of your road, to Lexington, Kentucky, and will be built; thus securing the trade and travel from Cincinnati and Kentucky to the south Atlantic seaboard, over this road. And besides, the entire carrying trade of at least 200,000 inhabitants of East Tennessee must be done over this road, which will be largely increased every year, as the resources of the country are developed by the operations of the road.

The report of the chief engineer, M. B. Prichard, Esq., presents in detail the progress of the work upon the unfinished portion of the road. The most formidable obstacle encountered is the Tennessee, to cross which requires a bridge 1694 feet long, and 77 feet above low water.

The bridge will have 11 spans of about 150 feet each, supported by 10 piers and 2 abutments, which are to be of the first class of masonry. The span over the steamboat channel is elevated 20 feet over the other parts of the bridge. The track will be laid upon the lower floor of the steamboat span, and the upper floor of the others.

The masonry for this structure is contracted to Jas. Gettys & Co., and the wood work to Maxwell, Briggs & Co.

In reference to the proposed extension of this road northwesterly, to Lexington, Kentucky, and

thence to the Ohio, for the purpose of supplying a most important link, in a great line of railroad from that river to the southern and Atlantic cities, the engineer says:

A great and increasing interest is now felt by the citizens of Charleston, Savannah and Augusta, and also by the southern connecting railroad companies, and by the people living upon the line, in the projected road from Knoxville to Danville, Kentucky. The construction of this places our road upon another most important thoroughfare, to wit: from Kentucky and the Ohio to the south Atlantic seaboard, and the interior of Georgia, Alabama and South Carolina.

The initiatory steps have been taken for the formation of a Company, and a survey is to be forthwith commenced. The length of this road will not exceed 120 miles, and it is probable the cost will fall within \$2,000,000. It is thought that the public and private subscriptions of the towns and counties along the line will go far towards raising this sum, and that the deficit will be made up by Augusta, Charleston, and Savannah, and the Georgia and South Carolina railroads—the immense accession of trade that must follow upon the opening of so important a road being the great inducement. Although our Company is not at present able to lend much tangible aid to this road, we should at least give as much comfort as possible to its enterprising projectors. That this road will have advantages enabling it to defy competition with any other road from Cincinnati, the Ohio river and Kentucky, to the Southern seaboard, is clearly shown by the following tables of distances from Cincinnati to Charleston and Savannah, via Knoxville and via McMinnville, the only routes for accomplishing that object now dividing public attention. The distances given in the tables are taken from Mitchell's Map and other reliable sources.

Via Knoxville.

Cincinnati to Lexington Ky.	96—000 in progress.
" " Danville,	25—131 do. do.
" " Knoxville,	120—251 chartered, not commenced.
" " Loudon,	28—279 in progress.
" " Dalton, Ga.	82—361 completed.
" " Charleston,	408—769 "
" " Savannah,	392—753 "
Miles completed, Cincinnati to Savannah,	474
" in progress,	159
" not commenced,	120

Via McMinnville.

Cincinnati to Danville, as above,	131—000 in progress.
Danville to McMinnville, Tenn.	164—295 not commenced.
McMinnville to Tullahoma,	40—335 not commenced.
" " Chattanooga,	81—416 nearly completed.
" " Charleston,	448—864 completed.
" " Savannah,	432—848 "
Miles completed, Cincinnati to Savannah,	473
" in progress,	171
" not commenced,	204

Total distance, 848

Showing in favor of the Knoxville route a saving of distance of 93 miles, and 84 miles less of new road to provide for, to say nothing of the saving of the 106 feet per mile grades between Tullahoma and Chattanooga.

The present mail route from New York to New Orleans is by way of Atlanta, Georgia, and Montgomery, Alabama, thence by steamboat to Mobile and New Orleans. The link between Knoxville and Danville, 120 miles, is the only portion of the line unprovided for from Cincinnati to the New York and New Orleans mail route. Before the McMinnville route from Cincinnati to New Orleans can be made available, 638 miles of road must be built, exclusive of the Covington and Danville road, and about the same number of miles of new road are required to perfect the route via Louisville and Nashville. As soon as the East Tennessee and Virginia road and the northern con-

nections are completed, Knoxville will be upon the mail route to New York and New Orleans, the distance being upwards of 100 miles shorter than by any other route. The Knoxville and Danville road is important in another view, being upon as short a line from Louisville and Lexington to Richmond and Norfolk as the line via Maysville and Big Sandy, and the Virginia central roads, but with this great advantage, that to open railroad communication, from Lexington to Richmond, Virginia, means for the construction of 120 miles only are required, every other link in the chain being either in operation or in rapid progress.

The East Tennessee and Virginia road is rapidly progressing at its upper end, the design of that Company apparently being to form their first connection with the Virginia road. It, therefore, becomes of the utmost consequence to us to make every effort to complete our road to Knoxville at the earliest possible moment, in order to induce the officers of the upper road to modify their plans, and commence work at Knoxville. We have 28 miles of comparatively light work to reach the southern terminus of that road. The Virginians have 145 miles of very heavy work to reach the Tennessee line. Certainly with so great odds in our favor, we should beat our Virginia friends in the race for the trade of upper East Tennessee and the transportation of rails and materials to be used in the construction of the East Tennessee and Virginia road. To win in this honorable race is not for our advantage alone, but the roads of Georgia, and the cities of Augusta, Charleston and Savannah are deeply interested in our success. If we fail to improve the advantages we possess, and allow the upper road to be built from its Virginia end, this way, the trade of all East Tennessee, of which Augusta, Charleston and Savannah, are the legitimate markets, will be diverted to Lynchburg, Richmond and Norfolk, and its transit lost to the southern line of roads. The struggle between the northern and southern cities is ultimately to be a close and severe one—let us then improve all the advantages we have got and strain every nerve to get first possession.

American Railroad Journal.

Saturday, March 26, 1853.

The long article upon the Erie railroad company, together with Mr. Loder's letter, occupies the greater part of the Journal of to-day, to the exclusion of a number of articles which should have appeared. We hope to present a better variety next week.

Michigan Southern and Indiana Northern Railroad.

John B. Jervis, George Bliss, Charles Butler, Elisha B. Litchfield, E. C. Litchfield, Hugh White, John Stryker, Wm. L. Marcy and John S. Barry, were elected directors of the Michigan Southern and Northern Indiana railroad, at the last meeting of the stockholders. John B. Jervis was elected president.

Lightner's Patent Box.

We call attention to the advertisement, in another column, of *Lightner's Patent Axle boxes for railroads*. We believe there is no dispute about the great superiority of this article. It is in universal use on the New England roads, and we believe we can recommend its adoption by other roads with entire safety.

Carhart's Improved Turntable.

The attention of Railway companies is invited to the advertisement of Mr. Carhart, of Cleveland, Ohio, a manufacturer of *Turntables* of superior model and workmanship, which he offers at low rates: We learn from other sources, that Mr. Carhart manufactures an article which has given en-

tire satisfaction to a number of companies in this vicinity, upon whose roads they have been placed.

Finances of Tennessee.

The following statement will show the present debt of Tennessee:

Total 16th August, 1852	\$3,901,856 66
Since issued to Int. Imp. Companies.	1,175,000 00
Amount to be issued in 1853	990,000 00

Total.....\$6,066,856 66

Movement of Property upon Railroads.

We publish this week a statement of the *through* movement of property upon several of our more important lines of railroad. It possesses great interest in indicating the routes of commerce, and in showing the relations that the *through* bears to *local* traffic.

Stock and Money Market.

We have no change of importance to note in the money and stock markets. The demand for money continues unabated, under the measures that the banks are adopting to place themselves in a stronger position. Most of the fancy stocks have suffered a large decline, and are still very heavy. The market for first class railroad securities is good, with an active demand for the bonds of western roads. The amount of best securities offering is small, which has a tendency to advance rates.

The general business of the country is in a sound state, and is exceedingly active. The returns of earnings of most of our roads show a marked increase of receipts for the present over the past year.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE

AMERICAN RAILROAD JOURNAL.

NEW YORK, MARCH 26, 1853.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	100
U. S. 6's, 1856	107
U. S. 6's, 1862	115
U. S. 6's, 1862—coupon	115
U. S. 6's, 1867	119
U. S. 6's, 1868	120
U. S. 6's, 1868—coupon	120
Indiana 5's	98
Indiana 2 1/2's	56
Canal loan 6's	96
Canal preferred 5's	36
Alabama 5's	98
Illinois 6's, 1847	91
Illinois 6's—interest	62
Kentucky 6's, 1871	108
Maryland 6's	108
New York 6's, 1854-5	108
New York 6's, 1860-61-62	116
New York 6's, 1864-65	120
New York 6's, 1 y., 1866	120
New York 5 1/2's, 1860-61	110
New York 5 1/2's, 1865	112
New York 5's, 1854-55	104
New York 5's, 1858-60-62	106
New York 5's, 1866	104
New York 4 1/2's, 1858-59-64	100
Canal certificates, 6's, 1861	—
Ohio 6's, 1856	103
Ohio 6's, 1860	109
Ohio 6's, 1870	115
Ohio 6's, 1875	117
Ohio 5's, 1865	104
Ohio 7's, 1851	105
Pennsylvania 5's	97
Pennsylvania 6's, 1847-53	99
Pennsylvania 6's, 1879	101
Tennessee 5's	95
Tennessee 6's, 1860	110
Virginia 6's, 1866	110

CITY SECURITIES—BONDS.

Brooklyn 6's	106
Albany 6's, 1871-1881	107
Cincinnati 6's	103
St. Louis	101
Louisville 6's 1880	98
Pittsburg 6's, 1869-1871	102
New York 7's, 1857	108
New York 5's, 1858-60	101
New York 5's, 1870-75	103
New York 5's, 1890	104
Fire loan 5's, 1886	—
Philadelphia 6's, 1876-90	107
Baltimore 1870-90	109
Boston 5's	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867	117
Erie 2d mortgage, 7's, 1859	106
Erie income 7's, 1855	98
Erie convertible bonds, 7's, 1871	95
Hudson River 1st mort., 7's, 1869	104
Hudson River 2d mort., 7's, 1860	98
New York and New Haven 7's, 1861	106
Reading 6's, 1870	92
Reading mortgage, 6's, 1860	96
Michigan Central, convertible, 8's, 1860	111
Michigan Southern, 7's, 1860	101
Cleveland, Col. and Cin. 7's, 1859	123
Cleveland and Pittsburg 7's, 1860	102
Ohio and Pennsylvania 7's, 1865	106
Ohio Central 7's, 1861	98

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Mar. 17.	Mar. 24.
Albany and Schenectady	114	114
Boston and Maine	105	105
Boston and Lowell	105	100
Boston and Worcester	101	100
Boston and Providence	88	87
Baltimore and Ohio	84	86
Baltimore and Susquehanna	32	34
Cleveland and Columbus	127	127
Columbus and Xenia	—	—
Camden and Amboy	150	150
Delaware and Hudson (canal)	130	119
Eastern	96	96
Erie	85	83
Fall River	104	105
Fitchburgh	99	99
Georgia	—	—
Georgia Central	—	—
Harlem	64	63
“ preferred	108	107
Hartford and New Haven	129	129
Housatonic (preferred)	35	35
Hudson River	64	62
Little Miami	117	118
Long Island	36	35
Mad River	99	90
Madison and Indianapolis	101	105
Michigan Central	106	105
Michigan Southern	121	120
New York and New Haven	108	108
New Jersey	136	136
Nashua and Lowell	110	110
New Bedford and Taunton	117	117
Norwich and Worcester	51	49
Ogdensburg	26	25
Pennsylvania	50	50
Philadelphia, Wilm'gton & Balt.	38	37
Petersburg	—	—
Richmond and Fredericksburg	105	105
Richmond and Petersburg	35	35
Reading	88	86
Rochester and Syracuse	126	128
Stonington	57	56
South Carolina	122	122
Syracuse and Utica	144	139
Taunton Branch	115	115
Utica and Schenectady	148	144
Vermont Central	17	15
Vermont and Massachusetts	18	19
Virginia Central	40	40
Western	100	99
Wilmington and Raleigh	57	57

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page

For the American Railroad Journal.

Some of the uses of a Railroad from the Mississippi river to the Pacific Ocean.

EDITOR RAILROAD JOURNAL:

Of the entire population of Great Britain, about one third have been, for the last fifty years, employed in trade and manufactures; and at this moment, out of the twenty-nine millions of its people, not more than five millions are directly employed and supported by manufactures. Of these five millions, not more than three fifths are in actual operation; and this inconsiderable number are now supplying the world with a large part of the cotton, iron and woolen fabrics consumed.

It is not going too far when we say, that two millions of ambitious, energetic and well fed Americans, working on our coals, minerals, and fibrous staples, would produce more fabrics than the three millions in Britain. In this and the next succeeding decade, there will be full two millions of operatives employed in manufactures, at convenient positions in the central sections of this valley, and chiefly on and near the carboniferous formation, and on the banks of our navigable rivers.

In twenty years the operations of our manufacturers will justify an expenditure of money and labor, equal to that expended in Great Britain for the last twenty years, for connecting the manufacturers with materials and markets. The amount has been, in the one case, and may be, in the other, hundreds of millions of dollars.

The great profits of British manufacturers have been made in exchanging the products of home machines with the hand products of agricultural countries. We shall strive after the same results. After supplying home markets with our surplus fabrics, we shall look for markets among people who can not, or will not, use labor-saving machinery. The best of these markets will be on the shores of the Pacific ocean. We can find little profit in exchanging the products of our workshops with the products of European workshops. Man might as well marry with man. We shall rather follow British examples, and increase our wealth and power, by compressing and refining our rude materials and perishable substances, by every labor-saving and labor-multiplying agent, and exchanging the surplus for the products of mere hand labor elsewhere.

By lessening the cost of transportation and factorages, we can throw our cotton, iron and woolen fabrics, into the Pacific markets, at prices so reduced as to drive out competing fabrics; and by the same process, also, we can enable customers there to enlarge indefinitely their exchanges with us. If we lessen the price of cotton goods to the Chinese, they will make fewer cotton goods, and gather more tea leaves for us.

The cost of making a railroad from the Mississippi river to the port of San Francisco, with all its appointments and adjuncts, might reach a hundred and fifty millions of dollars. This sum is far, very far less, than has been expended in connecting the mining and manufacturing districts of Great Britain with tide water. Manufacturing industry has not only paid for these instruments of transit towards materials and markets, but has supported churches and poor-houses, armies and navies, royalty and its pensioners.

As much as it has done there, it can do here. If we have the road in full operation in fifteen years, we shall be ready to send over it for export, refined, compressed and valuable products, more than

equal in value to the whole of our present exports. If so, would it not pay higher dividends than any railroad in the world?

Yours, S

Cannelton, Ia., March 10, 1853.

Tables Showing the Movement of Freight upon Several of the New York Railroads.

NEW YORK AND ERIE RAILROAD.			
ARTICLES.	Total tons shipped and carried.	Total tons shipped and carried from Lake Erie towards tide water.	Total tons delivered at tide water.
The Forest.....	76,909	694	31,328
Product of Animals.....	75,943	22,539	18,658
Vegetable food.....	66,930	20,117	7,150
Other agricultural products.....	2,420	1,120	1,058
Manufactures.....	74,848	1,448	436
Merchandise.....	50,688	879	314
Other articles.....	118,724	708	276
Total.....	456,402	47,571	28,457
ALBANY AND SCHEENECTADY RAILROAD.			
ARTICLES.	Total tons shipped and carried.	Total tons shipped and carried from Lake Erie towards tide water.	Total tons delivered at tide water.
The Forest.....	67	67	62
Product of Animals.....	145	77	145
Vegetable food.....	613	480	613
Other agricultural products.....	308	198	308
Manufactures.....	9,865	2,516	9,865
Merchandise.....	3,001	14,035	14,422
Other articles.....	29,775	1,022	3,179
Total.....	124,449	18,390	33,065
ALBANY AND WEST STOCKBRIDGE RAILROAD.			
ARTICLES.	Total tons shipped and carried.	Total tons shipped and carried from Lake Erie towards tide water.	Total tons delivered at tide water.
The Forest.....	76,909	694	31,328
Product of Animals.....	75,943	22,539	18,658
Vegetable food.....	66,930	20,117	7,150
Other agricultural products.....	2,420	1,120	1,058
Manufactures.....	74,848	1,448	436
Merchandise.....	50,688	879	314
Other articles.....	118,724	708	276
Total.....	456,402	47,571	28,457

NORTHERN RAILROAD.			
ARTICLES.	Total tons shipped and carried.	Total tons shipped and carried from Lake Erie towards tide water.	Total tons delivered at Lake Erie.
The Forest.....	7,342	7,270	7,321
Product of Animals.....	20,610	20,605	20,605
Vegetable food.....	81,418	80,472	80,572
Other agricultural products.....	5,474	1,505	3,629
Manufactures.....	25,985	9,970	1,860
Merchandise.....	6,163	2,997	1,530
Other articles.....	10,323	2,992	9,785
Totals.....	158,323	132,292	136,184
ALBANY AND WEST STOCKBRIDGE RAILROAD.			
ARTICLES.	Total tons shipped and carried.	Total tons shipped and carried from Lake Erie towards tide water.	Total tons delivered at Lake Erie.
The Forest.....	7,342	7,270	7,321
Product of Animals.....	20,610	20,605	20,605
Vegetable food.....	81,418	80,472	80,572
Other agricultural products.....	5,474	1,505	3,629
Manufactures.....	25,985	9,970	1,860
Merchandise.....	6,163	2,997	1,530
Other articles.....	10,323	2,992	9,785
Totals.....	158,323	132,292	136,184

TROY AND SCHENECTADY RAILROAD.		Tons carried from Troy towards Lake Erie.		Tons carried from Troy towards Lake Erie.	
ARTICLES.	Tons sent from Troy.	Tons of freight at Troy.	Tons sent from Troy.	Tons of freight at Troy.	Total
The forest.....	3,169	2,525	2,525	742	742
Product of animals.....	10,226	9,486	9,486	742	742
Vegetable food.....	8,335	.....	.....	.....	.....
Other agricultural products.....	2,084	10,370	10,370	48	48
Manufactures.....	2,077	1,329	1,329	707	707
Merchandise.....	3,041	222	222	2,819	2,819
Other articles.....	3,199	1,966	1,966	1,233	1,233
Total.....	32,131	25,889	25,889	6,193	6,193

Indiana and Illinois Central Railroad.

We are indebted to Hon. E. W. H. Ellis, late Auditor of the state of Indiana, and a director in this company, for information in regard to its designs and prospects. A corps of engineers, under the supervision of Col. T. A. Morris, has commenced the survey and location from Indianapolis westward. The distance to the Illinois line is seventy-five miles, and the route is represented as being over the most fertile and wealthy agricultural portion of the state, touching the towns of Danville, Bainbridge, Rockville, and Montezuma. At the latter point it crosses the Wabash river, and thence westward, on a direct line, through an almost unbroken prairie, seventy-five miles further, to Decatur, Illinois.

The Indiana company is fully organized, with effective officers throughout. For the Illinois portion the Illinois legislature, at its recent session, with great unanimity, granted the following charter:

AN ACT to incorporate the Decatur and Indianapolis Railroad Company.

SECTION 1. *Be it enacted by the people of the state of Illinois, represented in the General Assembly.* That David S. Allen, Wm. Martin, J. C. Pugh, Wm. S. Cressey, Rich'd J. Oglesby, Henry Prather, T. H. Haywood, W. D. Watson, John Rucker, E. I. Howell, Samuel Yarnall, J. J. Peddecord, B. H. Cassell, and J. R. Hammett, their associates, successors, and assigns, be, and are hereby, constituted a body corporate and politic, under the name and style of the *Decatur and Indianapolis Railroad*

Company, for the purpose of surveying, locating, constructing, and operating a railroad, from the town of Decatur, in Macon county, in the state of Illinois, and thence, in a direct line, upon the most eligible route, to the east line of the state of Illinois, in the direction of Indianapolis, in the state of Indiana—whenever the said persons, or their assigns and associates, shall organize in full compliance with the provisions of an Act, entitled "An Act to provide for a general system of Railroad Incorporations," approved November 5th, A. D. 1849.

SECTION 2. Said road, with the points herein indicated, is hereby declared to be of sufficient public utility, to justify the taking of private property for the location, construction, and maintenance thereof.

And the company is hereby authorized to take private property for the purpose of constructing and maintaining the same, in the manner prescribed in the act referred to as aforesaid.

SECTION 3. Said company is hereby authorized and empowered to unite and form a junction with the Indiana and Illinois Central railroad company, upon such terms and conditions as the directors shall mutually agree upon. And in the event that said companies shall consolidate, then and in that case, there shall be but thirteen directors on the whole line of road so consolidated, and the number to reside in each state shall be determined as in the case of consolidation.

SECTION 4. This act shall be in force from and after its passage.

It is the intention to effect an immediate consolidation of the two organizations under the name and style of the Indiana and Illinois Central railroad company. To aid and legalize such consolidation the Legislature of Indiana have enacted as follows:

AN ACT to authorize railroad companies to consolidate their stock with the stock of railroad companies in this or in an adjoining State, and to connect their roads with the roads of said companies, and to authorize railroad companies to construct their roads on the routes which they may have heretofore surveyed and located, and to use and occupy the same when completed.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana.* That any railroad company heretofore organized, under the general or special laws of this State, shall have the power to intersect, join, and unite their railroad with any other railroad constructed or in progress of construction in this State, or in any adjoining State, at such point on the State line, or at any other point, as may be mutually agreed upon by said companies; and such railroad companies are authorized to merge and consolidate the stock of the respective companies, making one joint-stock company of the two railroads thus connected, upon such terms as may be by them mutually agreed upon, in accordance with the laws of the adjoining State with whose road or roads connections are thus formed. *Provided,* Their charters authorize said railroads to go to the State line, or to such point of intersection.

SECTION 2. That any railroad company heretofore organized, or which may hereafter be organized under the general or special laws of this State, for the purpose of constructing a railroad from any point within this State to the boundary line thereof, is hereby empowered to extend said railroad into or through any other State or States, under such regulations as may be prescribed by the laws of such State or States, into or through which said road may be so extended, and the rights and privileges of said company over said extension, in the construction and use of said railroad, for the benefit of such company in controlling and applying the assets of such company, shall be the same as if their railroads had been constructed wholly within this State.

SECTION 3. That any railroad company heretofore organized, or which may hereafter be organized, under the general or special laws of this state, and which may have constructed, or commenced the construction of, their road, so as to

meet and connect with any other railroad in an adjoining state, at the boundary line of this state—shall have the power to make such contracts and agreements with any such road constructed in an adjoining state, for the transportation of freight and passengers, or for the use of its said road, as to the board of directors may seem proper.

SECTION 4. No railroad company, incorporated or organized by special charter, or under a general law, shall incur a forfeiture of any of its corporate privileges, by reason of its having heretofore failed to elect directors within the time prescribed by its charter, or said law, or on account of a misnomer of said company in any publication of notice, or for a failure to complete the work within the designated period. But all said companies, so incorporated as aforesaid, shall have full power and lawful authority to construct and complete, within five years herefrom, their roads, over the routes which they may have hitherto respectively surveyed and located; and whenever any railroad company shall have surveyed and located a route for a road, and commenced the construction of the same, they shall have full right and authority to complete said road, and to use and occupy the same: *Provided,* That nothing herein contained shall be construed to extend to any companies under special charters, except such as are now organized, and have actually constructed some portion of said railroad.

SECTION 5. It is *provided, however,* and it is hereby expressly declared, that no railroad company incorporated in this state, the terminus of whose road is at or within two miles of any city or town on the Ohio river, shall consolidate its stock with that of any other company on the opposite side of said river, nor shall run or construct its road along or across the streets of said town or city, without the consent of the corporate authorities of said town or city being, in each case, thereunto obtained; *provided,* that this proviso shall not apply to or affect, in any manner whatsoever, the rights or liabilities of any company constructing any road, whose terminus is a city or town situated within two miles of the line between this state and the state of Ohio.

SECTION 6. Nothing in this act shall be construed to repeal or affect, in any manner whatever, the provisions of an act entitled, "An act supplemental to an act entitled 'An act to provide for the Incorporation of Railroad Companies,'" approved June 18th, 1852.

SECTION 7. Whereas an emergency exists for the passage of this act, the same shall take effect and be in force from and after its passage.

OLIVER B. TORBET,

Speaker of the House of Representatives.

ASHBEL P. WILLARD,

President of the Senate.

Approved February 23, 1853.

JOSEPH A. WRIGHT.

This route cannot be otherwise than a most important one, and will attract a full share of public attention. Dr. Ellis may be seen for a few days at Howard's Hotel, in this city, and will furnish any further information that may be desired.

Southern Enterprise.

The Savannah (Ga.) Republican, speaking of the enterprise of the citizens of that city, says they contributed \$3,000,000 to the Central railroad; \$600,000 to the Southwestern road; \$500,000 to the Augusta and Waynesboro' road; \$50,000 to the Macon and Western road; \$60,000 to the Milledgeville and Eatonton roads, \$100,000 to Opeleika road, endorsed Muscogee railroad bonds for \$75,000; and paid a very large sum towards the state road in the way of taxes. In addition to this they have contributed at least \$450,000 for steamships and steamboats, \$100,000 for a canal connecting the Savannah and Ogeechee rivers, and other considerable sums for their shipping interests. They have built gas works at a cost of over \$100,000, and are now erecting water works which are to cost at least \$250,000. All this has been done, too, since 1836, when her population, white and black did not exceed 7,000, and when but sixteen years only had elapsed after the great fire of 1820, which literally burnt up all her commercial property to the value of many millions.

Lightner's Patent Axle Boxes, FOR RAILROAD CARS.

THE attention of those engaged in building and using Railroad Cars is called to this

Patent Axle Box,

As possessing numerous advantages over all others, among which we enumerate the following:—

- 1st. The original cost is much less.
- 2nd. It saves seventy-five per cent in oil.
- 3rd. No dust can gain access to the journals.
- 4th. It prevents all possibility of "heating."
- 5th. Cars furnished with them run much easier, and require less power to move them.
- 6th. Its construction is simple—not liable to become loose by service, and allows a free inspection of the journals and boxes.
- 7th. The bearings of an eight wheel LOADED car, can be removed from the journals while under the car, and returned in less than half an hour, by ONE man.
- 8th. The trucks and wheels are free from oil and dirt, usually seen on Railroad Cars.

The following Testimonials are submitted:—

This certifies that I have been particular in comparing and testing the Patent boxes of John Lightner, for one year, with the various other boxes in use upon the Old Colony Railroad. I do not hesitate in pronouncing Mr. Lightner's boxes far superior in every respect to any other boxes in use. We find the consumption of oil to be but one quart per month for each eight wheel car; this being the quantity with which they are replenished regularly once a month. The Journal and oil is perfectly secure from dust, and after one year's hard service, the composition boxes or bearings exhibit no apparent wear. I think the bearings will run three times the distance in Lightner's that they will in any other box in use; besides, the cars are not detained from the road for repairs of boxes.

The bearings may be removed from the Journals of an eight wheel car, examined and returned to their places, by one man, occupying but twenty minutes, which would require two men, half a day, with the common boxes in use in New England.

For economy and convenience, Mr. Lightner's patent axle boxes excel any thing which has hitherto been applied to Railway Cars.

Signed,
Supt. Car Building and Repairs Old Colony R. R. Co.

I fully concur in the opinions above expressed, having thoroughly tested the merits of J. Lightner's patent boxes upon tenders of Locomotives of the Old Colony Railroad.

S. M. CUMMINGS,
Supt. Motive Power Old Colony Railroad.

OFFICE OF THE FITCHBURG AND WORCESTER R. R. }
Fitchburg, June 2nd, 1852. }

Mr. JOHN LIGHTNER,

Dear Sir,—Your Patent Axle Box has been in use upon our Railroad during the last year and has given entire satisfaction. We find our Engines and Cars require much less power to move them, than others not furnished with this box, and the saving in oil is very great.

Our freight Cars run upon connecting roads, and are sometimes beyond our control; therefore as a matter of safety, we have the boxes examined once a month, and oiled if necessary, the quantity of oil required is small.

Our Passenger and Baggage Cars, which are in constant use, run nine hundred miles per week. We find it necessary to oil them only once in three months. In one or two instances, they have run more than sixteen thousand miles, without being oiled or sustaining any injury.

Yours Respectfully,
YVES PHILLIPS, President.

This subscriber, begs leave to suggest to all Railroad Corporations (new or old) the importance of an EARLY application of this valuable improvement, to their NEW CARS, WHILE IN PROCESS OF CONSTRUCTION; as thereby much detention of cars, and great expense will be avoided.

Models and Testimony of the above Boxes, may be examined, and arrangements may be made for the light to use the same, with the subscriber.

WM. SHERBURNE,
PRINCIPAL AGENT,
Office, No. 167 Broadway, New York.

March 26, 1853.

HAMMERED CAR,

AND

LOCOMOTIVE AXLES, FROM THE PENCOYD IRON WORKS

THE Subscribers are prepared to manufacture the above of the very BEST materials and with promptness.

Address A. & J. ROBERTS,
Office, No. 80 1-2 Walnut St., Philadelphia.

March 26, 1853.

FOR SALE.

TWO Sixty Horse Power Steam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia, (where they may now be seen.)

Apply to A. & J. ROBERTS,
No. 80 1-2 Walnut Street, Philadelphia.

To Contractors for Masonry.

PROPOSALS will be received by the subscriber, up to April 20th next, for the masonry of four stone bridges, on the Philadelphia and Reading Railroad, as follows, viz:

Falls Bridge—At the Falls of Schuylkill, near Philadelphia, will consist of 6 oblique arches, with square built ribs, of 78 feet span each, crossing the Schuylkill river and navigation, with an elevation of roadway 48 feet above the water. It will contain 10,166 perches of masonry; the piers and abutments must be raised to the springing line during the present season, and the arches turned, and work as nearly as possible finished in the year 1854.

Peacock's Locks bridge—Is located 6 miles above the city of Reading, and will consist of 8 square arches of 63 feet span each, crossing the river Schuylkill, and one oblique arch, with square built ribs of 75 feet span, crossing the Schuylkill navigation. The elevation of roadway is 58 feet above the surface of water in the river. This bridge will contain about 10,651 perches of masonry; its piers and abutments must be raised to the springing line during the present season, and the arches turned, and work as nearly as possible finished in the year 1854.

Black Rock dry arches—Is a structure intended to increase the water way of Black rock bridge, near Phoenixville, and will consist of two square arches, of 50 feet span each, with a roadway elevation of 23 feet above the ground. It will contain about 1450 perches of masonry, and must be finished during the present season.

Fourth crossing bridge—Located near Orwigsburg landing, is intended to replace a wooden bridge recently destroyed by fire, and will consist of 4 square arches, of 46 feet span each, crossing the river Schuylkill, with a roadway elevation of 21 feet above the surface of the water. It will contain about 400 perches of masonry, and must be finished during the present season.

In all the above structures, the work must be carried on so as not to interfere with the trade of the road. The railroad company will prepare the foundations, erect and maintain the centres, furnish the lime, sand and cement, and the cars and motive power necessary to transport the stone on their road. All other expenses connected with the masonry to be borne by the contractors.

Plans and specifications in detail may be seen at this office, where all other necessary explanations will be given to those who wish to bid for the work.

J. DUTTON STEELE.
Engineer's office, P. & R. road,
Pottstown, Pa., March 16, 1853.

Notice to Contractors.

HANNIBAL AND ST. JOSEPH RAILROAD.

SEALED PROPOSALS will be received at the office of the undersigned, in the city of Hannibal, Missouri, until the twentieth day of April, for the graduation, masonry and bridging of 25 miles of said road, extending west from Hannibal.

Proposals will also be received at our office, in the city of St. Joseph, Missouri, until the tenth day of May, for the graduation, masonry and bridging of 25 miles additional, extending east from St. Joseph. The remainder of the line, extending a distance of over 150 miles, will be placed under contract as soon as the same can be prepared by the engineers.

This line embraces some very heavy excavations and embankments, and several large bridges.

Plans, profiles and specifications will be ready at each place one week previous to the letting.

DUFF & LEARNED.
Contractors H. and St. J. RR.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

A Whitney & Son,

PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles.

31st

STEEL.

NAYLOR & CO., MANUFACTURERS OF STEEL,

AT SHEFFIELD, ENGLAND,

HAVE on hand at their principle depots,
No. 99 and 101 John Street, New York,
No. 11 Liberty Square, Boston,
No. 11 Commerce Street, Philadelphia,
A large assortment of CAST, SILEAR, GERMAN BLISTER AND SPRING STEEL, of different qualities adapted to the various purposes for which Steel is used.
March, 26, 1853.

IMPROVED SAFETY FUSE.

THIS superior article, manufactured of the best material, for igniting the charge when blasting, is kept for sale in any quantity by

BRIDGES & BROTHER, 64 COURTLAND STREET, NEW YORK.

R. GROVES & SONS, SHEFFIELD, ENGLAND, Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Blister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maiden-lane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

Notice to Contractors.

Office of Racine, Janesville & Miss. R. R. Co., }
Racine, Wis., March 10, 1853. }

THE Racine, Janesville and Mississippi Railroad Company give notice, that they will on the first day of April next, at their office in the city of Racine, let the Grading, Masonry, Bridging, and Superstructure of that portion of their road, extending from the city of Racine to the village of Beloit, being about sixty-four miles.

Proposals will be received for the whole, or any portion of the above work, from this date until the first day of April next, at 5 o'clock, P. M.

Profiles, Plans and Specifications are now ready for inspection at the Office of the Company, and full particulars may be obtained by parties interested, by calling at the office, or addressing CHAS. L. PRESCOTT, Esq., Chief Engineer, at Racine.

Parties are also referred to
John A. C. Gray, Esq., Director, New York City, and Simeon Draper, Esq., Treasurer of the Company, at N. Y. City.

By order of the Board of Directors.

HENRY S. DURAND, President.

Railroad Iron.

3000 TONS superior quality, delivering from April forward, with 5 to 600 tons per month, for sale by

121st

NAYLOR & CO.,
99 & 101 John st.

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are exclusively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

4t 12

WM. BAILEY LANG.

To Contractors.

PROPOSALS WILL be received to the 23d of April inclusive, at the Engineer offices of the Northwestern Virginia Railroad in Parkersburg, West Union and Clarksburg, for the GRADUATION and MASONRY of about 60 sections, averaging 1 mile each, of the road. The work will be mostly of the lighter kind, but embracing many sections of good size and some bridge masonry and tunnelling. There are 103 sections upon the road, of which upwards of 40 are under contract. The route to and along the line is easy—the Baltimore and Ohio Railroad, the Ohio River, and the Northwestern Turnpike, rendering it very accessible at all points.

Specifications will be distributed from the offices named, and also from Fetterman on the Baltimore and Ohio Railroad, near the east end of the line, on and after the 11th of April. Bidders must be well recommended, and will state what other work they may have in hand.

By order of the President and Directors.

BENJ. H. LATROBE,
Chief Engineer.

Baltimore, March 9th, 1853.

Notice to Contractors.

MISSISSIPPI and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles), and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853 at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUGH, President.

S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

To Contractors.**NIAGARA FALLS HYDRAULIC CANAL.**

SEALED PROPOSALS will be received at the Office of the Niagara Falls Hydraulic Company at Niagara Falls until Wednesday the Sixth day of April next inclusive, for the Excavation, Masonry, Bridging, Gates, Waste-Weir, Bulkheads, Docking, &c.

Plans, Profiles and Specifications may be seen at the Company's Office, at Niagara Falls; also at the Office of the Hon. C. S. Woodhull, No. 59 Fulton street, New York, and Walter Bryant, No. 22 Congress street, Boston, Mass.

The Company will have a steam drilling machine on the work after the fifteenth of March, to which they wish to call the attention of Contractors.

The Company reserve the right to accept or reject any or all of the Proposals as they may consider for the interest of the Company.

E. R. BLACKWELL, Chief Engineer,
m5 3t Buffalo, N. Y.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

Notice to Contractors.

NEW ORLEANS, Jackson and Great Northern Railroad.—Sealed proposals will be received at the office of the company, No. 45 Carondelet street, New Orleans, until the eighth of April next, for the Grading, Masonry and Bridging, of the remaining part of the first division of the New Orleans, Jackson, and Great Northern Railroad, extending from the line of the state of Louisiana to the city of Jackson, Mississippi, a distance of about 95 miles.

The route, generally, is through a high, healthy pine country, which, with the character of the work, renders it worthy the attention of northern contractors.

Satisfactory evidence of ability will be required with proposals.

Plans and profiles will be ready for examination at the Engineer's office in New Orleans, and information regarding the line given by the Assistant Engineers, at Jackson and Gallatin, after the 28th of March.

JAMES CLARKE, Chief Engineer.
New Orleans, Feb. 28, 1853.

CAUTION.**India-rubber Car Springs.**

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA—Awarded by the American Institute to F. M. RAY, for the best India rubber Car Spring. A Gold Medal having been before awarded.

Signed, JAMES TALLMADGE,
President.

N. MEIOS, Recording Sec'y.

ADONIRAM CHANDLER, Cor'g. Sec'y.

New York, Oct., 1851.

New England Car Spring Co., No. 104 Broadway,
New York. 71f.

Hoole, Staniforth & Co.,**MINERVA WORKS,****SHEFFIELD,**

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc.

An assortment of Steel from the above Works constantly on hand by

43 RICHARD MAKIN,
Agent for the Manufacturers,
24 Broadway.

FORGINGS.

AXLES, SHAFING, AND OTHER FORGINGS from the GLENDON FORGES, for sale by

GEORGE GARDNER & CO.,
BOSTON.

March 9, 1853.

Virginia Locomotive and Car Works.

Wolfe Street and River Potomac, Alexandria, Va.
SMITH & PERKINS, Proprietors.

MANUFACTURE

Locomotive Engines and Tenders.
Marine and Stationary Engines and Boilers.
Chilled Car Wheels and Axles.
Patent Chilled and Wrought Slip-tire.
Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

La 106f the Alexandria Iron Works.

THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.
July 22, 1851

To Railroad Contractors.**PACIFIC RAILROAD.**

SEALED Proposals will be received at the office of the Pacific Railroad Company, St. Louis, Missouri, until the first day of April next, for the grading, masonry, bridging and ties for twenty miles, and until the first day of May, for about seventy miles additional, terminating at Jefferson city. This division is mostly in the Missouri valley, and with the facility afforded for transportation on the river, and the ability on the side hill cuts of using a large force advantageously during the best part of the working season, it may be worked promptly and economically. There will be several large bridges on this division. The work will be divided into sections of about five miles, but contractors may take more than one section. Offers received either for cash payments in full, or a portion on the stock of the company. Plans and profiles will be ready for inspection fifteen days before the dates given above, and at any time information will be furnished by the Engineer. Security will be required for the faithful and prompt performance of the work.—The Company reserve to themselves the right to reject such offers as it may not seem to their interest to accept.

Other portions of the road, or of the South West Branch may be put under contract during the season.

THOMAS ALLEN, President
THOS. S. O'SULLIVAN, Engineer.

To Contractors.

SEALED Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1853, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,
THOMAS B. STEVENSON, President.
CHAS. B. CHILDE, Chief Engineer.

JAMES A. LEE, Secretary.

January 20, 1853.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
Sole Manufacturers,
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States. The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 4, 1848.

1v

Pease & Murphy,**FULTON IRON WORKS,**

FOOT of Cherry st., E. R. Office, 27 Corlears, corner of Cherry st. Manufacturers of Land and Marine Engines.

N. B.—Engines and Boilers repaired.

61f

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.

HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York, January 28, 1853.

PATENT

Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be rebored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Malne and Hudson River Railroads, who have the Machines in use.

For sale by

BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

IRON.

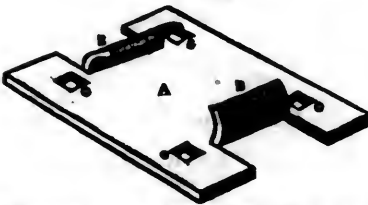
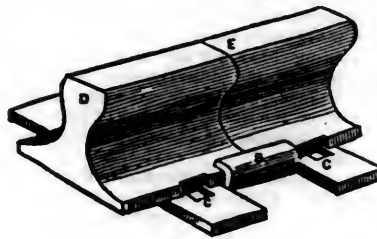
Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

The American Railroad Chair Manufacturing Co.
IN POUGHKEEPSIE, N. Y.,

ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga,
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennbec and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Millwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

To Contractors.



HENDERSON AND NASHVILLE R. R.

SEALED bids addressed to the President of the Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure,

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

In consequence of the inclemency of the season, the high water, and other circumstances, making it in the opinion of the Board of Directors, impossible for our skillful and energetic Chief Engineer, Wm. Bewley, Esq., to execute fully the locating surveys of our Railroad in time for us to exhibit the maps, profiles, plans, estimates, etc., on the 1st day of March, 1853, as stated in our original advertisement, we have determined to make a change in our advertisement, lest Contractors should be deceived, and we now say that the maps, profiles, plans, estimates, etc., of our Railroad, will be ready for exhibition to Contractors at any time between the 10th day of April and the 10th day of May, 1853, within which time bids will be received, and that our original advertisement is thus far changed.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.
Henderson and Nashville R. R. Co.

Wilkinson's
EXPLOSIVE
RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,

64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable. They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF
AMERICAN SECURITIES,

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

39

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK,

Notice to Contractors.

OFFICE N. O., OPELOUSAS & GREAT
WESTERN RAILROAD CO.,
New Orleans, March 5th, 1853.

SEALED PROPOSALS will be received at this office, until the 10th of May next, for the construction of that portion of the road between Bayou Lafourche and Berwick's Bay, a distance of 31 miles; also from Berwick's Bay to Washington, 92 miles, including a branch road of 18 miles. Proposals will be made for the entire completion of the road, (except furnishing iron.)

References of ability, and security, will be required.

Plans and specifications of the work to be seen at this office, after the 10th of April.

JAMES G. GIBBES, Chief Engineer.

Locomotive Engines.

DANFORTH, COOK & CO.,
PATTERSON, N. J.,

HAVING erected an extensive Shop, with the most approved Machinery and Tools, are prepared to execute orders for the various classes of Freight and Passenger Locomotive Engines and Tenders, in the best manner and on the most favorable terms.

Also, Stationary Engines, and the various Tools suitable for furnishing Repair Shops.

The business of Machine making, heretofore carried on by Charles Danforth & Co., is continued by the present firm, and all orders will receive prompt attention.

1y49

BOWLING TIRE BARS.

40 Best Flange Bars 5 1-2x2 inches, 11 feet long.
40 " " 5 1-2x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by

RAYMOND & FULLERTON,
45 Cliff street.

Iron, Steel and Hardware.

H. & J. HOPKINS,

93 & 95 Barclay St.,

NEW YORK,

IMPORTERS OF ENGLISH AND REFINED IRON of the BEST BRANDS, suitable for LOCOMOTIVE and CAR BUILDERS' use.

Also, Cast, Spring and German Steel, of all sizes—together with a full assortment of Hardware—Contractors and Blacksmiths' Tools, Chains, etc., which we offer at the lowest rates.

March 9, 1853.

Alton, Mt. Carmel and New Albany Railroad.

NOTICE is hereby given, that there are no Bonds of this company in circulation, as the books of this company will testify that no bonds have ever been issued or authorized.

And, as all the stock formerly subscribed on the books of this company was, on the 4th and 18th of December, 1852, sold by the sheriff, under executions issuing from the Circuit Court of Edwards county, Illinois, and was by the purchasers at such sales, or by their assignees, surrendered to the present board of directors, on the 29th of January, 1853: All Certificates of Stock bearing date previous to that time are worthless.

It having been reported, that bonds and certificates of stock of this company have been offered for sale or pledge by parties formerly connected with this company, the board have thought it right thus to put the public on their guard.

F. B. THOMPSON,

Pres't. Mt. C. & N. A. R.R. Co.

SAMUEL THOMPSON, M. D.,

Sec'y to the Board.

March 7th, 1853.

1m12

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1853.

A. Whitney & Son,

PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31tf

RAILROAD CAR AND COACH TRIMMINGS.

Doremus & Nixon,

No. 21 PARK PLACE,

AND

18 MURRAY STREET.

IMPORTERS

OF PLAIN AND FIGURED MOHAIR PLUSH;

Printed and Uncut do. do. entirely new designs;

ALSO GERMAN OIL CLOTHS FOR HEAD LININGS,

Enamelled with Gold and Silver and Velvet Printed.

These Headings are the most beautiful ever shown, having been made expressly for American Cars. D. & N. are sole Agents.

ALSO, PATENT PARIS COTTON FELT.

This is a patented article, makes a better and more desirable cushion than hair; retains its elasticity longer, and is free from vermin.

It is being extensively used by Car and Omnibus builders, and is sold at about half the price of curled hair.

ALSO, BROCATELLES and MOQUETTES.

ALSO, CURLED HAIR.

N. B.—We have the Plush and Linings in bond for exportation.

DOREMUS & NIXON.

November, 1852

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

7 per ct.—Buffalo, Corning and New York R. R.	Payable in New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Peoria and Ottawa.	" 1863
6 per ct.—Maysville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington.	" Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Muscoogee Railroad.	" Savannah, 1862
7 per ct.—Huron and Oxford.	" New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa.	" Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.	" Huron, 1861
7 per ct.—City of Newark, O.	" New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock.	" 1866
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855

12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.
Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York R. R. Co.
Stock in the Mansfield and Sandusky R. R. Co.
Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

GLENDON REFINED IRON.

BARS, RODS, BAND IRON, etc., for sale by
GEORGE GARDNER & CO.,
March 9, 1853. Boston, Mass.

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer.

Address "H. W." this office. 3*12

To Railroad Companies, Car Builders, Machinists, etc.

SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shunting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc. 1517*

The Cold Spring Iron Works INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder.

Address HENRY MELLUS, Agent,
Boston, Mass.
or, GEO. W. PRESCOTT, Sup't,
Otis, Mass.

November 12, 1852.

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

Leave Toledo at 9 A. M. and 10 P. M.
Leave Cleveland at 9.20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Railroad, for Chicago and the West.

At Bellevue with trains of Mad River and Lake Erie Road, for Sandusky City, Dayton, Indianapolis, Cincinnati, etc.

At Monroeville with Mansfield and Sandusky City Road, for Sandusky City, Shelby Junction, Columbus, Newark and Zanesville.

At Grafton with Cleveland, Columbus and Cincinnati Road, for Shelby Junction, Columbus and Cincinnati.

At Cleveland with Lake Shore Road, via Dunkirk, for New York and Boston, via Buffalo, for New York and Albany and for Western Road and Boston, with Cleveland and Pittsburg Road for Pittsburg, Wheeling, Philadelphia, Baltimore, & Washington City.

E. B. PHILLIPS, Sup't.
Office T. N. & C. R. R.,
Norwalk, O., Feb. 2 1853.

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,

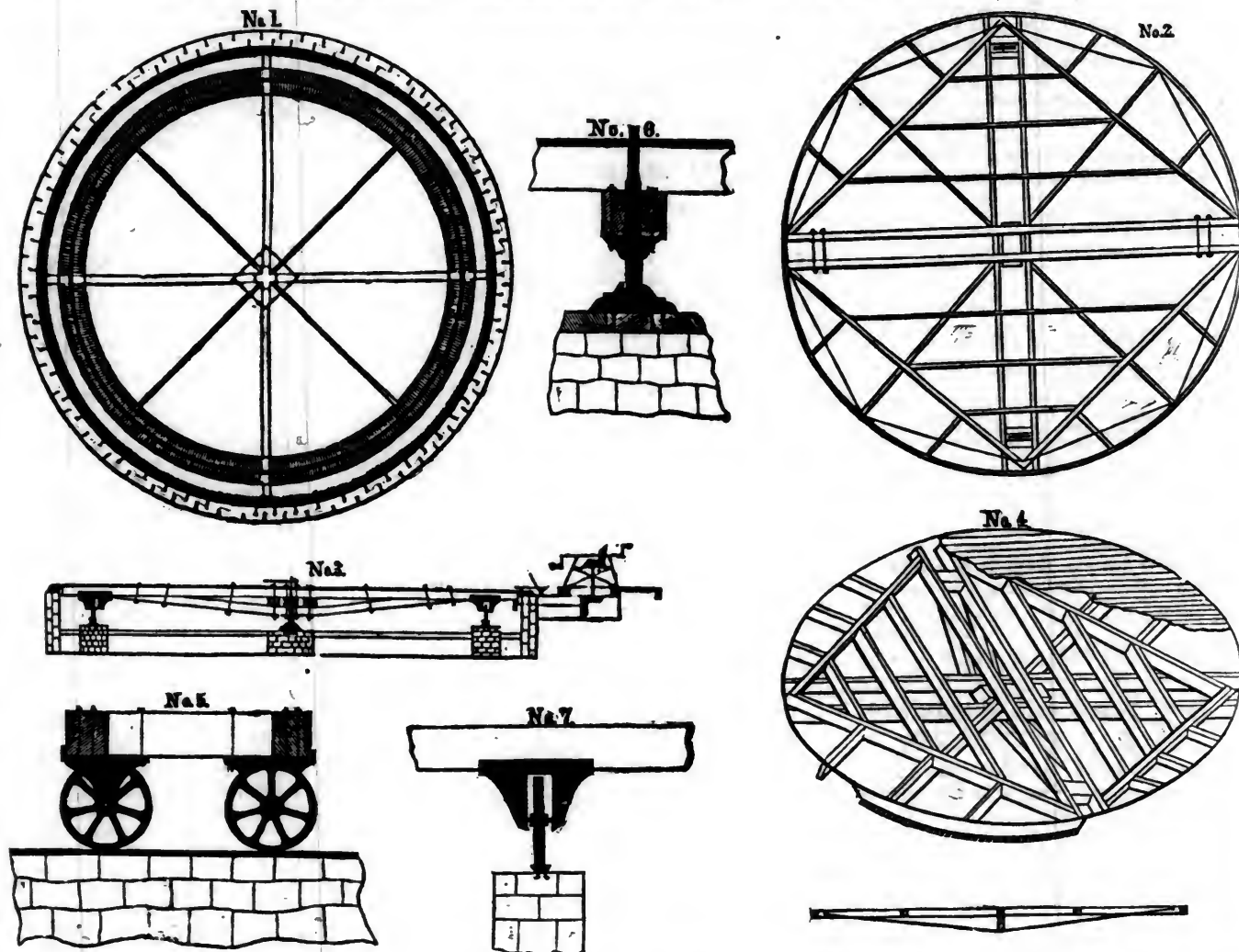
HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE and CAR BUILDERS, AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,
Feb. 16, 1853. 50 Beekman st., N. Y.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in 25 SECONDS.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcass Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent- WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852.

17*

E. DeWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.

Feb 9 1853.

JAS. PRENTICE,
315 Broadway, N. Y.

Railroad Iron.

THE undersigned Agent for the manufacture, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales, or at this port.

For terms, apply to

JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc.

6tf

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,
Sole Agents, 23 Platt st., New York.

New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 14.]

SATURDAY, APRIL 2, 1853.

[WHOLE No. 885, VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, April 2, 1853.

TO THE EDITOR OF THE AM. R. R. JOURNAL.

SIR: The elaborate article in your Journal of the 19th Feb. last, on the present state of the New York and Erie railroad company, has been read with much interest by the stock and bondholders in this country. Since the middle of January, we have been anxiously looking for the annual report, which we expected was issued about the end of December in each year. To find, as we do, from your article, that the yearly financial statement is a matter of uncertainty, that annual meetings of the shareholders are not invariably held, that large financial operations are conducted without being in any way submitted to the proprietors; to see such a gigantic company managed in this manner, has created great astonishment here. We beg to thank you, being much interested in this undertaking, for calling attention to these facts; the more so as we have every reason to believe from our correspondence with the secretary, that there exists on his part (and we doubt not he also represents the feelings of the directors) a desire to afford every proprietor making inquiries, the fullest in-

formation, and we therefore feel persuaded that when it is clearly represented to the board, how important the stockholders consider it to have annual, if not semi-annual meetings (as is usual in England) as nearly as possible on the same day or days in each year, the wishes of the shareholders in this respect will be at once attended to.

The statistics relating to the early history of this undertaking, which you so ably give, show indeed a striking difference between *estimated* and *actual* cost; but we are not unaccustomed in England to very startling discrepancies of the same kind, yet we think it would be quite proper and fair to attribute the difference quite as much to inadequate estimates in the first instance of the cost and necessary equipment of railways, as to the bad or indifferent management of the directors subsequently. But we are not so timid on this account as we used to be, as we find that an increased outlay, though at first sight very objectionable may be the means of introducing us to such a cheerful revenue account as to encourage our further efforts fully to develop the traffic and resources of the road, and this view must the more strongly apply in the United States where the rates of increase in production, commerce and general locomotion, is proceeding so much more rapidly than in the Old Country, and growing to an extent to which we cannot ever attempt to fix a limit; while the outlay on such a line as the Erie may be increasing ten per cent., we may see the traffic increase 30 per cent.

There is one part of your valuable article to which we must venture to make some exception. You say that from January 1851 to September 1852, the earnings were \$5,358,712, and the expenditure on *construction* account \$7,001,205, and thence you infer that instead of a dividend being earned \$1,642,492 has been borrowed to pay the interest and dividends. But surely such an inference is nothing less than a total confusion of revenue and capital. It cannot be reasonable to expect a proprietary to double their track, provide and enlarge stations, and make a large increase of working stock out of their revenue. The free revenue must be fairly applicable to dividends though the construction of works is still in active progress.

Nevertheless, this question of capital ought to be

brought into some sort of shape and compass intelligible to both proprietors and bondholders. Cannot the directors have an estimate made of what more money will be required to finish a double track the entire distance, and all stations and other necessary works, and let this be gradually expended. But at the same time it behoves the proprietors themselves, if they wish the credit of the company to stand high (which will enable them to borrow at low rates) to fix some fair limit to the capital account, and determine that any additional money wanted to provide for still increasing traffic, should be raised by loans re-payable by annual instalments of 10, 15, or 20 per ct., out of revenue. The company would then never be permanently in debt more than a certain fixed amount; its financial position would be thoroughly understood by the shareholders, bondholders, and public at large, and its credit would certainly stand very high to the great ultimate benefit of the proprietors. It is not well to act on the common notion, that the loans of public companies are never to be paid off. So many of the Erie bonds being convertible into shares, it is not at all unlikely that in a few years, with such management as to insure general confidence, many millions of the present debt will be turned into their capital, and so the remaining loan may be reissued at a greatly reduced rate of interest, an advantage which would be still better secured by the establishment of even a very small sinking fund for the gradual redemption of the company's bonds—a measure that would be very popular with the creditors, and most advantageous in the long run to the shareholders. No other measure could inspire so much confidence as this, and it is the more needful to entertain such a suggestion in the case of companies with a borrowed capital greatly in excess of the capital in shares.

We see no reasonable doubt that the directors will have at their disposal a revenue amply sufficient, after discharging the interest on their loans, to enable them to carry our suggestion into effect, without any injustice or even temporary hardship to the stockholders. The traffic already developing, allowing as much as 50 per cent. for working expenses, shows upon the whole capital hitherto expended an average per centage which our English experience of railway development pronoun-

exceedingly encouraging, and yet it is evident that the traffic is quite in its infancy,—notwithstanding which it even yet outstrips all the efforts and all the expenditure bestowed, in the desire to accommodate and keep pace with it. Any English railway showing such results and holding out such prospects would be one of the most popular investments of the country.

The local traffic of the line is of the very best character, and by far the most important source of revenue, not at all liable to be disturbed by competition, but capable of almost unlimited development. The feeders of the road from the north and east, insure an immense revenue. As to through trade both in freight and passengers no doubt there will be in a few years an increase of competition, but in your great country, where the growth of ten years is like the growth of an old-fashioned century, there is room enough for a good many competitors, and experience may probably show that when rivalry for the through traffic has fairly proved its results, and after the more southern, east and west lines have abstracted their own proper shares, the residue then left to the Erie road will realize considerably more than the whole through traffic now under its control.

Your Journal, sir, is much read in England, and is increasing, as it ought to do, its circulation, we therefore have taken the liberty of addressing you on this subject, hoping through you, and perhaps with your aid, to induce the Erie railroad's directors to make such general explanations, and financial statements and arrangements as shall be satisfactory to the large number interested in the property.

We are, sir,

Your obt' servants, HESELTINE & POWELL,
9 FINCH LANE, LONDON, March 11, 1853.

New York and Erie Railroad.

The organ of this company, of the 29th inst., has an article in defence of the directors of this company, which we give entire, both out of justice to the company, and for the satisfaction of our readers.

As one interested in the success of a judicious system of railways in America, I have read with surprise and regret the recent articles upon the New York and Erie railroad, in a journal professing to be friendly to the same system. The direct tendency of such articles, assailing the management of the principal road of the country, is to destroy the credit of others less able to bear the brunt; and they can be justified only by establishing the truth of the charges they contain, and a necessity for immediate exposure. It would appear from the conclusive letter of the president in reply, that neither of these can be done.

These charges are, simply that the road has cost more than the estimates; that the aggregate of the items of cost in the report to the Legislature, and the total liabilities of the company, do not correspond; that the directors have made false exhibits of the road, in regard to the cost, and in regard to the earnings; and that the new loan has been made in bad faith to the holders of convertible bonds.

The road has undoubtedly cost more than the estimates. The first ones were very wide of the mark. Nobody would think now of estimating the cost of a road of 450 miles through such a country, at \$5,000,000. But the present directors are not entirely responsible for these estimates. They took them as they found them. They worked on for five years; and when they had got the road to Binghamton, they made a report, explaining why the road, up to that point, had cost more than the estimates, viz: the great rise

in the price of labor, the unexpected natural obstacles they met with, and also the increased expense resulting from a change of route.

But there were other obstacles not dwelt upon by them, yet well known to have existed, viz: the difficulty of getting money except at heavy rates, and the obligation to pay interest to stockholders. In spite of all these, the directors, by shouldering the work themselves, and by putting their individual names to the paper of the company, (as is well known in Wall street,) carried the road through to that point for \$50,000 a mile—certainly no heavy or injudicious expenditure.

They then made another estimate. They thought they could carry the road to Hornellsville for \$13,000,000. Hornellsville was 120 miles beyond Binghamton, and it would hardly have seemed probable that this could be done. Yet it appears that in March, 1850, the road was opened to Corning, and the 42 miles between there and Hornellsville put under contract, and the iron therefor purchased, and all this for \$14,428,891. All this while the road was earning comparatively nothing, the accumulating interest on debt and stock had to be paid; and it is well known, that the second mortgage bonds were realized during that year at heavy discounts. So that it appears that the road was actually completed to Hornellsville, for not much more than the estimate. The directors said they thought they could complete the road from there to Lake Erie, for \$2,750,000, being a total of \$17,178,891. Whereas, it appears by the report of December, 1851, that it did actually cost, opened to Lake Erie, \$33,580,000—being a difference of \$6,401,000.

This is certainly a large discrepancy, but is easily accounted for without supposing dishonesty in the management. Several causes combined to swell the amount. The income and the convertible bonds were both notoriously negotiated at a loss. The change in a portion of the route; the necessity of working night and day, in order to complete the road in time to discharge the obligation to the State; the heavy expenditures at New York and Dunkirk; the very large increase of running machinery and equipments over the estimates; the fences, engine-houses, barges, steamboats, and ferries; the subscription to the Buffalo and State Line road; and the new expenses for stations, sidings, &c., in the rear, occasioned by the growing prospects of the road; all of which have been given to the public in documents open to all, and satisfactorily account for this increase. The question, after all, is not whether the expense is above the estimate, but whether it has been needless, and beyond what the road will bear.

As to [the latter point, I believe the road will pay interest and dividend on a decidedly larger sum than has yet been put into it; and, as to the former, I believe all conversant with the matter will say, that the directors have built the road with as little cost as possible, considering that it was for a long time unproductive; that they were obliged to negotiate the stock at par, if at all; and that the larger part was consequently built on credit.

In fact, the reports from time to time show that they managed to go on without funds, and to contract a floating debt, varying at times from two millions and a half to three millions of dollars, and then to raise money, pay this off, and go on with the road, which was all the while earning nothing. It is well known that, in order to do this, they often had to stand in the gap themselves; and I think they are entitled to the gratitude of their fellow-citizens, instead of censure.

It is also true, that the aggregate of items of cost returned to the Legislature, and the total liabilities of the road, as per said report, do not tally. But the very disreputable consequences deduced from this fact do not follow. The simple truth is, that the company received a blank asking for certain returns, which they gave according to the blanks; and that the sum total of the items asked for amounted to less than the cost of the road. Like blanks were sent to all the roads. One of the principal roads charged a similar dis-

crepancy as "other expenditures not enumerated above, including interest on stock," and another large road charged it as "property." The Erie did not enter it at all in the return:

Feeling how important a full explanation of all the charges made against the Erie railroad, was to the credit of our roads, both at home and abroad, I called at the office of the company; and, at my request, the officers readily furnished me with the following detailed statement of the items composing said discrepancy:

Amount reported	\$27,551,205 71
Items specified, (amount)	20,828,945 16
Difference	\$6,722,260 55
Made up as follows:	
Office expenses in New York, and various offices on the line, salaries of officers, clerks, etc., since 1845, exclusive of transportation department	171,420 39
Steamboats, barges, etc.	180,911 90
Duane-st. pier	12,878 86
Depot in West-st. and stores, (present value \$200,000)	88,944 51
Dunkirk harbor improvements, including 50 acres of land, (present value \$100,000)	10,560 90
Telegraph	44,696 12
Contingencies	78,700 21
New stock issued to old stockholders on reorganization of the company in 1845	894,500 00
Indebtedness of the old company, assumed by the present company in 1845	467,116 13
Interest on stock and indebtedness of the Co	2,507,123 28
Expenses in negotiating first mortgage bonds	100,371 33
Interest on same to May 1851	678,107 64
Discount on 7 per cent certificates ..	34,857 60
Discount on 2d mortgage bonds	461,074 51
Discount on income bonds	257,539 47
Discount on Convertible bonds of 1871	351,892 70
Discount on Convertible bonds of 1862	381,565 60
Total	\$6,722,260 55

The gentlemen composing this board are so well known in this city that their reputation cannot be injured by the insinuation that they have made false returns. The charge so far as relates to the accounts up to September last rests upon this discrepancy which is fully explained by the above statement.

And as to their acts since, it rests upon the assumption that the cost of the road appears to have increased during the five months \$4,211,769 55, while very little has actually gone into construction—which assumption is incorrect. First, by neglecting to deduct the assets from the floating debt, the cost is swelled in the Railroad Journal, from \$30,277,542, its true amount, to \$31,801,810, thus adding over one million of dollars to the true increase. On the other side it is stated that there are only 17½ miles of new road more than returned in September, whereas it appears that there are 156½ miles of new road more than were returned at that time, viz: 17½ miles of sidings, etc., and 139 miles of double track in progress which were not referred to in the report to the legislature. It was well known that the company have paid very large sums for iron since the 1st of September and are actively engaged in completing the 139 miles of double track.

There has been no bad faith toward the other bondholders in making the new loan, and no impropriety in the manner in which it has been made. The loan was essential for putting the road in a condition to do the traffic pressing upon it. With this money, its business capacity and consequent ability to earn revenue will be greatly increased. If this loan had been effected by convertible bonds, the company would have been forced to negotiate them at a heavy discount, and

the similar bonds of former issues would have been seriously depressed. As it is the convertible bonds hold their own both in this and the London market and the company negotiate the new loan at a greater advantage.

Any one may satisfy himself on the injustice of these charges by taking the trouble to examine them. The Erie road has cost a great deal of money, but is a very large work. It has not cost more per mile than some other works of corresponding connections and difficulties (the Western railroad of Massachusetts, for instance), and not as much as some others of less difficulties.

It has been constructed with surpassing economy, considering the pecuniary difficulties that have surrounded it in past history. The men who have done this are ill repaid when charged with dishonesty and incapacity.

A FRIEND TO THE ERIE R. R.,
THOUGH NOT A STOCKHOLDER.

We should like to know the journal that is friendly to our railroad system, if the *Railroad Journal* is not. It has been the organ, and has received the liberal support of this interest for 20 years, and, we flatter ourselves, has contributed not a little to its present prosperous condition, and the high consideration it enjoys both at home and abroad. We think we do a much greater service to this interest, by fully exposing, than concealing, improper or unfaithful management. In the case before us, we commented only upon data furnished by the company's reports. Whether they called for comment, or whether our comments have been made in proper spirit, those who read can judge. We cannot believe, however, that the force of our arguments, based upon insufficient reasons, can undermine the railroad system of this country. If it suffers, it is because there is inherent weakness in it. But the "system" has not suffered. It is in a sound condition. The management of the Erie road has been *sui generis*. It represents nothing but itself. It stands alone. Were the case otherwise, the duty of *aminadverting* upon a line of conduct, which we believe to be radically wrong, and which, if persisted in, could have no other result than the ruin of the whole railroad system, would be measurably increased. As far as this road is concerned, we have made, what are termed our charges, good. But we have made no charges, we have only pointed out certain discrepancies in the company's reports, and endeavored to explain and reconcile them with the facts.

(2) Well: have not the estimates been exceeded, and has there been any attempts to show that the estimates were in fact wrong. Gor aught appears they were correct. No satisfactory explanation is given for the excess of cost. We know nothing about the cost of the road. This is what we have been trying to come at. The company's report does not help us. Assuming the correctness of these reports, dividends have not been declared from earnings. The question of bad faith in the creation of the new mortgage is not altered by our opinion. We certainly may express our opinion without offence to any one.

(3) When the road reached Binghamton, its cost was stated at \$50,000 p. mile. Beyond this point to lake Erie, 240 miles, the directors stated that the cost would not be more than *one-half* this sum. The road has now cost \$60,000 per mile!

(4) But did \$6,401,000 complete the road. Have not \$7,720,810 since been added to its cost? Why explain the smaller discrepancy, and leave the greater untouched?

(5) Would it not be well to give the cost of the items that contribute so much to increase the aggregate cost of the road; we have had a plenty of general statements. Let us have *particulars*.

(6) The directors upon estimates properly prepared, have stated that the road could be built for a certain sum. The estimates have been exceeded, but it does not yet appear that they were at all incorrect; we mean those of 1849. If the directors had not exceeded the sum for which the road could have been built, say \$16,000,000, they would have of course saved themselves a good deal of trouble, and the company a great deal of money. It is certainly a very curious defence to offer as vouchers, the losses sustained in negotiating loans, which would not have been needed, under a prudent and economical administration!

(7) The statement given purports to have been copied from the balance sheet of the company. Let us see.

The report to the legislature, of September 30, 1850, showed a discrepancy between the construction account and the aggregate cost, of \$6,871,081.66. Assuming this account to have been correct, as it has the sanction of the *oath* of the treasurer, then the present explanation, which is given without any such sanction, must be incorrect. The latter must have embraced items to the amount of more than \$2,500,000, which could have made no part of the excess, by the statement of 1850. The road was opened in 1851. Till it was opened the interest of the bonds was paid from *capital*. It is admitted that the dividends of Jan. 1, and July 1, 1851, were so paid.

The first convertibles were also negotiated subsequent to Jan. 1851.

The following sums therefore make up a portion of the discrepancy now sought to be explained, which could not have entered in that of 1850, viz:

One years interest on first mortgage bonds.	210,000
" " " 2nd " "	280,000
" " " Income " "	245,000
1½ " " " 1st convertibles " "	122,500
" " " div. on stock.....	348,115
Discount on 1st convertibles.....	381,892
" " 2d " "	351,565
Telegraph.....	44,696
Depot in West street.....	88,944
* Estimated interest on floating debt ½ years.....	500,000
Estimated increase on other items in the above table.....	100,000

\$2,672,712

Was the report of 1852 correct? If so, what items then made up the aggregate of excess assumed, over actual cost? It will be seen, however, that this excess is greater for 1850, than 1852, by the sum of \$148,821 11. Will the company reconcile these statements. Both certainly cannot be true. From a careful examination of the whole matter, we are satisfied that the *former* is the correct one. The excess in the statement of 1852 should have been some \$2,500,000 greater than that of 1850, as we shall prove. The balance sheet offered above is not a correct, but forced one.

But before we proceed to elucidate the point just made, we would state that the directors

* As the company have on an average carried a floating debt of from two to three thousand dollars, and have paid, as is well known, exorbitant rates of interest, the above estimate is undoubtedly much below the fact.

charge themselves with the *old* indebtedness, and the *old* stock, issued previous to the time that they came into the road, but do not charge themselves with what these sums accomplished; or in other words, they only charge themselves with what they have received. The previous expenditures built the road from Piermont to Middletown at a cost of \$2,500,000. From the manner in which this division of the road was built, it is very probable that the work done could not be classified in the manner now required by law, and consequently is not embraced in the items that now represent the graduation, superstructure, etc., etc. A different construction would naturally be put upon their reports to the legislature. The statement of "total cost of the road, embracing cost previous to present organization," may however be satisfactorily explained, by referring it to the *capital* instead of the construction account.

It will be at once seen that the items of cost not properly chargeable to construction account, must have increased very rapidly from 1850 to 1852, from the number of loans negotiated, and the sums paid for interest and dividends.

We have said that the excess of the capital account over the actual cost of the road in 1852 should have been greater than in 1850 by some \$2,500,000. We will now demonstrate the correctness of this assertion.

The Erie railroad was opened to Lake Erie in May, 1851. The graduation of the road must at that time have been nearly, if not quite completed. From September, 1851, to September, 1852, the increased cost for graduation, masonry, bridging and superstructure, including iron, was:

For graduation, etc. \$1,272,788 54
" superstructure..... 559,818 50

Total..... 1,832,607 04

As the road had been opened long before the first date, by far the larger part of the amount charged for graduation and masonry must have been on account of the *double track*. The increased sum charged for *superstructure*, must have been for *iron*; and was sufficient, at \$55 per ton, to purchase 10,000 tons.

The whole number of miles of sidings constructed from September 1, 1851, to March 1, 1853, were 39½; double track in operation and progress, 139 miles; making an aggregate of 178½ miles, which would require about 18,000 tons of iron, which at \$55 per ton, would be \$990,000, or, in round numbers, \$1,000,000.

As the iron required for repairs was charged in the running account, it appears that more than one half of the iron for the double track and sidings must have been purchased on or before September 30, 1852.

Allowing the grading for the sidings and double track to have cost \$10,000 per mile, which is an exorbitant estimate, or \$1,785,000 in the aggregate, more than two thirds of the whole would appear to have been completed by the 30th of September last. At that time, the amount necessary to complete the double track and the additional sidings would be as follows:

For iron..... \$500,000 00
For graduation..... 512,211 46

1,012,211 46

For track laying, etc..... 200,000 00

1,212,211 46

The sum of \$1,212,201 46, then, was required on the first day of September, to *complete* the double track, we estimate that \$250,000 will be yet required for that purpose, showing the sum expended between the 30th of September and the 1st of March last, has been \$962,211 46.

The capital amount on the 1st of March is stated by Mr. Loder at \$31,301,810 18, an increase since September 30, 1852, of \$4,211,769 55. The assets are stated at \$1,024,267 82; this deducted from the above, shows the total cost of the road to have been \$30,277,542 36.

There has probably been none, or only a very slight increase, in the value of the assets since September last. We can see no reason for such increase. The stock in the Buffalo and State line road was taken some years before; the steamboats had been purchased. The amount due from agents was probably the same at both dates. So with the cash on hand. We presume that the actual increase in the value of the assets between the periods named, could not have been \$100,000. We will, however, to be on the safe side, estimate it at \$200,000, which must *exceed* the fact. Deducting this sum, and the \$922,114, from the increase of \$4,211,769 55, in the capital account, and we have an increase of \$3,089,655 55! *which was not needed for any object of expenditure, and could not have gone into construction within the above dates. The sum, or a very large portion of it, must have existed in the shape of a floating debt on the 30th of September, and was not reported to the legislature. The actual excess, therefore, of the aggregate cost of the road, over the items of construction as returned to the legislature, was nearly 10,000,000 of dollars, instead of 6,722,260 55! The only way to explain this matter, is to admit the fact. If it be admitted, what becomes of the balance so speciously got up, but so easily disproved?*

By reference to the *other* items that make up the construction, it will be seen that there has been no increase in them sufficient to absorb any considerable portion of the above sum.

In the above sum, we have supposed the iron for the total increase of siding and double track to have been *paid for*. We have also taken Mr. Loder's last estimate of the cost of grading the double track, \$10,000 per mile. We have allowed the same sum per mile for grading of *sidings*, when it is notorious that the graduation of these could not have cost one half this amount. We have, in fact, endeavored to allow for every item of increased expenditure. But after all, we have \$3,000,000 increase of capital account since September, which can be placed to no items of construction account whatever.

The truth is, the floating debt of the company has been much greater than represented to the legislature. Its amount was carefully concealed, till its magnitude rendered further concealment impossible. The truth now bursts forth, like a long-suppressed volcano, whose eruption is all the more terrible from the long confinement to which it has been subjected.

(8) We do not discuss the question of the respectability of the directors, nor attempt to decide the points at issue by such test. We do not call private characters, only the *public* acts, into the controversy.

(9) The question raised in this paragraph is already sufficiently discussed.

(10) As already stated, the propriety of giving the new loan a preference over their *unsecured* ones, previously negotiated, is a matter of *opinion*. It is true, however, that at the time of making these loans, it was explicitly stated by the company, that the *present* sum sought to be borrowed, was all that would be wanted to *complete* the road, and it is notorious that the loans represented by the *convertible* and *income* bonds, could not have been negotiated, had there been the slightest suspicion that they would prove inadequate for this purpose, or that a preference in security would have been given to the subsequent loan.

In conclusion, we hope the Erie company will make no further statements unless they will make a better one, and one that will meet the case. All that has been stated has only involved the public still further in doubt as to the real situation of the company's affairs. In our replies we can do but little to show the *incorrectness* of the company's statement. We want to do more than this, we want to make some progress in an opposite direction, we want to be going *toward* the light. Will the directors help us?

New Orleans Enterprise.

A very short time since, less than a year, this would have been a misnomer, and the use of the expression would have been bitter and cruel irony. But we may now speak confidently and truthfully of New Orleans enterprise and Southern energy, and entertain well-founded hopes that, in our day and generation, we may enjoy the fruition of the benefits of at least two noble schemes, which the enterprising spirit of a few of our worthy citizens have originated, and which are in a state of encouraging progress. The dawn is breaking upon us, as the precursor of a glorious, bright and life-giving day. We are opening communications with the heart of the most fertile and productive country on this fair earth. Nature has been munificent in the bestowal of her gifts upon us, and we have but to help ourselves, to reach out our iron arms, and catch the golden fruit that so invitingly and pressingly is offered to us. A disposition is plainly manifested by our people to help themselves—to pluck the fruit that is within their reach—to take the goods the gods provide. Henceforth we are free, active agents—no longer the stolid, listless and bigoted votaries of old and effete systems.

Happily we have not delayed too long—there is time yet for the fruits of repentance and amendment, and our moral, social and commercial (would that we could include our political!) redemption is an inevitable destiny.

A word or two upon the condition and progress of the two great enterprises which are to accomplish this great work of our regeneration will bring conviction to the most skeptical and stubborn judgment. We have before chronicled in detail the acts and doings of the Directors of the "New Orleans, Opelousas and Great Western Railroad." They have not been lacking in spirit or energy. The first division of road, eighty-two miles to Berwick's Bay, has been located, and the location of the second, or Prairie division, to Washington, ninety-six miles was to be completed and ready for contract about the first of March, as it doubtless was. Of the first division, the clearing and grading of the first fifty miles is under contract, twenty miles of which is completed and ready for the superstructure, and the remainder in course of completion. Contracts have been made for locomotives and cars, and for four thousand tons of iron, sufficient for forty miles of road. And hopes are entertained that the entire line of road embraced in the first division, to Berwick's Bay, will be completed and in operation within the next twelve months.

The prospects of the "Great Northern Railroad" are equally encouraging, as may be gathered from the following memoranda of the work done and in progress:

Eighty-seven miles running from this city to the State line, and 23 miles from Jackson to Can-

ton, are now under contract, and upwards of 1400 hands employed. The sections between the State line and Jackson, of 95 miles, will be ready for letting about the 10th of April—making in all 205 miles of this great enterprise that will then be in progress of construction.

Iron has been purchased for laying a track of 100 miles, and if the contractors comply with the conditions of their contracts, the first 87 miles of the road will be finished, and the cars commence running within a year.

It is the intention of the directors to complete the road to Canton within two years, and if possible to the Tennessee River, in three years. When it reaches the Tennessee River, it will connect with the Memphis and Charleston road, which will open by the way of Chattanooga, Knoxville and Virginia, a continuous railroad line from New Orleans to the Bay of the Chesapeake, and enable the passenger to travel from New Orleans to New York in less than three days.

The apprehended difficulties of crossing the swamp and prairie lands between this city and high lands, are rapidly disappearing, and it is found that the substitution of "crib work" instead of piling answers every expectation, and while it insures a more complete road bed, is much less expensive.

The total cost of the construction of the 87 miles between the city and State line, including the bridges crossing the passes of Manchac, will not exceed two millions of dollars, and even this sum is considerably in excess of the sum to be paid on the present contracts.

With these facts before us, are we not justified in pronouncing our day of deliverance to be at hand. New Orleans, which two years since had not made a start towards the improvements recently commenced, will have actually under way between now and the 1st of May near 400 miles of railroad, viz: 205 of the Great Northern, and 183 of the Opelousas and Great Western. This should be received as a signal proof that we have fairly commenced the race of progress and distinction.

The estimates that have been made by competent judges of the cost of these two great works, must strike every one in a most favorable aspect. Compared with the cost of roads in different parts of the Union—the estimates are exceedingly moderate, and we have no reason to believe that the cost has been under estimated: in fact, the contrary appears from the progress so far made. In the physical features of the country, there is no comparison to be made between the routes of these two roads and the roads, we were going to say, in any other State or country. The obstructions presented on our lines are those incident to all low and flat districts—occasional swamps, marshy prairies and shallow bayous—all of which are easily surmounted: we have no hills to lay low, no valleys to fill up, no mountains to tunnel, no heavy masonry to confine large and rapid streams—a plain flat surface presents to the eye of the Engineer successive sections which nature herself has graded and prepared for the superstructure, and the progress of the iron horse.

Noble as our projects are, if we contrast them with the great roads in other parts of the country, which have been constructed in the face of the most difficult obstacles, and most enormous expense, we cannot but admire, while wondering at our past supineness and lethargy, the stupendous enterprise, the indomitable energy and the liberal public spirit displayed by those who have accomplished such great achievements. In New England, particularly in Massachusetts, every mile almost of which is either up hill or down dale, the rail costs \$50,000 per mile. The Erie road, with its branches, is 464 miles long, and cost over \$59,000 per mile. The Baltimore and Ohio road has 12 tunnels, having an aggregate length of 10,500 feet; one hundred and fourteen bridges, and more than thirty-three miles have grades of over one hundred feet to the mile. It was built at a cost of over \$44,000 per mile, or a little more than \$17,000,000 for the entire length of 380 miles. Contrasting these enormous outlays with the moderate sums required for the construction of our Jackson and Opelousas roads, we have an earnest appeal made to our *amour propre* and a powerful stimulant to urge us on without faltering. Where others

have triumphed with the formidable and stupendous barriers of mountains and rivers to arrest their course, we cannot but succeed, when we have nature herself to make our levels, and lay out for us the line of routes.—*New Orleans Bulletin.*

Georgia Internal Improvements.

We copy the following extract from a letter written from southwestern Georgia, paying a deserved compliment to the enterprise and good management which has characterized all the efforts of that state in favor of internal improvements.

Great confidence seems to be felt in whatever Georgia lays her hand to. I have often heard it wondered how the citizens of Georgia had succeeded so in building railroads, keeping out of debt, and making their roads pay well.

Great caution and prudence were observed in requiring a good, liberal, bona fide subscription before starting, rather than relying on "financiering," or selling bonds of the company at a ruinous discount; and then the most watchful expenditure of the money: this characterized the early beginning and progress of Georgia railroads.

Such things are not, perhaps, generally looked for "down south," but it has been true of the past, and a contrary practice even now, with the Californian and Australian mines showering gold, would be one more honored in the breach than the observance.

The first great private enterprise, the building of the Central road, 190 miles long, was commenced in 1834, when the times were hard and money scarce. At the time of its completion, it was the longest single road in the United States. It has been a sort of model or example for others. The personnel of this road had much to do with its success. As exhibiting this, and showing with what caution and economy they proceeded. I may state that William W. Gordon, Esq., a distinguished member of the Savannah bar, at the time a member of the state senate, possessing largely the public confidence, a most practical, thorough-going man, was elected president. Mr. Gordon applied to a gentleman, of high reputation at the north as civil engineer to survey and locate the road. His salary, I think, was to be \$6,000 a year. He came, and very unexpectedly brought with him some twenty assistant engineers. Harnessing six mules to a carriage, with his champagne baskets up behind, he proceeded to place some half dozen corps in the field. The cautious and astute president looked on in utter consternation, and finally said to him, "Sir, you have mistaken us entirely; we are poor, we look to our subscribers through the country to do the grading, or to contribute the means for it as they may be able, while we hope to raise as much money from the citizens of Savannah, as will enable us to buy the iron and erect the superstructure; but we cannot afford the expense of your numerous corps of engineers for a single year." The result was that they were paid off the matter satisfactorily arranged, and they left the work.

Among the assistant engineers was F. P. Holcomb, a young man barely at majority, but with considerable experience, and who had attracted the attention of Mr. Gordon and Mr. L. O. Reynolds, (the latter now the able and efficient president of the Southwestern road.) It was arranged that Mr. Reynolds should take the chiefship, and he gave to Mr. Holcomb the location of the road.

Upwards of four years were occupied by him with his single small corps in this survey, the road passing through a country of difficult topography, a great part of it a wilderness, and intersected by immense swamps, the corps living in their tents summer and winter, sleeping in their blankets in the absence of mattresses, and the annual expense of the whole engaged, probably not equalling the salary of the former chief engineer.

I may remark, as showing the good judgment of Messrs. Gordon and Reynolds, that from the admirable location Mr. Holcomb was universally conceded to have made of this road, he was recommended by the Chevalier Bodisco, the Russian minister, to his government, as an engineer of high capacity and established reputation. Mr. H. did not go to Russia, but has since located the South-

western, the Columbus branch, the Waynesboro' and Augusta, and is now engaged with his corps in a preliminary survey of the Savannah and Pensacola road. These roads all have connection with the Central; in most of them it is directly interested. Their length, when completed, including the Central, will be some 790 miles.

Among the early employees of the Central railroad, in a very subordinate capacity, was W. M. Wadley, whose talents and great business energies were discovered, and who became superintendent of the road, managing it and its great freight business, with an efficiency and success unsurpassed. He is now managing the state roads, under an executive appointment from Gov. Cobb; the poor mechanic boy may now be said to be the "Railroad King" of Georgia. He is the same gentleman to whom your citizen, G. B. Lamar, Esq., recently addressed a letter through the public press, as the prominent internal improvement man of this state, on the subject of the caloric engine.

Mr. Gordon—who died before the completion of this road, and to whose memory Savannah should erect a statue, since he started her for a growth and commercial importance that will be unrivalled in the south—was succeeded by R. R. Cutler, Esq., who, to fine financial talents, joins that industry, order, care, and attention to business so necessary in a good executive officer. The annual receipts of the road, under his administration, have reached one million of dollars; the stockholders are receiving eight per cent. dividend with a handsome surplus on hand—the stock being above par, the road out of debt, and its receipts annually increasing. The system of check and accountability is the most perfect I have ever seen full reports in writing being required of each conductor, of every day's operations.

So much for the personnel. And I have dwelt the more upon this, because it has, probably, generally as much to do with the success of railroad enterprises, as the character and capacity of the general and officers of an army, have to do with the success of military campaigns.

The Savannah and Pensacola road starts under favorable auspices. Dr. Screven, a man of large wealth, a citizen of Savannah, is devoting his fortune to the great enterprise; and he is strongly co-operated with by the merchants and others of Savannah, and a large amount of stock has already been subscribed. But the immediate destination should be Pensacola. Then, while greatly benefiting Georgia and Florida, it will partake, in the objects it will accomplish, of that national character that will make it one of interest to the whole country.

Trade of the Erie Canal and the leading New York Railroads compared.

The following interesting comparison between the business of the Erie canal and the leading lines of railroad in this state, was furnished by the State Engineer, Mr. McAlpine, to the *Albany Argus*.

The tonnage of the Erie canal, from 1848 to 1851 inclusive, was over 12 millions, and of the central line of railroads, during the same period, was less than four hundred thousand tons. The proportion between the canal and railroad tonnage in 1848, was fifty to one, and in 1852 was twenty-four to one.

During these years, the state charged the same tolls on freight transported on the railroads, as that which was carried on the canals.

In 1852 the canal tonnage was 3,863,441, and the railroad tonnage was 300,000*—or as 13 to 1. The amount which was delivered at the Hudson river by the Erie canal was 1,644,699 tons, and by railroad was 140,401 tons, or as 12 to 1.

The average distance of the movement of the freight on the Erie canal, was 183 miles, while that on the railroad was only 52 miles.

* The annual reports of the railroad companies for 1852 do not show the amount of tonnage on the central line, taken as an entire road. The aggregate amounts reported by each company show that the whole tonnage in 1852 was nearly double that of 1851, and the movement a little more than double.

Of the tonnage arriving at tide water, over eleven hundred thousand tons was from western states, all of which was through freight; while the through freight on the railroad from Buffalo to Albany was less than twenty thousand tons, or as 60 to 1.

The whole quantity of freight carried from intermediate places, to and from Buffalo and Albany, by railroad, was 114,512 tons; and from Albany and the intermediate places to Buffalo, was 47,666 tons, making a total of 162,178 tons.

The through freight between Buffalo and Albany was 18,144 tons passing eastward, and 13,143 tons passing westward, making a total of 31,287 tons of through freight, which is only about one tenth of the whole freight carried.

There was also a large movement between the intermediate places.

The tonnage of the Rochester and Syracuse railroad is much greater than any other railroad on the central line, while the average distance of the movement of the freight upon it is less than on the Utica and Schenectady road, which is one-third shorter.

This road does not run near the line of the canal, but terminates at each end upon it; and hence it becomes an important feeder to the Erie canal.

The proportion between the whole tonnage of each of the central line of railroads, and that portion of the tonnage which is sent to and received at Lake Erie and the Hudson river, is as follows:

Buffalo and Rochester railroad	- - -	3 to 1
Rochester and Syracuse railroad	- - -	6 to 1
Syracuse and Utica railroad	- - -	5 to 1
Utica and Schenectady railroad	- - -	5 to 1

Showing that five sixths of the whole tonnage of these roads is local, from place to place, on the roads.

One third of the whole tonnage is the product of animals (live stock, butter, cheese and wool,) which the canals could not transport without loss to the owner.

The New York and Erie railroad has transported in 1852, 456,460 tons of freight, an average distance of 212 miles. Of this quantity, only 46,847 tons (or one tenth) was through freight.

The quantity of freight shipped from tide water, and from Lake Erie, was 72,037 tons; and of that delivered at the termini of the road, was 173,898 tons; which leaves an amount of over 200,000 tons, nearly one half of which was transported between the intermediate places on the road.

Of the through freight carried eastward, amounting to 28,457 tons, 18,658 tons was the product of animals (live cattle, milk, fresh meats and butter,) and 7,150 tons was vegetable food. Of that passing westward, amounting to 18,390 tons, 14,034 tons was merchandise, and 2,515 tons was manufactured articles.

Of the whole quantity shipped at Dunkirk, amounting to 47,555 tons, one half was the product of animals, and nearly one half was vegetable food, nearly the whole of the former, and but one third of the latter, passed through the whole length of the road.

Of the whole quantity which was delivered at tide water, amounting to 140,833 tons, nearly one half was the product of animals; one fifth was the product of forests; one sixth was vegetable food, (the most of which was shipped from the way stations;) and one eighth was manufactures.

Two thirds of the whole quantity which was delivered at Lake Erie, amounting to 33,065 tons, was merchandise and manufactures; the chief part of the latter was shipped from way stations.

It must be recollected, that the freight on the canal is transported in seven months, while that on the railroads is carried during the whole twelve, and more than half of it during the months that the canal is closed.

The average value of all the articles which were transported on all the canals from 1848 to 1851, was \$48 68 per ton; and of those transported on the central line of railroads for the same period, was \$227 41 per ton.

From the above remarks it appears, that the

central and southern lines of railroad in this state have diverted but a small amount of freight from the canals, and that, in most instances, such freight either could not be carried on the canal, or if so carried, would be liable to great loss of weight, quality, or value, while undergoing transportation.

Finances of St. Louis.

The city auditor and treasurer of St. Louis have made their annual reports of the city finances and expenditures, from which we learn that the debt of the city on March 1, 1853, was \$2,394,996. Of this debt \$1,568,000 has been incurred since May, 1850. The valuation lately made of the city property shows a large surplus over the city indebtedness. It stands thus:

Sundry city lots.....	\$759,999 16	
Common, 591 19, 100 acres.....	581,391 00	
Wharf, from Cherry to Plum.....	500,000 00	
Water Works.....	500,000 00	
Wharf south of Plum and north of Cherry, Quarantine island, and other lands, granted to city by legislature.....	600,000 00	
Stock in railroad corporations.....	500,000 00	
Gas light stock at par.....	10,000 00	

Total.....\$3,451,390 16

Amount of the bonded debt on the 10th of April, 1852, close of the fiscal year 1851.....	\$1,736,096 00	\$107,653 76
1852. Bonds paid during the year—April 18th, one harbor bond.....	\$1,000 00	
6 per cent. interest.....	\$60 00	
June 1, 50		
Tho's bonds.....	\$10,000 00	
7 per cent. interest.....	3,500 00	
Dec. 1, 29		
Tho's bonds.....	29,000 00	
7 per cent. interest.....	2,030 00	
Deduct bonds paid.....	80,000 00	5,590 00

Balance.....	\$4,656,096 00	\$102,063 76
To which add bonds issued during fiscal year 1852—		
100 for harbor imp.....	\$100,000 00	
90 for extension of the new water works.....	90,000 00	
40 for Old Limits imp.....	40,000 00	
20 for wharf imp.....	20,000 00	
70 for general sewers.....	70,000 00	
38 for dist. sewers.....	38,000 00	
28 for city stores in block No. 7.....	26,000 00	
54 to pay bonds in Phil's.....	54,000 00	
50 to pay balances.....	50,000 00	
150 P. R. R. stock.....	150,000 00	
100 O. and M. do. do.....	100,000 00	
738, all at six per cent interest.....	738,000 00	44,280 00

Total bond debt as before detailed.....\$2,394,096 00 \$146,343 76

Increase, deducting \$80,000 paid.....\$658,000 00
The rate of interest on the bonded debt is as follows:

\$73,700 at 10 per cent.....	\$7,370 00
2,295,396 at 6 per cent.....	137,723 76
25,000 at 5 per cent.....	1,250 00
\$2,394,096	\$146,243 76

Railroads in New Jersey.

The New Jersey Legislature.—The prominent subject of legislation, at the session of the legislature just closed, has been in relation to works of Internal Improvements. There have been twenty-four acts and resolutions in reference to railroads; and about as many more relative to Plank Roads and Turnpikes. We propose delineating briefly the policy which appears to be designed, and sanctioned towards the works in which this part of the state is most interested.

The N. J. railroad company were granted early in the session, by an unanimous vote, a supplement, authorising an increase in their capital to \$500,000, with the privilege of multiplying their number of tracks, enlarging their road and bridges, straightening and widening Bergen cut, extending their accommodations for ferriage, and furnishing ample facilities at Jersey city and on their route, for the increasing business of their own road, and the several roads connected, and to be connected with the New Jersey railroad. The provisions are sufficiently comprehensive for the most extended improvements, and the company are farther authorised to expend any portion of their surplus earnings in increasing the facilities of the road, and to apportion to the stockholders an amount of additional stock equal to such expenditure. These general powers, with the authority to construct a bridge, north of the present Turnpike bridge in Newark, conferred by the supplement to the Bloomfield railroad, (which, like the supplement to the Belleville railroad, makes the authority to construct the bridge depend on the previous consent of the proprietors of the bridges over the Passaic and Hackensack,) indicated the purpose of the legislature to protect the N. Jersey railroad in the enjoyment of their route, with the requirement that ample and complete railroad facilities shall be furnished by them for the communication between Newark and New York.

The powers conferred by the Bloomfield supplement and the act to perfect the junction of the Morris and Essex and the New Jersey railroads, secure to the North Ward, Orange, Bloomfield, Belleville and the Northern part of the State, a direct communication by steam, instead of horse power, to the city of New York; and the Morris and Essex railroad, as well as the Bloomfield and Belleville roads, when constructed and extended, will have a perfect and uninterrupted line of locomotive travel,—thus securing to the northern counties, either to the N. Y. State line northerly, or to the Delaware river westwardly, a complete communication to and from the great commercial emporium.

The charter of the Newark and Springfield railroad, authorises a road from the south part of Newark (with the right to branch roads to Newark bay or the Passaic river), and from thence to any points in the townships of Springfield and New Providence, thus providing for a connection by this route, of the Morris and Essex and New Jersey railroads, which by many is deemed preferable for the great through business to the Delaware river and westward.

The railroad from New Brunswick to Millstone, and thus by branches authorised to the westerly points of Somerset county, connects with the New Jersey railroad at New Brunswick, and is to be built to Millstone, and from thence may be extended to any points in the townships of Bridge-water or Hillsborough in Somerset county, which enables a road to be made to the Central railroad, in a northwesterly route, and nearly to the Flemington railroad in a westerly route.

The Morris and Essex railroad company will re-

ceive benefits by the legislation of the late session, through branches and tributary roads. The supplement to the Sussex Mine railroad, contains liberal provisions for branch roads in Sussex county, and as the Morris and Essex company have already located their road to the Delaware at the Water Gap, the construction of the Sussex Mine railroad and branches, (to be connected by contract with the Morris and Essex railroad at Waterloo), and the benefits which will be derived from the Sussex and Warren, and the Belvidere and Water Gap railroads, will increase considerably the business operations of the Morris and Essex railroad, and as the continuance of steam power is secured directly to New York, over the N. Jersey railroad, increased facilities will be furnished for transportation to and from Morris, Sussex and Warren counties. A charter has just been granted by the Pennsylvania legislature for a railroad from Wilkesbarre to the Water Gap, without restriction as to gauge, which it is understood has the favor of the Morris and Essex and New Jersey railroads thus furnishing an important extension into the interior of Pennsylvania and westward.

Charters have also been granted for a railroad from the Camden and Amboy railroad, from Hightstown to New Egypt; from New Egypt to Newton, the Cape May and Atlantic railroad, and the Rocky Hill road connecting with the railroad at Kingston. Supplements have also been passed extending the Mount Holly railroad to Pemberton; to the Freehold and Jamesburg railroad, and several resolutions authorising subscriptions to the stock of lateral railroads by the Camden and Amboy railroad, all in furtherance of the plan of connecting the ramifying roads with the main trunk.

Madison and Indianapolis Railroad.

TENTH ANNUAL REPORT.

My unavoidable absence from home, at the time of the annual session of the board, has delayed this report, and rendered necessary a called session, to which it is submitted.

The annual statement of the treasurer, contained in the appendix, presents the detailed receipts and disbursements during the year. The account of the road fund proper, as taken from that statement, is as follows:

Receipts from transportation of freights and passengers.....	\$423,897 44
Transportation of live hogs.....	39,540 12
Transportation of mails and expresses.....	13,455 27
Transportation and service for other roads, rents, etc.,.....	39,521 69
Making a total of.....	\$516,414 52
Expenses of working road repairs, etc.,.....	\$282,225 01
Interest on bonds, etc.....	29,240 01
	\$311,465 02

Net profits.....	\$204,949 50
Dividends of June and December.....	165,500 00

Balance to surplus account, - \$39,449 50

The business of the road, during the year, shows a larger increase than any preceding season. It has surpassed even my own sanguine expectations, and put us to some extra expense to meet its demands upon us. The travel compares with 1851 as follows:

1852. Number of passengers.....	98,328
1851. " " ".....	75,392
Increase.....	22,936
1851. Received.....	\$158,195 55
1852. " " ".....	109,589 66

Increase, - \$44,605 89

Reference to the freight tables given in the appendix will show even a larger increase in that

branch of traffic. In a few items only, the increase of 1852 over 1851 is as follows:

Barrels flour, - - - - -	39,572
" pork and lard, - - - - -	4,861
Bushels wheat, - - - - -	265,945
Live hogs, - - - - -	35,754
Bushels coal, - - - - -	35,768
Lbs. merchandise - - - - -	11,532,734

The receipts of the year compare with those of 1851 as follows:

Receipts of 1852, - - - - -	\$516,414 52
Do 1851, - - - - -	886,068 80

Excess of 1852, - - - - - \$130,345 72

The receipts of the past year would have reached \$540,000.00, but for the unparalleled freshet that occurred on the night of the 23d of December, which suspended all operations on the road for one week, and that at a time when the pressure of travel and trade was greater than at any time during the year. And when the waters subsided, and the road was ready for trains, the Ohio river had overflowed its banks, and, submerging our depots at Madison, prevented the receipt or transmission of freights. Unfortunately our expenses, instead of ceasing with our receipts, were largely increased; and, while fully thirty thousand dollars of receipts were lost, or thrown over into the present year, the forced work to repair damages at the earliest moment came in to widen the disparity between our receipts and expenditures, and reduce the surplus that was so confidently anticipated.

The expenditures for the year are disproportionate to the receipts. One reason for this is given above. There are several others, to which I will briefly allude.

1st. The charge for repairs of cars and machinery contains an item of \$11,500 for construction of new cars, provided for by the special fund created in 1851. The amount is credited to the receipts from the special fund, but still it swells the item of expenditures.

2d. The rapid increase of business last fall crowded into a small period of time, especially the transportation of hogs, in which we were promised a lively competition, rendered it necessary to add materially to our already very large rolling stock. Accordingly we put upon the road, in twenty days twenty-five hog cars and twelve freight cars; and as no other provision had been made for them, the cost—about \$18,000—went to the charge of expenses.

3d. Some two miles of the old iron laid by the State, has been realaced by new compound rail, of American manufacture. The cost of this is charged to ordinary repairs—\$14,146.

4th. The bridges over Blue river, Flat Rock and Clifty, have been entirely rebuilt during the year, and a new bridge is ready to raise across Sand creek, as soon as the weather will permit. The expenditures under this head are about \$10,000, and have been charged to repairs.

In the original construction of the road, few connected with it had any conception of the immense traffic that was destined to pass over it. The original bridge structures north of Vernon were all too light, and I have felt it imperatively necessary to renew them. This will be accomplished when the Sand creek bridge is raised. The Vernon bridges and Graham bridge will alone remain as original structures, and they are in a sound and safe condition.

5th. All our old engines have been rebuilt and thoroughly repaired during the year. The service they have performed is evidenced by the fact that during the heavy work of the fall, of twenty-two engines owned by the company, twenty-one were performing daily trips for sixteen consecutive days, while our trains run 163,263 miles more in 1852 than in 1851. The motive power is now in excellent condition, and the whole stock in good working order.

6th. Our shops at North Madison were too small and insecure. There has been built during the year a fine brick machine shop at that point, of ample capacity and usefulness, the cost of which has been charged to repairs.

With these explanations, the following is the fair and just statement of the earnings of the road during the year:

Earnings as stated - - - - -	\$516,414 52
Working expenses - - - - -	248,319 02

Net earnings - - - - -	268,095 50
Two dividends, 5 per cent. each - - - - -	165,600 00

Surplus - - - - - 102,595 50

Expended in permanent repairs:

New cars - - - - -	\$18,000
New track - - - - -	14,146
Rebuilding bridges - - - - -	10,000
Rebuilding nine engines - - - - -	15,000
New machine shop - - - - -	6,000
	63,146 00

Surplus remaining - - - - - \$39,449 50

All these repairs are permanent, and, having been well executed, we shall be enabled materially to reduce our expenditures during the present year. It is high praise thus awarded to the value of the work, that, while so many permanent and extraordinary repairs have been made, the stockholders have received a ten per cent. dividend, and the treasury has a surplus of \$40,000.

This surplus, with that which will accrue during the present year, should, in my judgment, be applied to the payments to the state for her interest in the road. This is but an enhancement of the value of the property, and it will be competent hereafter for the board to make such order for its distribution among the stockholders, in the form of stock, as their rights and the interest of the road may require.

There has been added to the stock of the road, during the year, twenty-five box freight cars, forty-five platform and hog cars, two first class passenger cars, sixteen gravel and ditching cars, and seven hand and road cars.

The route for the new southern terminus, to avoid the inclined plane at Madison, has been located during the year, and, at present, about seven hundred hands are employed in its construction. It leaves the present line at the foot of the plane, crosses Crooked Creek, and passes west, along the side of the hill, to Clifty creek; thence up Clifty to the Chain Mill fork, and up that to an intersection with the main line, near the four mile post from Madison. The grade will be heavier than I desired, being about one hundred feet to the mile, on straight lines, and ninety feet on curves. The work is very heavy, and, being within so small a space, will require more time to perform it. There will be two short tunnels in rock, that can be more rapidly constructed, and at less expense, than through cuts. The length of the new line is 4 3-4 miles, making an addition of three fourths of a mile to the length of the road. With an assisting engine, it can readily be worked by ordinary motive power. In the location of this line, care has been taken to preserve the usefulness of our depots in the city, and our extensive works at North Madison. As to the latter, no considerable change will be necessary.

The prospects of the road during the present year are bright and cheering. This year will launch us into the midst of the competition that has been, for a few years, gathering around us. The road will, in a short time, be well prepared to meet it.

The route from Indianapolis via Dayton to Cincinnati, is complete and in full operation, doing a very fair business. The Jeffersonville road is running to Edinburgh, and has full control of the lateral lines from Edinburgh, and yet our business and receipts are undiminished. The country is developing itself nearly as fast as the railroads. Population is increasing, lands opening to cultivation, and, as fast as a new avenue is completed, it is crowded with the surplus that existing roads cannot take and perform.

If the Madison road had no competitor to-day, it could not, without a double track, and at least double its present power, perform one-half the

business that would be pressed upon it. The race of competition may be managed for evil, but that folly will soon correct itself. This road has built up advantages that cannot be wrested from it, particularly in the enterprising population of the flourishing city of Madison, and it possesses a power and ability that, with prudent management, will bear it successfully through, and preserve it a good dividend stock.

It always affords me pleasure, in closing my annual reports, to speak in terms of commendation of the officers and operatives of the road. During my term of service, they have never more fully earned my entire confidence than during the past year. Though absent myself a large portion of the time, they have labored with untiring assiduity and fidelity, to promote the character of the service and the interests of the company. Where all have done so well, it would be invidious to discriminate. I will not do so, but to all return, thus publicly, my cordial thanks.

Respectfully submitted,

JOHN BROUGH.

Madison, February 22, 1853.

Mobile and Girard Railroad.

This great enterprise, which starts at a point in Alabama opposite Columbus, in Georgia, and runs in a southwesterly course to Mobile bay, a distance of 220 miles, is destined to have quite as important a bearing on the business of Savannah, as any improvement now connected with it. We had the pleasure, on Saturday, of conversing with Major Hardaway and Gen. Abercrombie, of Alabama, two of the Directors of the company, and were gratified to learn the steady progress they are making on the work. The road runs for the greater part of its distance on a ridge route, needing very few bridges and not much cutting or embanking, and is calculated to cost \$12,000 per mile, with its outfit. It intersects some of the finest cotton-growing districts of Alabama, and passes through Russell, Macon, Pike, Montgomery, Lowndes, Butler, Conecuh, Monroe, and Baldwin counties.

The present means of the company being inadequate to put the whole line under contract, they are working westward from Columbus to a point called Union Springs, in Macon county, Alabama, a distance of 52 miles, which they hope to have in operation next year. The first 22½ miles they hope to have in running order by next autumn, when the product of many of the largest plantations of Alabama will be turned to Columbus, and thus through to Savannah. The opening of these 22½ miles will turn up to Columbus about 15,000 or 20,000 bales of cotton, now going to the Chattahoochee river bank and to Montgomery, yielding that much transportation, and also the freight of the equivalent returns of merchandise. But from beyond, until they reach Union Springs, some 60,000 or 70,000 bales more will be turned eastward, all of which now goes down the Alabama river.

Here is a new field of business and of enterprise opened to the trade of Savannah. The counties named, for want of avenues to market, have hardly begun to be developed; yet the wealth already concentrated there will make a passenger and freight traffic not inferior to that of the Southwestern railroad of Georgia. We think, from all we can learn, that this picture of local advantages is not exaggerated.

The great consummation, however, which is aimed at, and which can be attained by this route sooner than by any other, is the closest and earliest connection between Savannah and New Orleans. This road completed to Union Springs, leaves but 170 miles to be built to finish the great thoroughfare between the Gulf and the Atlantic. We cannot shut our eyes to this. It presses upon us, and this work will soon be knocking at our doors, and appeal to the interests of all, to be carried promptly through. Major Hardaway, the president of the company, has pursued this project perseveringly for seven years, and he will accomplish it. And the time will come, when we must do something more than bid him God-speed.

The road as it passes on to Mobile, approaches,

at a point northwest of Pensacola, within 40 miles of that city, this distance being over a level country, without water courses. Can any one suppose that Pensacola will long lack an outlet to the north and east, when the Girard road so nearly affords it?

American Railroad Journal.

Saturday, April 2, 1853.

Cincinnati, Logansport and Chicago Railroad.

This road, which is designed to connect two of the great cities of the west, Chicago and Cincinnati, is now making very rapid and satisfactory progress. The line of this road commences at Richmond, and the division now under contract extends from Richmond, the northwestern terminus of the Eaton and Hamilton, and Dayton and Western roads, to Logansport, on the Wabash, a distance of 107 miles, and 176 miles from Cincinnati. The work upon this division of the line is so well advanced as to leave no doubt that the first division of 49 miles, from Richmond to Andersontown, on the Indianapolis and Bellefontaine road, and also that portion extending from Logansport, 22 miles, to Kokomo, on the Peru road, will be completed the coming fall.

The connections thus formed will bring the above portions of the work into active and profitable employment, as soon as they are completed. The Bellefontaine road will collect a large business for the Cincinnati market, at Andersontown, which must pass over the above road; while the northern division will open, in connection with the Peru road, an outlet to Indianapolis from Logansport, which is already a large and thriving village, and surrounded by an exceedingly fertile and well cultivated country. Upon the balance of the line, the grading is well under weigh; and the entire line will be completed to Logansport by the 1st of July, 1854.

From Logansport to the junction of the New Albany and Salem road, which is now well advanced, and which will be completed to Lake Michigan by the first day of July next, surveys are in progress; and as soon as these are completed, this division will be placed under contract. The opening of this portion of the line will form a continuous, and the shortest practicable, line of road between Cincinnati and Chicago, of which the above will constitute a prominent link.

Erie R. R.—Appointment of Mr. McAlpine.

We learn that Wm. J. McAlpine, Esq., at the present time, State Engineer, has been appointed Chief Engineer and Assistant President of the Erie railroad company. Mr. McAlpine is an accomplished Engineer, and will carry with him into the management of the road, an enviable reputation acquired in the construction and superintendence of other works.

Had the same place been filled by as competent a person years ago, we believe that nearly one-half the present cost of the road, which has been lost in construction, might have been saved. But the losses sustained, are a still greater reason for looking carefully after what remains. We now look for a radical change in the policy and management of the company. Mr. McAlpine certainly will not remain in the company unless he can carry out wholesome plans for reform. We trust we shall now begin to know something of the con-

dition of the company, and of its internal management. The appointment of so able a man as Mr. McAlpine, to the most responsible post in the company, shows that good has already come of our recent discussion. It has aroused the company to the necessity of doing something. But for it, they would have continued to go on indefinitely, in the old way.

The Ray Premiums.

It will be recollected, that F. M. Ray, Esq., of this city, offered some time since the following premiums, for the following improvements, viz:

Fifteen hundred dollars for the best invention for preventing loss of life from collisions, and from the breaking of axles and wheels.

Eight hundred dollars for the best method of excluding dust from cars when in motion.

Four hundred dollars for the best railroad brake.

Three hundred dollars for the best sleeping or night seats for railroad cars.

The above premiums will be kept open for competition, until the opening of the 25th annual fair, where the plans, drawings, and models of invention, competing for them, are expected to be on exhibition. No inventions already introduced to the public, will be entitled to compete for the prizes. It must be understood that these inventions are to be such as can be adopted and put into general use; the inventors in all cases retaining their right to patents.

The above was left to the decision of competent judges, to be appointed by a committee of the American Institute.

The committee appointed by the Institute, reported as follows:

In regard to the two first premiums offered of "\$1,500 for the best invention for preventing loss of life, from collisions, and from the breaking of axles and wheels," and "\$800 for the best method of excluding dust from cars when in motion"—we regret to say, that, although there were many very ingenious and highly creditable inventions offered, yet, from doubts of their utility in actual service, and in the absence of sufficient actual experiment to establish their merits, we do not feel prepared to recommend any one of them for adoption into general use, according to the tenor of the conditions of award.

Your committee can, therefore, under the existing circumstances, make no award of the first two prizes, of \$1,500 and \$800 each.

The railroad brake exhibited by T. A. Stevens, of Burlington, Vt., (entry No. 1,407,) best combines, in our opinion, the elements of efficiency, simplicity and cheapness, as well as general adaptation to railroad purposes. We therefore award to it the third premium of \$400.

Of the night seats exhibited, we have selected that of Samuel Hickox, of Buffalo, N. Y. (entry No. 303,) as the best, under all circumstances, that we have seen. It answers well the purposes of either a day or night seat; it is not cumbersome or complicated, is free from most of the ordinary objections of night seats, and can be made at a very trifling increase of cost over the ordinary seat. We therefore award to it the fourth prize, of \$300.

GEORGE STARK,
MADISON SLOAT,
WM. CUMMINGS,
J. R. TRIMBLE,
F. HUNGERFORD, } Judges.

We would state, in this connection, that Messrs. Bridges & Brother, 64 Courtlandt street, extensive dealers in every variety of articles used by railroad companies and car builders, are agents for Stevens' Patent Brake, referred to above.

Chicago and Rock Island Railroad.

This road has been opened to Peru, at the head of navigation on the Illinois river, 100 miles from Chicago.

Railroad to the Pacific. Appointment of Major J. J. Stevens as Governor of the new Territory of Washington.

We take great pleasure in stating that Major J. J. Stevens, of the U. S. Army, has been appointed governor of the new territory of Washington—an embryo state recently carved out of our western possessions. Major Stevens, though young, has had a wide experience, the result of active and constant employment in responsible positions; all of which he has filled in a most creditable manner. He is emphatically the man for his new post, and his appointment is the first encouraging step towards the realization of the great project of a railroad to the Pacific. He unites great enthusiasm with great capacity; believes nothing impossible to a resolute will, but that no great enterprise should be undertaken, without adequate means and the fullest knowledge of the difficulties to be encountered. We know him to be wedded to no particular route nor plan, and believe he will endeavor to ascertain and adopt such as are suggested by the natural configuration of the country and the wants of commerce.

Such qualities we want in a person holding a conspicuous and responsible position in our western country. We repeat, that the accomplishment of the great project of a railroad to the Pacific, has, in our opinion, been hastened by years by the above appointment. The public may now begin to look for light from this most interesting portion of our country, and upon the subject of a railroad across the continent, which is rapidly becoming one of paramount importance with the whole country.

Delaware and Hudson Canal Co.

The annual election of the Delaware and Hudson canal company, was held on the 28th ult. John Wurts, Wm. H. Halsted, Silas Holmes, Jacob R. Le Roy, Wm. S. Herriman, Chas. N. Talbot, Maurice Wurts, Lora Nash, Edward J. Woolsey, Wm. Musgrave, Geo. T. Olyphant, Daniel B. Fearing, and Robert Ray were elected directors. The year's business of the company was stated as annexed.

Dr.

Sales of coal.....	\$1,780,395 45
Tolls received.....	193,174 67
Barges and real estate profits.....	21,840 60
Coal on hand.....	352,396 24

Total.....\$2,447,770 96

Dr.

Coal on hand from last season.....	\$309,998 70
Mining expenses.....	303,418 79
Railroad transportation.....	289,768 11
Canal repairs.....	150,872 87
Freight on canal.....	432,622 32
Expenses at Rondout and New York.....	196,192 12
Balance profit of year's business....	764,908 67

Total.....\$2,447,779 96

This profit is equal to 10½ per cent on the capital stock of the company.

Railroad Connections in the South.

The Camden, N. J., Phenix says, on what is represented as reliable authority, that the Baltimore and Ohio railroad company have joined with the Philadelphia and Baltimore railroad company in purchasing the Southwark railroad, which runs from Broad street through Prime and Washington streets, to Swanson. The track is to be extended to the end of the wharf at the foot of Washington street. The Camden and Amboy

railroad company also, being concerned in the movement, purpose having a track laid down the river, at a point in South Camden below the island. Between this point and Washington street wharf steamboats will run, thus connecting the two roads. It is calculated that by this arrangement, freight can be carried through from New York to Wheeling without transshipment.

Finances of Maryland.

The Maryland Public Debt amounts at present in total to \$15,260,673, or \$9,166,490, exclusive of Sinking Fund and a loan of Credit to the Baltimore and Ohio railroad, as follows:

For Baltimore and Ohio railroad 5 per cent.....	\$497,000
For Baltimore and Ohio railroad 5 per cent sterling.....	*3,200,000
For Baltimore and Washington railroad 5 per cent.....	500,000
For Chesapeake and Ohio canal company 5 per cent.....	622,600
For Chesapeake and Ohio canal company 6 per cent.....	2,035,000
For Chesapeake and Ohio (sterling) 5 per cent.....	4,537,222
For Baltimore and Susquehanna railroad 4½ per cent.....	100,000
For Baltimore and Susquehanna railroad 6 per cent.....	1,543,334
For Baltimore and Susquehanna railroad 3 per cent.....	500,000
For Baltimore and Susquehanna railroad 5 per cent.....	88,710
For Susquehanna and Tidewater 5 per cent.....	1,060,000
Miscellaneous.....	453,526

Total..... 15,136,792
* Less loan to railroad..... 3,200,000

Total..... 11,936,792
Less sinking fund..... 2,770,302

Present net indebtedness..... \$9,166,490

Against which the State, besides providing a rapidly accumulating sinking fund, equal to half a million dollars a year, at present holds the following property:

PRODUCTIVE CAPITAL OF THE STATE.

Bank stocks.....	518,466
Baltimore and Ohio railroad stock.....	1,182,691
Baltimore and Ohio railroad dividend bonds.....	10,000
Bonds of Susquehanna and Tidewater canal company.....	1,192,500
Bonds of Baltimore and Susquehanna railroad company.....	1,884,045
Due from sheriffs, collectors, etc.....	781,942
Total.....	\$5,584,644

UNPRODUCTIVE.

Bonds of Susquehanna railroad company.....	1,035,080
Bonds of Chesapeake and Ohio canal company.....	2,000,000
Stock of Chesapeake and Ohio canal company.....	5,000,000
Sundry stocks.....	739,298
Total unproductive.....	\$8,774,378

REVENUE.

The State's revenue from all sources, except the tobacco and colonization funds was, in the year ending 1st December, 1852.....	\$1,231,997
Interest on her debt paid was.....	677,456
And her expenses for government were.....	279,361
	956,817

Showing a surplus over expenditure of. 275,180

The Comptroller estimates the State's income for 1852 at.....	1,277,487
And her expenses—	
For interest on debt.....	678,445
For general purposes.....	252,013
	930,458

Showing a surplus of.....	347,029
To which add the increase of sinking fund.....	140,838

Leaves applicable to the redemption of debt during the present year, the sum of.....	487,867
Surplus over expenditure 1st December, 1852.....	285,180

SINKING FUND.

The income of the sinking fund was, for the year ending December, 1852.....	115,474
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And therefore left this amount towards reduction of debt.....	390,654
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But with the aid of former balances in the treasury, she increased this fund during the last year in the sum of.....	540,685
And has moreover paid off a 5 per cent stock, amounting to.....	30,000

Showing a diminution of debt during that time equal to.....	570,685
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The sinking fund was, on the 1st December, 1851.....	2,229,617
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To which add the above increase.....	540,685
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Makes the present amount thereof....	\$2,770,302
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Notice to Contractors.

SEALED PROPOSALS will be received at the office of the Clinton line railroad company, in Hudson, Ohio, until the 20th day of May next, for the grading, masonry, bridging and superstructure of their entire road, from Hudson to the Pennsylvania state line.

Plans, profiles, and specifications will be exhibited, and all requisite information given, at the office of the company, in Hudson, on and after the 10th day of May next.

By order of the board of directors.

H. N. DAY, president.

W. B. BRINSMADE, engineer.

Hudson, March 29, 1853.

Stock and Money Market.

There has been considerable improvement in the money market the past week, and a consequent advance in the prices of most kinds of securities from the increasing abundance of money. A number of the fancy stocks show a marked improvement, and the general tone of the market is much better than at our last issue.

There is a good demand for the best class securities of all kinds. No difficulty exists in negotiating bonds of new companies having a good, and showing a strong basis.

The earnings of the Toledo, Norwalk and Cleveland railroad for the week ending March 12, were as follows:

Passengers.....	\$7,194
Freight.....	2,201
Express.....	539
	9,934

The earnings of the Charlotte and S. Carolina railroad company, for February, were as follows:

Freights.....	\$13,977 09
Passengers.....	4,182 84
Mails.....	418 00

\$18,577 87

The earnings of the Macen and Western railroad for 1853 are:

Passengers.....	\$6,615 50
Mail.....	1,027 42
Freight.....	18,353 65

Total.....	\$25,996 57
Corresponding month last year.....	25,266 83

Increase \$730 24: 3 per cent.

The receipts of the Ohio and Pennsylvania railroad for February were as follows:

In February, 1853.....	\$30,005 73
In February, 1852.....	11,189 61

Increase..... \$18,816 12

The business of the Albany and Schenectady road shows a large gain in February over last year. The figures are:

February, 1853.....	\$17,771 84
February, 1852.....	12,318 91

Increase 44 per cent..... \$5,452 93

The following is the income of the Western and Atlantic railroad, of Georgia, for the month of February:

1853.....	\$48,721 68
1852.....	28,382 02

Increase..... \$20,339 66

The following are quotations for railroad bonds by Messrs. Decoppet, of this city.

N. Y. & Erie, '67.....	118¼
N. Y. & Erie, '59.....	106¼
N. Y. & Erie, '55.....	97¾
N. Y. & Erie, '71.....	95
N. Y. & Erie, '62.....	97½
Hudson River, '69.....	106½
Hudson River, '60.....	99
Hudson River, '67.....	91
N. Y. & New Haven, long.....	106
N. Y. & Harlem, '61.....	100
Roch. Lock. & N. F., '61.....	117½
Rock. Lock. & N. F., '61.....	102
New Haven & New London, '66.....	101
Baltimore & Ohio, '67.....	97¼
Baltimore & Ohio, '75.....	94¾
Reading, '60.....	96¾
Reading, '70.....	92
Cleveland, Columbus & Cincinnati, '58-'59.....	127
Cleveland, Painesville & Ashtabula, '61.....	104
Little Miami, '58-'61.....	115
Ohio & Pennsylvania, '65-'66.....	108½
Ohio & Pennsylvania, '72.....	102½
Central Indiana, '66.....	100
Cleveland & Pittsburg, '60.....	105
Ohio Central, '61.....	102½
Ohio Central, '64.....	102½
Michigan Central, '60.....	111½
Michigan Southern, '60.....	102½
Northern Indiana, '61.....	99½
Erie and Kalamazoo, '61.....	94½
Galena and Chicago, '62.....	96¼
Madison and Indianapolis, '61.....	103
Terre Haute and Indianapolis, '69.....	110¾
Indianapolis and Bellefontaine, '60-'61.....	103½
Indianapolis and Lafayette, '61.....	95
Bellefontaine and Ind., '66.....	104
" " " '58-'62.....	109
N. Albany and Salem, '64-'75.....	8
Evansville and Ill., '62.....	87
Panama, '66.....	125
Ogdensburg, (North.), '59.....	100
Ogdensburg, (North.), '61.....	82¼
Milwaukee and Miss., '62.....	104
Cin. Ham. and Dayton, '61.....	104½
Buffalo and N. Y. City, '66.....	94½
Pennsylvania, '80.....	109½
Cin. Wil. and Zanesville, '62.....	100½
Cov. and Lex., '62.....	100
Chicago and R. I., '72.....	99
Wil. and Manchester, '66.....	100¼
Marietta and Cin., '68.....	95
Ohio and Indiana, '67.....	98¾

Exhibit of the Condition, Resources, Business and Prospects, of the Peru and Indianapolis Road.

The charter incorporating the company was granted by the Indiana Legislature at their session of 1845-6, and received the approval of the Governor on the 19th January, 1846. The company was organized in July, 1847, and an experimental survey of the route was made in September and October of the same year. The line from Noblesville to Indianapolis was permanently located in July, 1848, and a letting of the clearing, grading, and bridging of the same was made in the succeeding August, and of the timber superstructure in January, 1849. This division of the road, embracing 22½ miles, was completed on the 10th of March, 1851, and has since been in operation under an arrangement with the Madison and Indianapolis railroad company.

The total cost of this division, including right of way, engineering, turn tables, offices, rents, car, wood, and engine houses, directory, officers' salaries, and all other incidental expenses connected with or resulting from the construction of such portion of said road, is \$128,446 53, or \$5,708 73 per mile.

From Noblesville to Peru, a distance of 50 miles, the road was permanently located in June and July, 1849, the right of way secured, and the grubbing and clearing of the same were let in June, 1850. This contract has been fulfilled, and the road grubbed and cleared the whole distance.

This division of the road, from Noblesville to Peru, was let in June, 1852, on advantageous terms, to Messrs. A. De Graff & Co., of Ohio, an energetic, enterprising and responsible firm, who have been connected with many railroad enterprises in the west, and whose names are a sufficient guaranty for the prompt and faithful performance of any contract. The arrangement with them covers everything necessary for the final completion of the road, embracing grading, superstructure, bridging and iron.

The payments to be made by the company for this contract are as follows:

In cash, monthly instalments, (nearly all paid, - - - - -	\$50,000
In stock of the company, - - - - -	40,000
In 7 per cent bonds of the company, - - - - -	540,000
Total, - - - - -	\$630,000

Making the total cost of the road, exclusive of motive power and equipments, \$758,446 53.

So far, the work has progressed with commendable rapidity; the grading and bridging are nearly all completed; the contractors have 17 miles of iron, 60 lbs. to the yard, upon the ground, and the cars are running 30 miles from the city of Indianapolis. By the first of May, Tipton, the county seat of Tipton county, will be reached, a distance of 40 miles from the capital, and by the first of August, Kokomo, the county seat of Howard Co., a further distance of 15 miles. At this point the road connects with a branch railroad to Logansport, on the Wabash and Erie canal, and assurances are given that the whole line will be ready for the fall trade of the current year. Messrs. De Graff & Co. are obligated to finish the road to Peru by the 1st January, 1854, but have given assurances of their readiness and ability to do so by the first of October, and that the advance in iron shall not in the least, retard the fulfilment of their obligations.

STOCK ACCOUNT.

The official statement of the stock account on the 17th Feb., 1853, showed a total of \$741,655, from which, deducting the cost of the finished portion, from Indianapolis to Noblesville, leaves the sum of \$616,208.47 applicable to the construction of the fifty miles from Noblesville to Peru.

In round numbers, the stock of the company, when the books shall be finally closed, will reach an aggregate of \$800,000, and the bonds of the company, issued upon the first and only mortgage, \$600,000. The annual interest upon these bonds amounts to but \$12,000, or about twice the annual income on the twenty-two miles finished from

Indianapolis to Noblesville. It is a reasonable estimate, that the net income of the road within the first year after its completion, will reach the sum of one hundred thousand dollars.

BUSINESS, PRESENT AND PROSPECTIVE.

The business of the road on the small portion completed, for the last year, has amounted to about fifty dollars per day, or some eighteen thousand per annum; and this, too, when it has formed no connection whatever at its northern terminus with even an ordinary stage route. But it is sufficient to show what may be anticipated when the entire line shall be finished, and a thoroughfare opened between Central Indiana and the seaboard. The products of the richest agricultural region of the state may then be sent to New York, and the merchandise of the great Commercial Emporium returned, all the way by water transportation, except this distance of 72 miles. That produce now seeks a Southern market, and the trade to which New York would naturally be entitled, goes to Cincinnati, New Orleans, Pittsburg, and Philadelphia. Until the last year, not one merchant in ten of Central Indiana ever found his way to New York; but it was then found that goods could be transported cheaper from this city to Indianapolis, via Wabash and Erie canal and the Terre Haute railroad, than by any other existing route. And yet this route is 148 miles longer by canal, and ten miles longer by railroad, than the route by way of the Peru and Indianapolis road. It is evident, therefore, that the Peru and Indianapolis railroad must do all the heavy transportation to and from New York and Indianapolis, and even Louisville, Kentucky.

From Indianapolis to Peru, the route passes through a country of unsurpassed fertility, rapidly settling, and capable of furnishing a large amount of local business. The valuation of taxable property in the counties through which the road passes, increased in a single year, from 1850 to 1851, more than 40 per cent., and the increase in population was nearly as rapid.

RAILROAD AND CANAL CONNECTIONS.

The city of Indianapolis is the railroad city of the West. From this point roads are already finished or in progress as follows:

The Bellefontaine road, pointing northeasterly, to Bellefontaine, Ohio, completed.
Jeffersonville, constructing, 107 miles to Louisville, Ky., 77 completed.

The Richmond road, directly east, to Dayton, Ohio, under contract.

The Lawrenceburg road, southeasterly, to Cincinnati, under contract, and twenty miles completed.

The Madison road, south, 85 miles to the Ohio river, completed.

The Terre Haute road, southwesterly, to the Wabash river, 70 miles completed; and thence through the centre of Illinois to St. Louis.

The Lafayette road, northwesterly, to the Wabash, all completed.

The Peru and Indianapolis road, north, 70 miles to the Wabash river and Wabash and Erie canal, 30 miles completed.

Besides these, are projected a direct line to Cincinnati, another to Evansville, and still another to Springfield, Illinois.

It must be evident to all, that a large amount of business must be done over this route, and that as soon as completed it will occupy a position among the most favored thoroughfares in the West. It is the design of the board of directors to make it in construction, material, and every appointment, a road of the first class, which will be a credit to the state, as well as a matter of interest to its stockholders, and of benefit to the commercial, agricultural and travelling community.

The bonds now offered constitute a portion of the First Mortgage bonds, the road being free from all other incumbrances whatever. But \$300,000 will be offered, the residue of \$300,000 being withheld until the final completion of the road.

E. W. H. ELLIS, President.

New York, March 18, 1853.

Journal of Railroad Law.

INVESTING TRUST FUNDS IN RAILROAD STOCK.

An important question relating to this subject has been lately decided by Judge Clark, Probate Judge, at Manchester, New Hampshire. A gentleman, who was the guardian of a minor, had purchased for the latter, although in his own name, ten shares of the Northern Railway stock, at \$90 per share. The present price is \$59 60 per share. The Judge held, that the guardian could not, in settlement of his accounts, turn out the stock so purchased, but must be charged with the full amount with which the stock was so purchased.

INSUFFICIENCY OF PLATFORMS.

This was the occasion of a late verdict in London, in the case of *Wilkins vs. The Great Western Railway*. The plaintiff, with a small party of friends, took a 2nd class car of the train going from West Drayton to London, on Sunday evening, and did not arrive in London, until after dusk. A porter then opened the door, and plaintiff's companion alighted. But it was necessary to jump 22 inches to reach the ground, as the train had passed the platform. The plaintiff's foot struck a nail, and he was so lamed, that he will probably find it necessary for a long time to walk with crutches.

The judge, having submitted the question of negligence to the jury, they rendered a verdict in the sum of £200 for the plaintiff.

DO RAILROAD COMPANIES BECOME ABSOLUTE OWNERS OF LANDS ACQUIRED WITHOUT THE CONSENT OF THE OWNERS?

This is a question which is highly important in some states, but would hardly arise in New York.

The eighteenth section of the Railroad act provides, "that upon the confirmation of the report of the commissioners, appointed to estimate damages of owners whose land is to be appropriated by railway companies, the order of confirmation must be duly filed; and thereupon, and upon the payment by the company, of the sums to be paid in compensation for the land, and also for costs and expenses, the company shall be entitled to enter upon, take possession of, and use the said land for the purposes of its incorporation, during the continuance of its corporate existence; and all persons who have been made parties to the proceedings, shall be divested of all right, estate and interest in such real estate, during the corporate existence of the company, as aforesaid: and all real estate, so acquired by any company for the purposes of its incorporation, shall be deemed to be acquired for the public use."

Hence no legal ingenuity would, in our state, suffice to show that a railway company could obtain an absolute, fee-simple property, in lands acquired without consent of the owners. In the case of *The Dayton and Cincinnati Short Line vs. John Kauffman and others*, the foregoing question has lately been discussed in Ohio, and the decision of Judge Warren, of the Probate court, on the subject, is well worthy of attention.

The case was founded on a petition of the company, stating that it was necessary for them to become owners in fee of certain land, for the purposes of their road, and praying that a jury might be summoned, in order to assess the damages to which the owners of the land were entitled.

This method of proceeding on the part of the company, was conformable to the statute of 1852,

which was passed subsequently to the incorporation of said company.

The defendants moved to quash the proceeding for various reasons, among which the principal ones were:

1st. That the charter did not authorize the company to take lands in fee, without the consent of the owners.

2nd. That the company can appropriate lands for purposes of locomotion exclusively, and not for depots and the like.

The Court held, after hearing full arguments in this case, that, although the charter of the company authorizes it "to use and occupy the land which it takes, as fully as if it had been granted by deed"—a true construction of the charter did not confer upon the company any fee-simple in the land which they appropriated by authority of their charter, but that they merely gained the right to possess and use the land for the purposes of their road. His Honor cited, in support of his decision, a passage from Walford, on the Law of Railroads, purporting that a charter is a bargain between the state and the corporators. The latter can claim no advantage from the contract not clearly expressed therein. If there is any ambiguity in the contract, allowing diverse interpretations thereof, such an interpretation must be adopted, as is most favorable to the interests of the public.

But the Court was of opinion that the company had authority to acquire land, without the consent of the owners, for other purposes than mere locomotion. They absolutely need car-houses, station-houses, &c. Although the literal construction of their charter would only give them a bare right to construct a road, they are also endowed with the right to provide those things which are essential to the utility of the road. Words must be construed—so far as can be done without doing them violence—consistently with the general intent and meaning of those who employ them.

The Court allowed the plaintiffs their option, whether to amend their application by waiving their claim for the fee, or to commence their proceedings anew.

THE RULE OF DAMAGES IN THE CASE OF LAND TAKEN FOR RAILROADS.

In the case of the Alton and Sangamon railroad company, vs. Wm. Carpenter, lately decided upon appeal in the Supreme court of Illinois,—the following rule was laid down:

In estimating the damage done to the land by the construction of a railroad, the commissioners should deduct the advantage which they believe the land will derive from the construction of said road; and in estimating such advantages they are not to be confined to the advantages peculiar to the tract of land which is the immediate occasion of controversy, but are to consider as such advantage, whatever increased value they believe the land bears, beyond what they may believe it would bear, if the road was not constructed, nor to be constructed at all, and if such increased value is equal to or greater than the damage sustained by the owner, then the latter is not entitled to any compensation from the company.

INFANT STOCKHOLDERS.

It has been decided in Ireland, in the case of the Wicklow and Dublin railroad company, vs.

Black, that where the guardian subscribes for railway stock in behalf of the latter, the proceeding may, or may not, bind the ward when he becomes of age.

The contract will bind him, unless he disavows it within a reasonable time after reaching his majority.

MAY RAILWAYS BE UNDERMINED?

A question of this nature is now awaiting decision in the English Court of Queen's Bench, having been already discussed at Nisi Prius before the Lord Chief Justice, who ruled, in effect, that although the English Railway Act empowers companies, under certain restrictions, to pass over public highways, it does by no means confer upon them any exclusive interest in the soil for a greater distance below the surface than is necessary for the purposes of the road. The case in question, which is that of Friend, vs. the South Eastern railway company, has been carried up to the full Bench on exceptions to the judges' charge.

The plaintiff, Friend, complained against the defendants for an assault and malicious arrest, alleged to have been committed by their direction. The defendants plead specially in justification. The circumstances were as follows:

The plaintiff was the engineer employed by the European and American Telegraph company, whose line extends from London to Dover. Previously the Telegraph company had availed themselves of the South Eastern railway for telegraphic purposes, and had paid them £200 weekly for the privilege enjoyed.

In order to avail themselves of the authority conferred by act of parliament, the Telegraph Co. have proceeded to dig trenches of 10 feet in depth and three feet in width in crossing railroads, taking, as they say, every precaution to avoid doing any injury to the road. They dug such a trench under the Canterbury and Ashford branch, belonging to the defendants, and it appeared that it only required twenty minutes to enable plaintiff to carry through his lines, and to restore the road to its original condition. The railway company, however, protested against the proceeding, and had the plaintiff arrested and carried before the mayor of Canterbury as a trespasser. His worship held the accusation to be groundless, and discharged Mr. Friend. The present suit was brought in form to recover damages, but in reality to test the rights of the parties. The jury accorded £50 to the plaintiff.

What will be the final decision we cannot predict.

Finances of Massachusetts.

RESOURCES.

The total property of the commonwealth on the 1st inst., amounted to \$10,851,960 06

And will be stated generally in three classes:

1st. The state house, and other public property, such as hospitals, arsenals, and arms, bridges, prisons, &c., being all unproductive 1,802,446 02

2nd. Bonds and mortgages of sundry railroad corporations, taken to secure the payment of scrip loaned them 5,049,555 56

3d. Lands in Maine, Massachusetts claim, railroad stock and scrip, notes for lands in Maine, and other securities, including cash on hand 3,999,958 48

LIABILITIES.

The debts and liabilities of the commonwealth, on the 1st instant, amounted to 6,685,705 04

1st. Scrip of 1837, sold at sundry times until 1844, to pay for 10,000 shares stock in the Western railroad corporation, due in 1857 995,000 00

2nd. Scrip issued in 1849, 1850, 1851 and 1852, to pay for State Reform school, prison, new lunatic hospital, and State almshouses, due 1857 to 1872 400,000 00

3d. Scrip issued from 1847 to 1841, and loaned to sundry railroad corporations, due 1857 to 1871 5,049,555 56

4th. Scrip of 1851, sold to pay the floating debt of 1850 and 1851, in part; due July 1, 1853 100,000 00

Temporary loans, 1852, being for deficit in the revenue of 1851 and 1852, not provided for 120,000 00

Sums due from the treasury, and not called for, including \$10,000 interest on N. & W. RR. due January 1, 1853 21,149 48

\$6,685,705 04

Commerce of Sandusky.

From a detailed statement of the commerce of the port of Sandusky, and other places in that district, published in a late number of the *Commercial Register*, we compile the following statistics, which show a large increase in the business as compared with 1851.

The total imports of Sandusky, as shown by the Collectors' statement, were in

1852 \$40,896,085

1851 13,917,564

Increase \$26,978,121

EXPORTS.

1852 \$18,789,814

1851 4,755,729

Increase \$14,034,085

TOTAL COMMERCE.

1852 \$59,685,899

1851 18,673,293

Increase (220 per cent.) \$41,012,606

The total imports of other ports in the district were in

1852 \$4,176,321

1851 1,411,918

Increase \$2,764,403

EXPORTS.

1852 \$1,237,267

1851 1,160,153

Increase \$77,114

TOTAL COMMERCE OF OTHER PORTS.

1852 \$5,413,588

1851 2,572,071

Increase (110 per ct.) \$2,841,517

TOTAL COMMERCE OF THE DISTRICT.

1852 \$65,099,487

1851 21,245,364

Increase (206 per ct.) \$43,854,123

It is proper to state that the exhibit of the commerce of Sandusky, for the year 1851, did not include money packages by express, which are included in the current statement for 1852.

It will also be seen by a comparison with the statement of 1851, that there has been a large increase in 1852, in the number of marine arrivals and departures. In 1852 the arrivals at this port are set down at 3,242

Do. do. in 1851 1,998

Increase 1,244

Departures in 1852.....	3,250
Do. do. 1851.....	1,990
Increase.....	1,260
Total arrivals and departures in 1852.....	6,492
Do. do. do. do. 1851.....	3,998
Increase in 1852.....	2,494

Railroads in Virginia.

The *Virginia Times* has carefully prepared the following statement, showing the number of miles of railway now completed, or authorized by law to be built, in the state of Virginia:

	Length.	Completed.
Baltimore and Ohio road.....	251	251
Parkersburg branch.....	100	70
Winchester and Potomac.....	32	32
Manassa's Gap.....	130	39
Loudoun and Hampshire.....	180	..
Fredericksburg and Gordonville.....	38	..
Orange and Alexandria.....	175	60
Richmond and Fredericksburg.....	76	76
Richmond and Petersburg.....	22	22
Petersburg and Roanoke.....	60	60
Clover Hill.....	15	15
Appomattox.....	9	9
Greenville and Roanoke.....	21	21
Richmond and York river.....	42	..
Central.....	200	100
Covington and Ohio.....	228	..
Norfolk and Petersburg.....	80	..
Southside.....	122	62
Virginia and Tennessee.....	208	60
Cumberland Gap.....	115	..
New River.....	77	..
Richmond and Danville.....	147	73
Seaboard and Roanoke.....	77	77
Total.....	2,405	1,027

The commonwealth is deeply interested in nearly all of these works, and has dealt out pecuniary aid to them with a liberal hand. There cannot be a rational doubt, says the *Times*, that every mile of railroad authorized to be constructed, will be completed within the next five or six years. We shall then have a system of internal improvements of which any state in the Union might well be proud. We may then boast, as a New York senator lately boasted on the floor of congress, that our roads, if drawn out in a straight line, would reach from the Atlantic to the Pacific.

CAUTION.

RAILROAD COMPANIES are CAUTIONED against an infringement of the Patent granted H. M. PAINE, under date of January 6th, 1852, "for excluding dust &c., from Railroad Cars," incorporated in which is the following claim:—*I insure ventilation without the annoyance of dust, by means of the window alone, without the addition of the deflectors.*

We also, warn R. R. Companies against the misrepresentations of H. B. GOODYEAR, who seeks to mislead them by means of Circulars, Protests and Notices of CAUTION, &c.

Attested copies and drawings of GOODYEAR'S Patents sent gratis.

N. B.—Company Rights sold and guaranteed by this Company as usual.

H. J. HALE, Sec'y
R. R. Car Ventilating Co.,
146 Broadway.

New York, April 1st, 1853.

RAILROAD IRON VIA RIVER ST. LAWRENCE.

JOHN ANDERSON,

FORWARDING and COMMISSION MERCHANT, and
WAREHOUSEMAN, Hunts Wharf, Quebec.
General Agent for receiving and forwarding Railroad and
Pig Iron, &c.
April 1st, 1853.

A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axes.

The Troy Iron Bridge Co.

ARE prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or under, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address
BLANCHARD & FELLOWS, Troy, N. Y.

April 1st, 1853.

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

Apr 1m 50 South Third street.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,

April 1, 1853.

90 Beaver st.

Wilkinson's EXPLOSIVE RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,

64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

50 South 3rd Street.

May 1st, 1853.

Philadelphia.

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

4t 12

WM. BAILEY LANG.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

To Contractors for Masonry.

PROPOSALS will be received by the subscriber, up to April 20th next, for the masonry of four stone bridges, on the Philadelphia and Reading Railroad, as follows, viz:

Falls Bridge—At the Falls of Schuylkill, near Philadelphia, will consist of 6 oblique arches, with square built ribs, of 78 feet span each, crossing the Schuylkill river and navigation, with an elevation of roadway 48 feet above the water. It will contain 10,166 perches of masonry; the piers and abutments must be raised to the springing line during the present season, and the arches turned, and work as nearly as possible finished in the year 1854.

Peacock's Locks bridge—Is located 6 miles above the city of Reading, and will consist of 8 square arches of 63 feet span each, crossing the river Schuylkill, and one oblique arch, with square built ribs of 75 feet span, crossing the Schuylkill navigation. The elevation of roadway is 58 feet above the surface of water in the river. This bridge will contain about 10,651 perches of masonry; its piers and abutments must be raised to the springing line during the present season, and the arches turned, and work as nearly as possible finished in the year 1854.

Black Rock dry arches—Is a structure intended to increase the water way of Black rock bridge, near Phoenixville, and will consist of two square arches, of 50 feet span each, with a roadway elevation of 23 feet above the ground. It will contain about 1450 perches of masonry, and must be finished during the present season.

Fourth crossing bridge—Located near Orwigsburg landing, is intended to replace a wooden bridge recently destroyed by fire, and will consist of 4 square arches, of 46 feet span each, crossing the river Schuylkill, with a roadway elevation of 21 feet above the surface of the water. It will contain about 400 perches of masonry, and must be finished during the present season.

In all the above structures, the work must be carried on so as not to interfere with the trade of the road. The railroad company will prepare the foundations, erect and maintain the centres, furnish the lime, sand and cement, and the cars and motive power necessary to transport the stone on their road. All other expenses connected with the masonry to be borne by the contractors.

Plans and specifications in detail may be seen at this office, where all other necessary explanations will be given to those who wish to bid for the work.

J. DUTTON STEELE.

Engineer's office, P. & R. road,
Pottstown, Pa., March 16, 1853.

Notice to Contractors.

HANNIBAL AND ST. JOSEPH RAILROAD.
SEALED PROPOSALS will be received at the office of the undersigned, in the city of Hannibal, Missouri, until the twentieth day of April, for the graduation, masonry and bridging of 25 miles of said road, extending west from Hannibal.

Proposals will also be received at our office, in the city of St. Joseph, Missouri, until the tenth day of May, for the graduation, masonry and bridging of 25 miles additional, extending east from St. Joseph. The remainder of the line, extending a distance of over 150 miles, will be placed under contract as soon as the same can be prepared by the engineers.

This line embraces some very heavy excavations and embankments, and several large bridges.

Plans, profiles and specifications will be ready at each place one week previous to the letting.

DUFF & LEARNED,

Contractors H. and St. J. RR.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

To Contractors.

PROPOSALS WILL be received to the 23d of April inclusive, at the Engineer offices of the Northwestern Virginia Railroad in Parkersburg, West Union and Clarksburg, for the GRADUATION and MASONRY of about 60 sections, averaging 1 mile each, of the road. The work will be mostly of the lighter kind, but embracing many sections of good size and some bridge masonry and tunnelling. There are 103 sections upon the road, of which upwards of 40 are under contract. The route to and along the line is easy—the Baltimore and Ohio Railroad, the Ohio River, and the Northwestern Turnpike, rendering it very accessible at all points.

Specifications will be distributed from the offices named, and also from Fetterman on the Baltimore and Ohio Railroad, near the east end of the line, on and after the 11th of April. Bidders must be well recommended, and will state what other work they may have in hand.

By order of the President and Directors.
BENJ. H. LATROBE,
Chief Engineer.
Baltimore, March 9th, 1853.

Notice to Contractors.

MISSISSIPPI and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853 at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one, nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.
JOHN BROUGH, President.
S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

To Contractors.**NIAGARA FALLS HYDRAULIC CANAL.**

SEALED Proposals will be received at the Office of the Niagara Falls Hydraulic Company at Niagara Falls until Wednesday the Sixth day of April next inclusive, for the Excavation, Masonry, Bridging, Gates, Waste-Weir, Bulkheads, Docking, &c.

Plans, Profiles and Specifications may be seen at the Company's Office, at Niagara Falls; also at the Office of the Hon. C. S. Woodhull, No. 59 Fulton street, New York, and Walter Bryant, No. 22 Congress street, Boston, Mass.

The Company will have a steam drilling machine on the work after the fifteenth of March, to which they wish to call the attention of Contractors.

The Company reserve the right to accept or reject any or all of the Proposals as they may consider for the interest of the Company.

E. R. BLACKWELL, Chief Engineer,
m5 3t Buffalo, N. Y.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
March 2d, 1853. 90 Beaver st.

Notice to Contractors.

NEW ORLEANS, Jackson and Great Northern Railroad.—Sealed proposals will be received at the office of the company, No. 45 Carondelet street, New Orleans, until the eighth of April next, for the Grading, Masonry and Bridging, of the remaining part of the first division of the New Orleans, Jackson, and Great Northern Railroad, extending from the line of the state of Louisiana to the city of Jackson, Mississippi, a distance of about 95 miles.

The route, generally, is through a high, healthy pine country, which, with the character of the work, renders it worthy the attention of northern contractors.

Satisfactory evidence of ability will be required with proposals.

Plans and profiles will be ready for examination at the Engineer's office in New Orleans, and information regarding the line given by the Assistant Engineers, at Jackson and Gallatin, after the 28th of March.

JAMES CLARKE, Chief Engineer.
New Orleans, Feb. 28, 1853.

CAUTION.**India-rubber Car Springs.**

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA—Awarded by the American Institute to F. M. RAY, for the best India rubber Car Spring. A Gold Medal having been before awarded.

Signed, JAMES TALLMADGE,
President.

N. MEIOS, Recording Sec'y.
ADONIRAM CHANDLER, Cor'g. Sec'y.
New York, Oct., 1851.
New England Car Spring Co., No. 104 Broadway,
New York. 71f.

Hoole, Staniforth & Co.,**MINERVA WORKS,****SHEFFIELD,**

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc.

An assortment of Steel from the above Works constantly on hand by

RICHARD MAKIN,
Agent for the Manufacturers,
43 24 Broadway.

FORGINGS.

AXLES, SHAPING, AND OTHER FORGINGS from the GLENDON FORGES, for sale by

GEORGE GARDNER & CO.,
BOSTON.

March 9, 1853.

STEEL.**NAYLOR & CO.,****MANUFACTURERS OF STEEL,**

AT SHEFFIELD, ENGLAND,

HAVE on hand at their principle depots,

No. 99 and 101 John Street, New York,

No. 11 Liberty Square, Boston,

No. 11 Commerce Street, Philadelphia,

A large assortment of CAST, SHEAR, GERMAN BLISTER AND SPRING STEEL, of different qualities adapted to the various purposes for which Steel is used.

March, 26, 1853.

Pease & Murphy,**FULTON IRON WORKS,**

FOOT of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.

N. B. Engines and Boilers repaired. 61f.

To Contractors.

SEALED Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1853, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,
THOMAS B. STEVENSON, President,
CHAS. B. CHILDE, Chief Engineer.
JAMES A. LEE, Secretary.
January 20, 1853.

Fulton Car Manufactory,
CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

37 So. Manufacturers, 41
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1849.

1y

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF**AMERICAN SECURITIES,**

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of

Railroad Iron, Chairs, or

any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co, London.

" Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

39

Virginia Locomotive and Car Works.

Wolfe Street and River Potomac, Alexandria, Va.

SMITH & PERKINS, Proprietors.

MANUFACTURE

Locomotive Engines and Tenders.

Marine and Stationary Engines and Boilers.

Chilled Car Wheels and Axles.

Patent Chilled and Wrought Slip-tire.

Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

Late of the Alexandria Iron Works.

THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.

July 23, 1851

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.

HEREBY OFFER FOR CONTRACT THE GRADUATION, MASONRY AND BRIDGING OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 15th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York, January 28, 1853.

PATENT

Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re-bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

IRON.

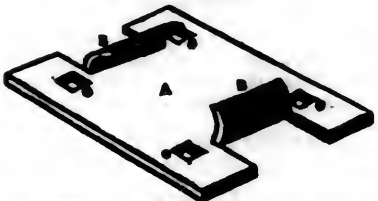
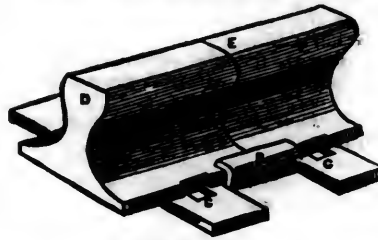
Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAPING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

The American Railroad Chair Manufacturing Co.
IN POUGHKEEPSIE, N. Y.,

ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga,
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennbec and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

IMPROVED SAFETY FUSE.

THIS superior article, manufactured of the best material, for igniting the charge when blasting, is kept for sale in any quantity by

BRIDGES & BROTHER,
64 COURTLAND STREET,
NEW YORK.

R. GROVES & SONS,
SHEFFIELD, ENGLAND,

Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Bilster, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maiden-lane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

Railroad Iron.

3000 TONS superior quality, delivering from April forward, with 5 to 600 tons per month, for sale by

NAYLOR & CO.,
99 & 101 John st.

124

Lightner's Patent Axle Boxes,
FOR RAILROAD CARS.

THE attention of those engaged in building and using Railroad Cars is called to this

Patent Axle Box,

As possessing numerous advantages over all others, among which we enumerate the following:—

- 1st. The original cost is much less.
- 2nd. It saves seventy-five per cent in oil.
- 3rd. No dust can gain access to the journals.
- 4th. It prevents all possibility of "heating."
- 5th. Cars furnished with them run much easier, and require less power to move them.
- 6th. Its construction is simple—not liable to become loose by service, and allows a free inspection of the journals and boxes.
- 7th. The bearings of an eight wheel LOADED car, can be removed from the journals while under the car, and returned in less than half an hour, by ONE man.
- 8th. The trucks and wheels are free from oil and dirt, usually seen on Railroad Cars.

The following Testimonials are submitted:—

This certifies that I have been particular in comparing and testing the Patent boxes of John Lightner, for one year, with the various other boxes in use upon the Old Colony Railroad. I do not hesitate in pronouncing Mr. Lightner's boxes far superior in every respect to any other boxes in use. We find the consumption of oil to be but one quart per month for each eight wheel car; this being the quantity with which they are replenished regularly once a month. The Journal and oil is perfectly secure from dust, and after one year's hard service, the composition boxes or bearings exhibit no apparent wear. I think the bearings will run three times the distance in Lightner's that they will in any other box in use; besides, the cars are not detained from the road for repairs of boxes.

The bearings may be removed from the Journals of an eight wheel car, examined and returned to their places, by one man, occupying but twenty minutes, which would require two men, half a day, with the common boxes in use in New England.

For economy and convenience, Mr. Lightner's patent axle boxes excel any thing which has hitherto been applied to Railway Cars.

Signed,
Supt. Car Building and Repairs Old Colony R. R. Co.

I fully concur in the opinions above expressed, having thoroughly tested the merits of J. Lightner's patent boxes upon tenders of Locomotives of the Old Colony Railroad.

S. M. CUMMINGS,
Supt. Motive Power Old Colony Railroad.

OFFICE OF THE FITCHBURG AND WORCESTER R. R. }
Fitchburg, June 2nd, 1852. }

Mr. JOHN LIGHTNER,

Dear Sir,—Your Patent Axle Box has been in use upon our Railroad during the last year and has given entire satisfaction. We find our Engines and Cars require much less power to move them, than others not furnished with this box, and the saving in oil is very great.

Our freight Cars run upon connecting roads, and are sometimes beyond our control; therefore as a matter of safety, we have the boxes examined once a month, and oiled if necessary, the quantity of oil required is small.

Our Passenger and Baggage Cars, which are in constant use, run nine hundred miles per week. We find it necessary to oil them only once in three months. In one or two instances, they have run more than sixteen thousand miles, without being oiled or sustaining any injury.

Yours Respectfully,
IVERS PHILLIPS, President.

The subscriber, begs leave to suggest to all Railroad Corporations (new or old) the importance of an EARLY application of this valuable improvement, to their NEW CARS, WHILE IN PROCESS OF CONSTRUCTION; as thereby much detention of cars, and great expense will be avoided.

Models and Testimony of the above Boxes, may be examined, and arrangements may be made for the Right to use the same, with the subscriber.

WM. SHERBURNE,
PRINCIPAL AGENT,
Office, No. 167 Broadway, New York.

March 26, 1853.

HAMMERED CAR.

AND

LOCOMOTIVE AXLES,
FROM THE PENCYD IRON WORKS.

THE Subscribers are prepared to manufacture the above of the very BEST materials and with promptness.

Address A. & P. ROBERTS,
Office, No. 80 1-2 Walnut St., Philadelphia.
March 26, 1853.

FOR SALE.

TWO Sixty Horse Power Steam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia, (where they may now be seen.)

Apply to A. & J. ROBERTS,
No. 80½ Walnut Street, Philadelphia.

Notice to Contractors.

OFFICE N. O., ORLEANS & GREAT
WESTERN RAILROAD CO.,
New Orleans, March 5th, 1853.

SEALED PROPOSALS will be received at this office, until the 10th of May next, for the construction of that portion of the road between Bayou Lafourche and Berwick's Bay, a distance of 31 miles; also from Berwick's Bay to Washington, 92 miles, including a branch road of 18 miles. Proposals will be made for the entire completion of the road, (except furnishing iron.)

References of ability, and security, will be required.

Plans and specifications of the work to be seen at this office, after the 10th of April.

JAMES G. GIBBS, Chief Engineer.

Locomotive Engines.

**DANFORTH, COOK & CO.,
PATTERSON, N. J.,**

HAVING erected an extensive Shop, with the most approved Machinery and Tools, are prepared to execute orders for the various classes of Freight and Passenger Locomotive Engines and Tenders, in the best manner and on the most favorable terms.

Also, Stationary Engines, and the various Tools suitable for furnishing Repair Shops.

The business of Machine making, heretofore carried on by Charles Danforth & Co., is continued by the present firm, and all orders will receive prompt attention.

1y49

BOWLING TIRE BARS.

40 Best Flange Bars 5 1-2x2 inches, 11 feet long.
40 " 5 1-2x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by

RAYMOND & FULLERTON,
45 Cliff street.

Iron, Steel and Hardware.

H. & J. HOPKINS,

93 & 95 Barclay St.,

NEW YORK,

IMPORTERS OF ENGLISH and REFINED IRON of the BEST BRANDS, suitable for LOCOMOTIVE and CAR BUILDERS' use.

Also, Cast, Spring and German Steel, of all sizes—together with a full assortment of Hardware—Contractors and Blacksmiths' Tools, Chains, etc., which we offer at the lowest rates.

March 9, 1853.

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

February 23, 1853.

TOWNSEND & COIT, Buffalo.

Alton, Mt. Carmel and New Albany Railroad.

NOTICE is hereby given, that there are no Bonds of this company in circulation, as the books of this company will testify that no bonds have ever been issued or authorized.

And, as all the stock formerly subscribed on the books of this company was, on the 4th and 18th of December, 1852, sold by the sheriff, under executions issuing from the Circuit Court of Edwards county, Illinois, and was by the purchasers at such sales, or by their assignees, surrendered to the present board of directors, on the 29th of January, 1853: All Certificates of Stock bearing date previous to that time are worthless.

It having been reported, that bonds and certificates of stock of this company have been offered for sale or pledge by parties formerly connected with this company, the board have thought it right thus to put the public on their guard.

F. B. THOMPSON,

Pres't, Mt. C. & N. A. R.R. Co.

SAMUEL THOMPSON, M. D.,

Sec'y to the Board.

March 7th, 1853.

1m12

A. Whitney & Son,

PHILADELPHIA, PA.

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31st

RAILROAD CAR AND COACH TRIMMINGS.

Doremus & Nixon,

No. 21 PARK PLACE,

AND

18 MURRAY STREET.

IMPORTERS

OF PLAIN and FIGURED MOHAIR PLUSH;

Printed and Unent do. do. entirely new designs;

ALSO GERMAN OIL CLOTHS FOR HEAD LININGS,

Enameled with Gold and Silver and Velvet Printed.

These Headings are the most beautiful ever shown, having been made expressly for American Cars. D. & N. are sole Agents.

ALSO, PATENT PARIS COTTON FELT.

This is a patented article, makes a better and more desirable cushion than hair; retains its elasticity longer, and is free from vermin.

It is being extensively used by Car and Omnibus builders, and is sold at about half the price of curled hair.

ALSO, BROCATELLES and MOQUETTES.

ALSO, CURLED HAIR.

N. B.—We have the Plush and Linings in bond for exportation.

DOREMUS & NIXON.

November, 1852

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Peoria and Oquawka.	" 1863
6 per ct.—Maysville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington.	" Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Muscookee Railroad.	" Savannah, 1862
7 per ct.—Huron and Oxford.	" New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa.	" Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.	" Huron, 1861
7 per ct.—Town of Newark, O.	" New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock.	" 1866
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.	" 1862

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.

Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York R. R. Co.
Stock in the Mansfield and Sandusky R. R. Co.
Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

GLENDON REFINED IRON.

BAR, RODS, BAND IRON, etc., for sale by
GEORGE GARDNER & CO.,
March 9, 1853. Boston, Mass.

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer.

Address "H. W.," this office.

3*12

To Railroad Companies, Car Builders, Machinists, etc.

**SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.**

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc.

15:7*

**The Cold Spring Iron Works
INCORPORATED IN 1848.**

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.

E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder,

Address HENRY MELLUS, Agent,
Boston, Mass.
or, GEO. W. PRESCOTT, Sup't,
Otis, Mass.

November 12, 1852.

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

Leave Toledo at 9 A. M. and 10 P. M.

Leave Cleveland at 9.20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Railroad, for Chicago and the West.

At Bellevue with trains of Mad River and Lake Erie Road, for Sandusky City, Dayton, Indianapolis, Cincinnati, etc.

At Monroeville with Mansfield and Sandusky City Road, for Sandusky City, Shelby Junction, Columbus, Newark and Zanesville.

At Grafton with Cleveland, Columbus and Cincinnati Road, for Shelby Junction, Columbus and Cincinnati.

At Cleveland with Lake Shore Road, via Dunkirk, for New York and Boston, via Buffalo, for New York and Albany and for Western Road and Boston, with Cleveland and Pittsburg Road for Pittsburg, Wheeling, Philadelphia, Baltimore, & Washington City.

E. B. PHILLIPS, Sup't.

Office T. O. & C. R. R.,
Norwalk, N. J., Feb. 2 1853.

Iron for Machinists.

THE SUBSCRIBERS,

IMPORTERS and DEALERS IN
IRON AND STEEL,

HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE and CAR BUILDERS, AND MACHINISTS GENERALLY.

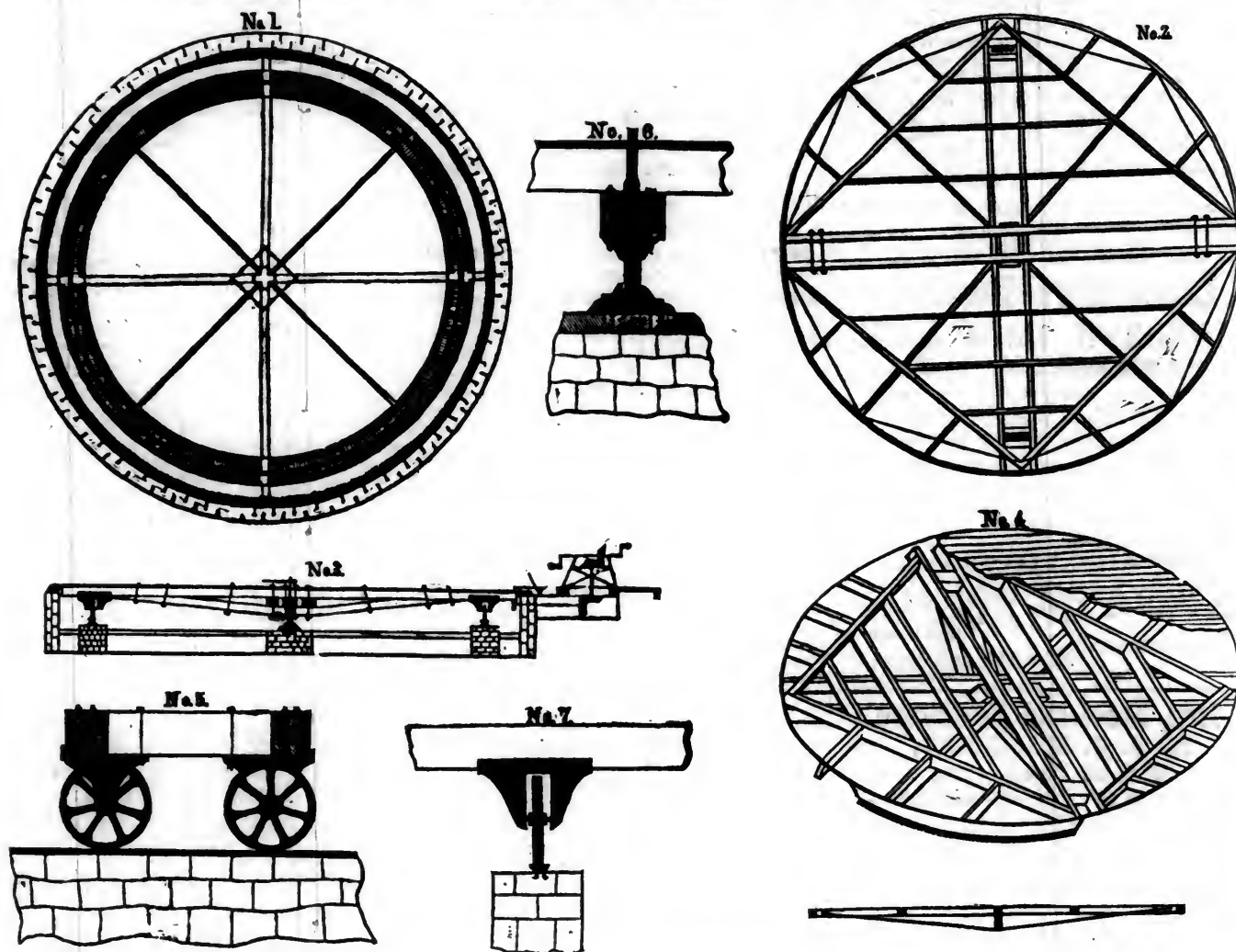
ELLIOTT & HOLDEN,
Feb. 16, 1853. 90 Beekman st., N. Y.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by

G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN in 25 SECONDS.**

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.
Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.
Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.
Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.
Fig. 4, gives a perspective view of the rim, segments, decking, etc.
Fig. 5, is an end view of the main trucks, with pedestals and wheels.
Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.
Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address
D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES.

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.
Oct. 2, 1852. 17*

E. DEWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use. JAS. PRENTICE,
Feb 9 1853. 315 Broadway, N. Y.

Railroad Iron.

THE undersigned Agent for the manufacture, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales, or at this port.

For terms, apply to

JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, L. N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,
Sole Agents, 28 Platt st., New York.
New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 15.]

SATURDAY, APRIL 9, 1853.

[WHOLE No. 886, VOL. XXVI.

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, April 9, 1853.

New York and Erie Railroad.

We have shown in the late numbers of the *Journal* what the Erie railroad *has been*. We now propose to show what, under good management, it is capable of *becoming*. We believe the era of such management has commenced. If so, our object has been accomplished. A good beginning has certainly been made. The company have called to their aid the services of a competent person, to exercise a general supervision of affairs. The necessity and propriety of submitting a report of their doings has been acknowledged. To have been instrumental in awakening the company to a consciousness of the reckless and headlong career they have been pursuing, and the necessity of reform, is something. But everything cannot be done in a day. To prepare an intelligible report of the situation of the company's affairs will require time; to ascertain the amount yet needed to complete the road, and to effect the needed reforms in its management and internal economy, a still longer period. A move in the right direction has been made. We are willing to wait a reasonable time to see whether it will go to the root of the matter; whether it will effect a radical change in the policy that has been pursued. We assume that the

reform will be a *complete* one; and we now propose to show what, under proper management, the Erie road is *capable* of doing, both for its owners and the public.

The Erie railroad is (by way of Piermont) 470 mile long. It is safe to say that it commands the trade of a belt of country extending 30 miles upon either side of its line. This would give an area of 28,000 square miles of territory, for which this road not only furnishes the *best* outlet to a market, but the appropriate line of communication between the different sections of this widely extended territory.

The whole of this territory will compare favorably, for excellence of soil and climate, and in extent of production and resources, with an average of an equal area selected from any other portion of the country. The Delaware division of about 100 miles in length, runs through a poor and comparatively unproductive country, but even this supplies a large traffic in *lumber*, and its agricultural productions are steadily increasing. But the poverty of *this*, is made up by the fertility of the country bordering other portions of its line. Orange county, traversed by the eastern portion of the road, is celebrated for its fertility and productivity. That portion of the State watered by the beautiful Susquehanna, and from which the road must always draw the larger part of its business, is hardly surpassed for excellence of soil and climate, by any section of the country. In fact, the entire territory, traversed by the road, after the Susquehanna valley is reached, to Lake Erie, possesses an excellent soil, which may be made capable of producing to almost any extent. A greater portion of this territory is still covered with primitive forests, but these converted into lumber, for which there is a constant demand in New York, at the highest rates, will in fact yield, while in the process of being cleared from the soil, an equally large and lucrative traffic, as the products to which they are fast giving place.

To this vast region, with all its variety of productions, the Erie road is the appropriate outlet to market. Its isolated position has retarded its settlement, and checked the development of its wealth. The Erie road has already exerted wonderful influence in promoting its settlement, in stimulating the development of its wealth,

and in imparting general activity to every kind of business. But the effects that this road will produce, are only just begun to be seen. What they will be, may be inferred from what the Erie canal and the Buffalo and Albany railroads have effected in *central* New York. These works have built up a constant succession of thriving towns and cities, from the Hudson to Lake Erie. The Erie road will accomplish the same results along the southern boundary of the state. These towns, the *product* of the railroad, will in time supply it with an increased, and a more lucrative business, than that directly furnished by an agricultural community. The road, in fact, will create a business for itself, the extent of which cannot be known, or even estimated, until the road shall have had time to work out some of the legitimate results of its construction.

Another important fact in favor of the Erie road, which must add largely to its revenues and importance, but from which it has yet derived no advantage, is its proximity to the Pennsylvania coal fields. For nearly 200 miles, it skirts almost the very edge of these fields. Already two lateral branches, just completed, connect the Erie road with two of the most important of the coal deposits—the anthracite mines of the Lackawanna valley, and the bituminous, at Blossburgh. Others are in progress toward the coal beds lying still nearer to the lake. These coal beds are associated with an abundance of iron ore. For both of these, as well as for the manufactured article, the Erie road will afford a direct outlet to the lake, on the one hand, and the Hudson river, on the other—as well as to the numerous and thriving cities scattered over central and western New York. Numerous manufacturing establishments must spring up on the line of a road, where every kind of raw material used for manufacturing purposes and food, is so abundant, both to meet a domestic or home demand, and for exportation. The proximity of the Erie road to the coal and iron fields of Pennsylvania, we regard as of the highest importance to its future prosperity.

The passenger traffic on the Erie road, is very large, and is rapidly increasing, both from the stimulus imparted to every kind of business, and the rapidly increasing population on the line of the road, the following statement shows the popula-

tion of the counties in New York and Pennsylvania, the passenger traffic may be said to be monopolized by this road, viz:

NEW YORK.		
Counties.	Pop. 1840.	Do. 1850.
Orange.....	50,782	57,164
Sullivan.....	16,630	25,090
Delaware.....	35,364	39,871
Broome.....	22,348	30,660
Chemung.....	20,741	28,964
Chenango.....	40,779	40,313
Cortland.....	24,669	26,058
Tioga.....	20,351	25,384
Tompkins.....	38,113	38,749
Steuben.....	45,985	63,785
Alleghany.....	30,285	37,600
Cattaraugus.....	28,303	38,910
Chataque.....	47,641	50,624
Total.....	421,268	492,173
		421,268
Increase.....		70,905

PENNSYLVANIA.		
Counties.	Pop. 1850.	Do. 1846.
Pike.....	5,876	3,832
Wayne.....	21,911	11,848
Susquehanna.....	26,691	21,195
Bradford.....	42,797	32,769
Tioga.....	24,162	15,498
Potter.....	5,952	3,871
McKean.....	5,254	2,995
Warren.....	13,670	9,278
Erie.....	38,717	31,334
Total.....	185,030	132,098

Total population in both states now dependent upon the Erie railroad..... 677,223

We think the Erie is better adapted to command a larger through traffic in *passengers* than *freight*. Our opinion is that the Erie canal will always continue to be the great carrier of goods between the east and the west. Not so with passengers. All this business is thrown upon railroad. There can be no doubt that the Erie road can command a fair proportion of this trade, against all rivalry or competition, and at paying rates.

The earnings from passengers upon the Massachusetts railroads for the year 1862 were, \$3,641,795, or nearly four dollars to each inhabitant in the state. The same average would give the Erie an income of \$2,600,000 from local passenger traffic, to say nothing of the immense tide of western travel thrown upon the road at its western terminus.

As already stated, the resources of the country traversed by the Erie railroad, are hardly begun to be developed. The population, by the census of 1850, was only 21 to the square mile, while the rest of the State averaged 68. The same ratio would give more than 2,000,000 of people, where we now find only 677,223. There can be no doubt that the population in this territory will increase rapidly, till the above mark is not only reached but exceeded, and with this increase the tendency and ability to travel will increase in much greater ratio.

We have touched upon some of the *local*, and which are the more important—sources of present and prospective revenue to this road. It is equally well adapted as any similar work, to become one of the leading avenues of trade between the ocean and the west. It extends in an unbroken line, and under one management, from the harbor of New York to the great lakes, which present a navigable water line extending 1500 miles beyond its western terminus. These lakes are fast

becoming the great theatre of western trade; and all the avenues between them and tide water, are, and will for an indefinite period be, crowded to their utmost capacity. The Erie road receives, and must always receive, a very large trade from its lake terminus. This trade, to be sure, is competed for by rival works, which fact has a tendency to reduce the rates of transportation; but it is still sufficient remunerative to yield a handsome revenue.

Such is a brief view of some of the more important sources of revenue of the Erie road: There can be no doubt of its capacity to command a traffic fully equal to the ability of a double track road. The earnings of the past year fully prove this fact. We have no idea that the net earnings were what they were claimed to be; yet we believe that under a proper system of management they can be made to exceed this sum. The immense business that the road is doing may be made a lucrative one.—It is daily and rapidly increasing, while with a better system, and an improved road, and equipment and double track, which is progressing rapidly, the expense should be *diminishing*; and although a large sum is yet required to complete the work, we see no reasons to suppose that the earnings of the road will not meet the interest on its bonds and floating debt as it falls due; whether future dividends can be paid from earnings, are not by any means so clear. We can only determine this point by applying to it those general principles, which are the *results* of cases similar to the one before us, we assume that at least the sum represented by the capital stock, say 10,000,000, has been *lost* in construction. Now, we have in every part of the country and in this state, roads cheaply and economically built and managed, the owners of which are content with six or seven per cent interest. Upon such roads prices are so graduated as to yield the above rate of earnings. These roads not only set a standard of charges which other roads must adopt, but are the direct rivals for their business. The road that has made heavy losses must always feel those losses in its dividends, no matter how large its *gross* results, nor how far removed from the competition of other roads. The weak spot will always come out. The losses sustained from whatever cause can rarely be replaced from earnings. These earnings have to be spread over a wider surface, but with a thinner coating, such are the results of experience, though our companies are often unwilling to admit the fact. They cannot waste their means and have them at the same time. Every cent lost in construction is felt in dividends, and where a road has lost 10 or 15,000,000, we see no reason for supposing that a dividend can be earned upon as large a sum, unless a road possesses extraordinary advantages. Such will be the result with the Erie as far as its stock is concerned. The frightful hiatus in its capital account, will in the end "return to plague its inventors."

The main thing can yet be accomplished. The credit of the company, as far as its indebtedness is concerned, can be maintained inviolate. But to do this immediate and thorough reform is necessary. A right system of economy must be introduced. Notwithstanding the immense business of this road, it is proved by the returns of this company to the Legislature, that they *charge* and *receive* considerable *less* from similar services, than the

average of our roads. The receipts per mile, per passengers, or per ton of freight, were only 1.84 cts., while it is generally estimated that two cents per mile is as low as ordinary freight or passengers can be carried, with a reasonable profit. This fact shows the necessity of observing economy in the management of this road, for it is only by doing so any considerable profits can be realized.

To restore confidence in the road, there must not only be thorough reform in its management, but the public must henceforward know what this management is. They must know for what objects money is wanted, and, when received, whether it has been properly or improperly expended. They must know by what authority the directors lease, purchase, or take stock in other roads, or borrow money, without the action or consent of the stockholders. They must see whether the directors have made good or unconscionable bargains in their contracts for grading, for the purchase of iron, etc., etc. They must see the *acts*, for the purpose of determining the competency of the directors for the places they hold.

Full and lucid statements, as to all these, and a thousand other matters, perhaps equally important, must be laid before them. In fine, reports must, for the future, be made *annually* to the stockholders, with a fullness of detail, and accuracy of information, and got up in a style, suited to the magnitude of this great work. We must have no such reports or explanations as have been given, which only show that the true condition of the company's affairs are *concealed*. The public have yet to know, and *must know* what has become of the money which the company has received, and why the often repeated estimates have been so invariably exceeded. The *ordinary* responsibilities of managers of railroads can be shuffled aside and avoided by the directors of this company no longer. It is the creditors of this company that have now taken up this inquiry, and they will be put off with nothing but an *answer*.

The reforms we have indicated, we believe Mr. McAlpine will carry out. He certainly will, if he can be allowed to have his own way. After present abuses are corrected, the first step should be to ascertain the sum necessary to *complete* the road. This done, and the money provided, let the construction account be *closed*. Let *repairs* be charged to *earnings*, and then the company will begin to know where they stand. Until the road is completed, or till it can be ascertained what it is *actually* earning, no *cash* dividends should be paid. Sinking and reserve funds, should be created out of the earnings, which should always take precedence of *dividends*. If such reforms as *these* are undertaken and carried out, the *credit* of the company, at least, will be preserved intact; and such reforms *must*, and we are confident, *will be achieved*.

Girard Railroad.

The *Columbus Times* states that there are, at this time, five hundred and fifty hands at work between Girard and Colbert, a distance of twenty-two and a half miles. The bridging and superstructure are contracted for by energetic and responsible men. Much of the grading is already completed, and it is believed all of the *twenty-two* and a half miles will be in running order by next winter. Contracts are now being made for the grading to Union springs, Macon county, a distance of fifty-two miles.

Illinois.

Peoria and Oquawka Railroad.—A meeting of the directors of the Peoria and Oquawka railroad company was held at Knoxville on Saturday last. A delegation from the Logansport and Pacific railroad company was present, and articles of association were entered into between the two companies, agreeing upon a connection of the two roads at the state line.

It is understood that the Indiana company are to extend and complete their road from Logansport to Middleport, in this state, as soon as practicable.

We understand, also, that favorable proposals are offered by eastern companies, for the extension of the Peoria and Oquawka railroad eastward from Peoria, to open a communication with Toledo, Cincinnati, Pittsburgh, and the eastern cities, by way of Logansport.—*Peoria News.*

Maysville and Lexington Railroad.

The Maysville and Lexington railroad company, (says the *Maysville Eagle*), have made a contract with Mr. Currier, a well known, energetic contractor, for laying the superstructure of their road. By the contract, he is to commence laying the rails between Lexington and Paris in May, and have that portion of the road ready for the cars early in July. Another portion of the road will be in operation in September or October, and the whole next spring. All the iron and machinery necessary have been already purchased. The force now employed in grading is very heavy, and the whole work is progressing with great vigor and rapidity.

Pennsylvania Railroad.

SIXTH ANNUAL REPORT.

The board of directors of the Pennsylvania railroad company, in returning their trust into the hands of the stockholders, embrace the occasion to congratulate them upon having opened, on the 10th ultimo, a continuous railroad from Philadelphia to Pittsburgh.

This important object has been effected within the short space of five years from the beginning of active operations east of the Allegheny mountains, and two and three-fourths years from their re-commencement west of that barrier—a very small amount of grading having been previously done near Pittsburgh.

The Portage railroad—over which we exercise no control—at present forms a part of this continuous line, and it is still obstructed by seven inclined planes. The inconvenience and delays attending the passage of these, have given to the route through Pennsylvania a character, that has not impressed itself favorably upon the traveller.

Notwithstanding these objections to the route, it has afforded the means of maintaining a reasonable competition with its rivals, for the trade and travel between the east and west—drawing to Philadelphia a transportation, which, but for the construction of the Pennsylvania railroad, would now reach the seaboard over the avenues opened by other cities.

The business of the road during the last year, unsatisfactory as the character of the line seemed to be, has nevertheless reached the large sum of \$1,943,827 81, greatly exceeding the expectations of the board at its commencement. The nett profits of the company from this source have been \$617,025 87—leaving a surplus, after paying the interest due to stockholders and others, of \$40,018 56.

From the report of the chief engineer, the board entertain the hope, that the obstructions which at present prevent the Pennsylvania road from becoming the best and most popular avenue of travel between the east and the west, will be removed during the ensuing autumn. The difficulties upon it have recently been greatly reduced by the avoidance of three out of the ten inclined planes, heretofore used on the Portage road, which has insured to the operations of that work increased regularity in the arrival of our trains.

No efforts have been spared to press forward the grading now in progress, to avoid the remaining

planes. Every point, where the character of the work would probably cause a delay in its execution, has been fully manned, and a continued supply of laborers will be maintained, by forwarding them from Philadelphia, as heretofore, without charge.

The board, on entering upon the performance of their duties in February last, found that contracts for the construction of the road had been made, which, added to the amount necessary to render the whole outlay productive, involved the expenditure of the further sum of four millions of dollars, while the means available to meet the contracts entered into had become exhausted.

The policy which dictated the creation of these obligations was eminently judicious, and it is only to be regretted, that the company had not boldly met the financial question involved, a year earlier. Without the construction of the mountain division, for which they had been incurred, an equal competition for the trade of the west with other routes, would have been a hopeless effort. With it, we can present the best thoroughfare between the Atlantic and the Mississippi.

Under these circumstances, the only question that the board felt that they had to decide, was in what manner the means could be best obtained, to secure the earliest practicable completion of the whole road. A suspension of the work could not be thought of.

The city of Philadelphia, and the district of the Northern Liberties, having made conditional subscriptions, amounting together to the sum of one million of dollars, which required a further sum of \$283,000 to be subscribed on the part of individuals to make it available; a call was made upon the stockholders and citizens generally to aid in raising this amount, which was promptly and successfully responded to. The amount thus raised, added to the large receipts from the business of the road, and the proceeds of the municipal subscription, afforded relief from pressing demands upon the treasury, but fell far short of the sum required to meet the wants of the company, and to insure the uninterrupted prosecution of the work that had been commenced.

From the efforts made by members of the board and those who co-operated with them, to raise the limited amount of stock required to effect the object already mentioned, they were convinced of the utter hopelessness of securing in time, by similar means, the sum necessary to meet the demands upon the treasury. The period when active exertions might have secured the accomplishment of the cherished policy of the company, had been suffered to pass.

While the board was satisfied of the necessity of adopting, under the circumstances, the alternative of a loan, they declined to carry their views into effect without the concurrence of the stockholders. This was accordingly asked, and resulted in receiving their sanction, by a vote of 134,680 to 754.

A loan of five millions of dollars was authorized, and the amount (three millions) required to complete a single track road from Harrisburgh to Pittsburgh, including outfit, &c., was disposed of on favorable terms, to parties whose character was a full guarantee to the company of their compliance with their offer, under any and all changes in the financial condition of the country. The early completion of the road was the great object desired by the board; and this has been secured beyond a contingency by the policy adopted, and the arrangements made under it.

From the statement of the treasurer, herewith submitted, it will be seen that the receipts from stockholders, in payment of instalments on 200,000 shares subscribed to the capital stock of the company, was, on the thirty-first day of December last.....\$9,768,155 00
The receipts from the \$3,000,000 loan, to same date.....1,906,666 67

Total.....11,674,821 67

The report of the superintendent, which is also submitted, accompanied by a number of valuable tables, exhibiting in detail the operations of his department, shows the whole business of the road during the year 1852, to have been 1,943,827 81
And the expenses incurred in transacting this business on the Pennsylvania railroad and connecting lines, including stage fare, boat hire, &c., during the same period. 1,826,801 94

Nett revenue.....617,025 87
From this deduct interest paid and due to stockholders in 1852 \$540,810 50
And interest paid on loans, mortgages, and ground rents.....36,196 81
577,007 81

Leaving a net income, after payment of whole interest.....\$40,018 56

Resources of the Company.

Balance of receipts, as above.....\$40,018 56
The receipts from stockholders, and loans, to January 1st, as already stated, was.....11,674,821 67
There is yet due from stockholders, in payment of instalments.....231,845 00
And from the purchasers of the three million loan, including premium.....1,189,333 33
Five thousand shares of the capital stock of the Ohio and Pennsylvania railroad company, upon which there has been paid.....137,600 00
There has been invested in materials for working the road, consisting of wood, lumber, cross-ties, iron, steel, pig metal, wheels, castings, oil, cotton, waste, &c., on hand January 1st, 1853.....81,690 00

Total resources for constructing and working road.....13,355,308 56
The disbursements and advances on account of road and outfit, up to December 31st, 1852, was.....\$10,518,072 51
Interest account, Dec. 31st, 1851, was.....241,571 07
Ohio and Penn. railroad stock.....137,600 00
10,897,243 58

Leaving this amount to work the road, and meet the obligations of the company in 1853.....2,458,064 98
There will be required to settle unadjusted claims for work on the western division, and to complete a single track road across the Allegheny mountains.....1,221,000 00

Leaving a balance of.....1,227,064 98

The resources of the company stated above includes the stock of the Penn. & Ohio R.R. Co., which it is not proposed to dispose of, amounting to.....\$137,600 00
And materials on hand, which will be consumed in working the road and building cars.....81,640 00
Additional materials required for same object during 1853, say 40,000 00
Yet due on Ohio and Penn. R.R. stock.....112,400 00
371,640 00

Leaving available for Indiana branch and increased outfit.....\$865,424 98

The expenditure of this balance would close our outlays—except for the increased outfit required to meet a continually increasing business—if the demands for transportation facilities had not warned the board of the necessity of providing at once an additional track, throughout the whole extent of the road, for the accommodation of the vast amount of produce that is already pressed upon the company for conveyance to market. The extension of the several avenues diverging from the western end of the road, into every portion of the west—seemed too plainly to point out the necessity of this measure, to allow the board to hesitate as to its adoption.

They accordingly directed their chief engineer, as soon as the financial arrangements of the company justified the undertaking, to proceed at once to widen the graduation of the road-bed, for the additional track, and to contract for twenty thousand tons of iron rails—sufficient for four-fifths of the line between Harrisburg and Pittsburg.

The additional grading required is now in progress, and the iron has been contracted for at fifty-six dollars and fifty cents per ton, with the well known firm of Reeves, Abbott & Co., of this city, who have furnished nearly all the rails heretofore laid upon the road, of a quality that has given general satisfaction.

It is the intention of the board to double the road—from Harrisburg to the Susquehanna bridge—from Millerstown to Lewistown—from Altoona to Johnstown—and from Latrobe to Pittsburg—during this year, if practicable; and the remainder of the line as fast as the iron can be delivered. The whole may be completed during 1854.

The means necessary to meet this additional outlay, it is proposed to raise, by a further issue of two millions of dollars of the bonds of the company, and the sale of additional stock, which will doubtless command a premium, when the funds are required to pay for the work; or it may be divided among the stockholders, in proportion to the amount held by each.

That the stock is now worth more than par, the results obtained from the last year's business, under all the disadvantages of its connections—must satisfy the most skeptical.

The cost of the whole road, when finished with two tracks, will not exceed the original estimate of the engineer. According to the estimate submitted by the present chief engineer, it will fall somewhat below that sum; but it is believed that unforeseen contingencies will finally swell the cost to the amount previously estimated—thirteen million six hundred thousand dollars, exclusive of outfit. The means required for the latter object will be limited by the extent of business that may offer for transportation. If it exceed our original expectations, it will be a gratifying evidence that the prosperity of the road, and the necessity for its construction, were underrated by those, who have been the most sanguine as to the results that would flow from the completion of the enterprise.

The statements accompanying the report of the superintendent, afford full information in relation to the receipts and disbursements of the finished road, and are referred to as worthy of an attentive examination from the stockholders.

The system of accounts adopted for this branch of the company's service, affords every desirable information in relation thereto worthy of preservation; and are as simple as they can be made to meet this object. To preserve this system in its efficiency, and to subject the accounts of the company to the scrutiny of a responsible officer, the board have, under the recent organization adopted for the road department, appointed W. B. Foster, Esq., (formerly associate engineer,) auditor, and consigned to him the duty of their examination and entry at the principal office in Philadelphia.

This arrangement, when fully carried out, will render accessible at all times, information in relation to details of disbursements, which have heretofore been procured through reports furnished by the superintendent, which have required too great a tax upon his time to communicate.

The flattering exhibit of the year's business must prove exceedingly gratifying to the stockholders. Conducted as it has been over the roads of this state, and that of another company, as well as through the agency of stage lines and canal boats—it was difficult to predict the final result. This, however, has proved, at the close of the year, and the termination of the stage and boat contracts, satisfactory; while the attractions of the route have been such, as to give to it a sufficient amount of business to render the outlay of the company remunerative.

It is also gratifying to state, that it has been managed without accident to passengers, or a material delay to freight, except for a short period, where the transfer of business from the contractors, for its transportation on the canal, to the direct agents of the company, after the usual period for closing navigation on that avenue had taken place.

This operation, under the circumstances attending it, caused much annoyance to shippers, and an unexpected detention to goods, which a month's earlier completion of the western division would have entirely avoided.

The shipments from the west, since the close of canal navigation, have been unexpectedly large, owing to the advance in the price of produce, and the present high rates of freight between *New Orleans and Northern ports*, which have turned to this channel an amount of business that has taxed the road, in its unfinished condition and incomplete equipment, to its utmost capacity. The amount transported has however been *fully equal to the limited power provided by the state for its conveyance over her roads*; which would have prevented the full employment of a larger number of cars, if they had been provided.

In addition to the fifty-one locomotives now on hand, orders have been given for the construction of sixty more; sufficient to move daily 1000 tons each way between Philadelphia and Pittsburg, exclusive of local freights east of the mountains. Cars will also be provided to fully employ this amount of motive power. Unless a larger number of locomotives are procured by the state, than the appropriation asked of the legislature by the canal commissioners for their purchase would seem to indicate, freight will be subject to much greater delays during the ensuing fall and winter between Columbia and Philadelphia than has occurred this season.

To procure full employment for their machinery the board has established from time to time such rates of freight as enabled the company to compete with other routes contending for the same trade. Their winter rates might have been somewhat higher, if the sole object in arranging them had been the direct profits of the company. It has been our policy to meet the efforts of competing lines,—to draw the trade of the west into other channels,—by reduced rather than uniform charges; from this cause chiefly, has our through tonnage been more than doubled this year, without any material increase in the length of road in use over that of the previous year.

The system of uniform charges, which formerly governed the establishment of rates of freight by this company, was continued upon the local business until the close of canal navigation, when the rates were slightly raised, with a view to greater reductions in the spring, to secure the more important advantages of a uniform business instead of uniform rates. By this means, a lower average scale of charges may be maintained throughout the year, and the public interests as well as that of the company promoted.

The local traffic of the road is rapidly increasing and it is capable of great expansion, under a judiciously arranged tariff of freights. This company cannot however afford to reduce their rates of transportation upon this business to the standard adopted by other lines, in consequence of the high tolls and the three-mill tax levied by the state. The rates adopted for through freight and travel must be regulated by competition with rival lines, into whose charges the element of taxation does not enter, as it is not imposed upon them.

It cannot be paid by this company, without receiving it from some source; and as the through transportation will not bear the burden, it must necessarily fall upon the local business of the country traversed. Fortunately for the stockholders, the resources of this region are ample to meet this tax, without interfering with fair dividends upon the stock of the company, and its imposition can have no other effect than to retard the development of the wealth of the country adjacent to our road, within which its influence is felt.

The method of levying this tax is particularly injurious to the prosperity of the region traversed, inasmuch as it is a governmental impost upon the productions of our citizens, in addition, and in proportion to the disadvantages of their distance from market.

The last annual report of the company informed the stockholders of the purchase of the Powelton estate in West Philadelphia, for general depot purposes. The company possessing no authority under its charter to hold this property, application was made to the legislature at its last session, to obtain this right, and a bill was accordingly passed through both branches of the General Assembly, which did not meet the Executive approval. The Act was subsequently modified to conform to the Governor's views, and afterwards became a law. Under its provisions the company can hold but thirty acres; the remaining sixty-three acres is to be held by the purchasers, under the agreement to convey it to the company, at any time previous to July 1st, 1860. If no authority to hold this property can be obtained, or it should not be disposed of at the request of the directors previous to that time, it is to be sold before the first day of July, 1861, and the proceeds, after paying cost and expenses, paid into the treasury of the company.

The great object to be secured by this purchase, was room for the transaction of the company's freight and passenger business; for which purpose it will be used to a considerable extent. The board, however, after a careful examination of the whole subject, determined to place their main freight depot within the city. A convenient and central location—on Market, between Juniper and Thirteenth streets—was accordingly selected, and preparations are now being made for the removal of the freight department to that point. The difference between the cost of drayage to West Philadelphia, and the conveyance of freight in cars to the same point, was found to be (on a business that we shall at once command) more than sufficient to pay the interest on the cost of the property purchased, without taking into consideration the convenience of the customers of the road, in their daily transactions with the freight office.

Arrangements for the accommodation of the passenger business in Philadelphia have been arrested, in consequence of the ejection of the company's cars from the Columbia railroad, by order of the canal commissioners, to fulfil a contract made by them, without notice to this company or the public, with Messrs. Bingham and Dock. Notwithstanding that the cars of the company had been placed upon the State railroad, at the solicitation of members of the canal board, and under assurances of their official protection, as far as it could be given. In consequence of that assurance the company was induced to pay the proprietors of the Old Eagle line a large bonus in the price of their cars over their actual value.

The net revenue resulting from this service was not the motive which induced the company to place their cars upon the road. The reasons assigned by members of the board of canal commissioners, when they invited the company to become transporters over the Columbia railroad, was that which actuated them in complying with their wishes, viz.: to avoid the annoyance to through travel, from a divided interest and responsibility in its transportation, by placing the whole passenger travel between Philadelphia and Pittsburg, as far as practicable, under one control; the cars to pass, as soon as the space between the tracks on the Columbia railroad was widened, and

the Portage railroad avoided, from city to city without change.

The importance of, and the mutual advantage to be derived by the state and company from this arrangement, were evident, and rendered its continuance desirable. The circumstances that induced the company to enter into it, were known to one member of the board of canal commissioners of last year only, who is not now in office; otherwise, they would doubtless have refused to comply with the importunities of those who sought the contract, as alleged, mainly from an impression of the importance to this company, of the revenues derived from the transportation of passengers over the state road.

The profits upon this business, it was supposed, enabled the company to reduce its rates of freight below the customary standard of the canal lines. Experience has since convinced the contractors of their error in this particular; and an arrangement is now in progress for the transportation of passengers over the Columbia road, which, it is hoped, will prove satisfactory to all parties. For the present, at least, the Philadelphia passenger station will remain at the corner of Market and Schuylkill Fifth streets, in the building erected by Messrs. Bingham & Dock.

The lot purchased in Pittsburgh for a passenger station, could not be used for that purpose without closing a short street and an alley, which cut it into three parts. The Legislature authorised these to be closed, with the consent of the city councils of Pittsburgh; the delay in procuring their assent, prevented the commencement of the building during the past season.

The accommodations for freight at Pittsburgh are of a temporary character, and commenced under an agreement with the city councils of that city for the use of a portion of the Levee. They will not involve a large outlay, and are considered in the light of an experiment, from which the best arrangement for transacting this business may be hereafter determined.

WESTERN CONNECTIONS.

The geographical position of the State of Ohio, makes her the transit ground, where the commercial contest for the trade of the West must be waged between the great northern Atlantic cities. It is here that several railroads, commenced under the influence of this rivalry, cross or intersect each other; and the freights that they bear, destined for an Eastern market, assume the direction given to them, by the relative advantages that each market and their respective avenues present to the choice of the merchant.

Hitherto the canals and railroads constructed to accommodate this trade, have generally had a northerly direction,—from the Ohio to the Lakes,—attracted to these inland seas by the comparatively cheap rates of freight thence to New York, and repelled from a direct route to the seaboard, by the high charges through Pennsylvania. The commencement of the Pennsylvania railroad gave confidence that this condition of things would soon be changed, and under the stimulus thus opportunely afforded, roads have been commenced that have already far advanced towards completion, whose ultimate destination is Cincinnati, St. Louis, Burlington in Iowa, and Chicago. We have already a continuous though circuitous line, connecting our Western terminus with Cincinnati and Chicago, and we will have within two months, a more direct route to the former city; and also a continuous railroad to Indianapolis, Terre Haute, Louisville, Evansville and Lafayette.

Of the several lines, through the co-operation of which the Pennsylvania railroad expects to receive its share of the Western trade, the Ohio and Pennsylvania railroad has made the greatest progress. This important work will be finished in March next to Crestline, on the Cleveland and Columbus road, from which point it will be immediately extended to Galion, four miles further, and connected with the Bellefontaine and Indianapolis railroad, completing a continuous railroad from this city to Indianapolis and Terre Haute, on the Wabash river.

The importance of securing a continuous railroad connection between the Western terminus of our road and the north-western portions of Indiana and Illinois, that would act in unison with this company, early pressed itself upon the attention of this Board. They were therefore disposed to entertain favorably the application of the Ohio and Indiana railroad company (chartered for the purpose of constructing a railroad from Crestline to Fort Wayne,) for aid to complete their work. The amount required to enable them to effect this object, was stated to be three hundred thousand dollars, a sum which the Board have agreed to subscribe to the capital of the said company, provided the stockholders of the Pennsylvania railroad company assent, and Legislative sanction is obtained thereto.

From Fort Wayne, it is in contemplation to extend this line through Logansport to Peoria, and thence to Burlington in Iowa, over a road that is now nearly finished. Another extension of this road diverges from Fort Wayne, and pursues a direct line to Chicago, for the construction of which a company has been organized.

The Board have also agreed to subscribe upon the same conditions, and for the same object, one hundred thousand dollars to the stock of the Springfield, Mount Vernon and Pittsburgh railroad company, a like amount to be subscribed in Pittsburgh. The inducement to make this latter subscription was an early connection with Cincinnati, by a route which, though not the shortest between Pittsburgh and that city, presents a line of light gradients and easy curvature, which with these advantages must always maintain a fair competition for the through business; this, added to the local trade of the rich and populous region it traverses, will doubtless continue to make its stock a profitable investment.

The proposed connections with Cincinnati via Stubenville, and also by Wheeling, the Board are aware, are each about thirty miles shorter than this route, the length of which from Pittsburgh is three hundred and forty-five miles. But the physical difficulties to be encountered in the construction of either of them will delay their completion to a much later period, and until they cross the Ohio by a railroad bridge, they cannot compete with the Mount Vernon route. The connections upon this route with Cincinnati have been arranged, so that the whole line will operate sympathetically with our own.

The line of the Ohio and Pennsylvania railroad is laid as far north as we have expected to cause any considerable diversion of the trade and travel of that region to this city, or through it to New York. A more direct and a very favorable route to Cincinnati, via Stubenville, has been commenced, and is far advanced towards completion, the main line of which, however, passes above that place, traversing the garden of Ohio and Indiana in its course towards St. Louis, passing through the capitals of both States. This route will cross the Ohio river at Stubenville, by a railroad bridge of moderate extent, without a draw, and will have the advantage of possessing the same gauge throughout, from the Delaware to the Mississippi river.—In all its characteristics, it may well deserve the appellation of the "Great Central Line" from the Atlantic to the far West.

Its completion may be delayed by the disinclination of Virginia to grant a charter to pass through a narrow neck of her territory, in consequence of the hostility of Wheeling; but this illiberal spirit must finally give way to more enlightened views of public policy. If it should not, the route down the Ohio to Wellsville, and thence to the Stubenville and Indiana railroad, by the most direct course, will accomplish the same object, without a very material loss of distance.

A third line has been considered essential to secure the trade of Southern Ohio, and the larger portions of Kentucky, from whence Philadelphia receives some of her most valuable customers;—The only available charters under which roads can be constructed into that region, to connect with our own, are those of the Hempfield and the Marietta and Cincinnati companies.

The first has received the aid of this city, and will doubtless be completed at as early a period as the character of the country it traverses will admit of, giving a continuous road from Philadelphia to Wheeling. The line from Marietta to Cincinnati is already in progress, leaving the space between Wheeling and Marietta,—a distance of seventy-six miles,—to be filled up, to accomplish the object desired. To construct a road over this space, the Board have been asked to subscribe to the capital stock of the Marietta and Cincinnati railroad company the sum of seven hundred and fifty thousand dollars, which it is alleged will be sufficient, with the aid afforded by the city of Wheeling, to complete the whole line.

Unwilling to pledge the company for so large an amount, without further information as to the merits of the enterprise, the board under a general resolution, instructed their chief engineer to visit the west, and after a careful examination, to report his opinion as to the importance to this company of the construction of each enterprise that had claimed its aid.

His report has been laid before the stockholders, and it will be perceived that it strongly recommends this improvement, not only as one that will secure an important and valuable feeder to our road, but also as one that will afford a full return in direct profits upon the capital expended in its construction. Under this information, the board feel justified in recommending to the stockholders to grant authority to subscribe \$500,000 to the capital stock of this company, when satisfied that the means for the prosecution of the whole work are sufficient to secure its completion.

The three leading lines referred to, when finished, with their dependencies, will give to Philadelphia and to the Pennsylvania railroad company all that they can desire in their connections with the west; and each deserves encouragement from this company.

While the board has felt the importance of securing the best connections practicable with the far west, they have not been unmindful of their obligations to the regions traversed by their own improvement. The conditions upon which the construction of a branch line to Indiana was authorized by the stockholders and the board, having been virtually complied with; a location of the route has been made, and the graduation of the road bed will be placed under contract during the ensuing spring. This branch will be 16½ miles in length, and it is estimated to cost \$175,000.

A survey of the proposed branch to Uniontown has also been made, but the results have not yet been reported to the Board. This important arm of our enterprise will open to the Philadelphia and Pittsburgh markets an exceedingly fertile region, the productions of which now find their way to Baltimore. The Board have given assurances that this work will be commenced as soon as a satisfactory line for it has been selected, and the conditions required of the citizens of Indiana complied with, by those of Fayette and Westmoreland counties.

The completion of these branch lines, and the extension already referred to through Ohio, must throw upon the Pennsylvania railroad at an early period, a business which even a double track cannot accommodate without a detention of trains, in consequence of the unequal degrees of speed required for the convenience and accommodation of the public. A third track, for those portions of the line where this interference of trains will occur, which experience will soon point out,—will overcome this difficulty, and give to the road a capacity more than equal to that of the New York Canal, and an ability to compete with it in the prices of transportation. We shall then again turn the tide of western trade upon Philadelphia, from whence it has been diverted by the lower rates of freight charged on the routes through the State of New York.

Since the last annual meeting of the Stockholders, the Board have re-organized the Transportation Department, and appointed Herman J. Lombaert, Esq., Superintendent, in the place of Herman Haupt, Esq., who resigned his post to fulfil a

professional engagement at the South. While the Board regret the loss that the company has sustained, in accepting the resignation of the energetic individual who so ably and faithfully managed this department since its organization, they feel satisfied that they have secured, in his successor, a gentleman whose experience and well-tryed judgment give an assurance of a successful administration of the important duties assigned to him.

The Board refer the Stockholders to the report of the Chief Engineer, for more detailed information in relation to the progress and condition of the work committed to his charge. They notice, with regret, an intimation contained in the report of this intelligent and inestimable officer, of a wish to withdraw from the post which he has filled with so much satisfaction to the Directors.

By order of the Board.
J. EDGAR THOMSON, President.

General Railroad Law of Iowa.

We give this week the General Railroad Law of this state. The companies are organized under the Act providing for the organization of companies for *pecuniary profit*. The additional privileges necessary to the construction of a railroad, such as condemning lands, and crossing public highways, are provided for by another act, which we also give. We are gratified at being able to present such liberal provisions for the construction of railroads in this new state.

1. Any number of persons may associate themselves and become incorporated for the transaction of any lawful business including the establishment of ferries, the construction of canals, railways, bridges, or other works of internal improvement; but such incorporation confers no power or privilege not possessed by *natural persons* except as herein-after provided.

2. Among the powers of such body corporate, are the following:

1st. To have perpetual succession.

2nd. To sue and be sued by its corporate name.

3d. To have a common seal which it may alter at pleasure.

4th. To render the interests of the stockholders transferable.

5th. To exempt the private property of its members from liability for corporate debts except as herein otherwise declared.

6th. To make contracts, acquire and transfer property, possessing the same powers in such respects as private individuals now enjoy.

7th. To establish by-laws, and make all rules and regulations deemed expedient for the management of their affairs, in accordance with law and not incompatible with an honest purpose.

8. Previous to commencing any business except that of their own organization they must adopt articles of incorporation which must be recorded in the office of the recorder of deeds of the county where the principal place of business is to be, in a book kept therefor.

4. Corporations for the construction of any work of internal improvement, must, in addition, also file a copy of such articles in the office of a secretary of state and have the same recorded by him in a book kept for such purposes. Such articles of incorporation must fix the highest amount of indebtedness or liability to which the corporation is at any one time to be subject, which must in no case except in that of the risks of insurance companies exceed two-thirds of its capital stock.

5. A notice must also be published for four weeks in succession in some newspaper as convenient as practicable to the principal place of business.

6. Such notice must contain:

1st. The name of the corporation and its principal place of transacting business.

2d. The general nature of the business to be transacted.

3rd. The amount of capital and stock authorized, and the times and conditions on which it is to be paid in.

4th. The time of the commencement and termination of the corporation.

5th. By what officers or persons the affairs of the company are to be conducted and the times at which they will be elected.

6th. The highest amount of indebtedness or liability to which the corporation is at any time to subject itself.

7th. Whether private property is to be exempt from the corporate debts.

7. The corporation may commence business as soon as the articles are filed in the office of the recorder of deeds, and their doings shall be valid if the publication in a newspaper is made and the copy filed in the office of secretary of state, when such filing is necessary, within three months from such filing in the recorders office.

7. No change in any of the above matters shall be valid unless recorded and published as the original articles are required to be.

9. Corporations for the construction of any work of internal improvement may be formed to endure fifty years; those formed for other purposes cannot exceed twenty years in duration; but in either case they may be renewed from time to time for periods not greater respectively than was at first permissible, provided three-fourths of the votes cast at any regular election for that purpose be in favor of such renewal, and provided also that those thus wishing a renewal will purchase the stock of those opposed to the renewal at a fair current value.

10. The corporation cannot be dissolved prior to the period fixed upon in the articles of incorporation except by unanimous consent, unless a different rule has been adopted in their articles.

11. The same period of newspaper publication must precede any such premature dissolution of a corporation as is required at its creation.

12. A copy of the by laws of the corporation with the names of all its officers appended thereto must be posted in the principal place of business and be subject to public inspection.

13. A statement of the amount of the capital stock subscribed, the amount of capital actually paid in, and the amount of indebtedness of the Co. in a general way, must also be kept posted up in like manner, which statement must be corrected as often as any material change takes place in relation to any part of the subject matter of such statement.

14. Intentional fraud in failing to comply substantially with the articles of incorporation, or in deceiving the public or individuals in relation to their means or their liabilities shall subject those guilty thereof to fine and imprisonment or both at the discretion of the court. Any person who has sustained injury from such fraud may also recover damages therefor against those guilty of participating in such fraud.

15. The diversion of the funds of the corporation to other objects than those mentioned in their articles and in the notices published as aforesaid (provided any person be thereby injured), and the payment of dividends which leave insufficient funds to meet the liabilities of the corporation, shall be deemed such frauds as will subject those therein concerned to the penalties of the preceding section, and such dividends or their equivalent in the hands of individual stockholders shall be subject to said liabilities.

16. Dividends in insurance companies made in good faith before their knowledge of the happening of actual losses, are not intended to be prevented or punished by the provisions of the preceding section.

17. A failure to comply substantially with the foregoing requisitions in relation to organization and publicity renders the individual property of all the stockholders liable for the corporate debts.

18. Either such failure or the practice or fraud in the manner hereinafter mentioned shall cause a forfeiture of all the privileges hereby conferred, and the courts may proceed to wind up the business of the corporation by an information in the manner prescribed by law.

19. The intentional keeping of false books or

accounts by any corporation whereby any one injured is a misdemeanor on the part of those concerned therein, and any person shall be presumed to be concerned therein whose duty it was to see that the books and accounts were correctly kept.

20. The transfer of shares is not valid except as between the parties thereto until it is regularly entered on the books of the company so far as to show the name of the persons by and to whom transferred, the numbers or other designation of the shares, and the date of the transfer; but such transfer shall not in any way exempt the person or persons making such transfer from any liability or liabilities of said corporation which were created prior to such transfer. The books of the company must be so kept as to show intelligibly the original stockholders, their respective interests, the amount which has been paid in on their shares, and all transfers thereof; and such books, or a correct copy thereof so far as the items mentioned in this section are concerned, shall be subject to the inspection of any person desiring the same.

21. Any corporation organized or attempted to be organized in accordance with the provisions of this chapter shall cease to exist by the non-user of its franchises for two years at any one time, but such body shall not forfeit its franchises by reason of its omission to elect officers or to hold meetings at any time prescribed by the by laws, provided such act be done within two years of the time appointed therefor.

22. Corporations whose charters expire by their own limitation or by the voluntary act of the stockholders may nevertheless continue to act for the purpose of winding up their concerns, but for no other purpose.

23. Nothing herein contained exempts the stockholders of any corporation from individual liability to the amount of the unpaid instalments on the stock owned by them or transferred by them for the purpose of defrauding creditors, and an execution against the company may to that extent be levied upon such private property of any individual.

24. In none of the cases contemplated in this chapter can the private property of the stockholders be levied upon for the payment of corporate debts while corporate property can be found with which to satisfy the same, but it will be sufficient proof that no property can be found if an execution has issued on a judgment against the corporation and a demand thereon made of some one of the last acting officers of the body for property on which to levy, and if he neglects to point out any such property.

25. The defendant in any stage of a cause may point out corporate property subject to levy, and upon his satisfying the court of the existence of such a property by affidavit or otherwise the cause may be continued or execution against the defendant stayed until the property can be levied upon and sold, and the court may subsequently render judgment and order execution for any balance which there may be after disposing of the corporate property, according to the stage of the cause; but if a demand of property has been made as contemplated in the preceding section the costs of such proceedings shall in any event be paid by the company or by the defendant.

26. When the private property of a stockholder is taken for a corporate debt he may maintain an action against the corporation for indemnity and against any of the other stockholders for contribution.

27. For the purpose of repairs, rebuilding or enlarging, or to meet contingencies, or for the purpose of a sinking fund, the corporation may establish a fund which they may loan and in relation to which they may take the proper securities.

28. When the franchise of a corporation has been levied upon under an execution and sold, the corporators shall not have power to dissolve the corporation so as to destroy the franchise, and if they neglect to keep up an organization sufficient to enable the business to proceed, the purchaser thereupon becomes vested with all the powers of the corporation requisite therefor; and when it

becomes impracticable for an individual so to conduct them, and in cases where doubts and difficulties not herein provided for arise, the purchaser may apply by petition to the district court which is hereby vested with authority to make any orders requisite for carrying into effect the intent of this chapter in this respect.

29. In any proceedings by or against a corporation or against a stockholder to charge his private property or the dividends received by him the court is invested with power to compel the officers to produce the books of the corporation on the motion of either party upon a proper cause being shown for that purpose.

36. A single individual may entitle himself to all the advantages of this chapter provided he complies substantially with all its requirements, omitting those which from the nature of the case are inapplicable.

31. Persons acting as a corporation under the provisions of this chapter will be presumed to be legally incorporated until the contrary is shown; and no such franchise shall be declared actually null or forfeited except in a regular proceeding brought for that purpose.

32. No body of men acting as a corporation under the provisions of this chapter shall be permitted to set up the want of a legal organization as a defense to an action against them as a corporation, nor shall any person sued on a contract made with such a corporation or sued for an injury to its property or a wrong done to its interests be permitted to set up a want of such legal organization in his defense.

33. Corporations regularly organized under the general law heretofore in force, by adapting their articles of association to the provisions of this chapter and by making the required publication of the change as well as of their intention to act under the foregoing provisions, will be entitled to all the advantages and subjected to all the liabilities above provided for, but the change in their articles of association must be made in accordance with those articles or by the unanimous consent of the stockholders.

24. Mutual insurance companies organized under the provisions of this chapter may render their premium notes a lien upon the whole or any part of the real estate upon which the property issued is situate, whether such real estate is or is not exempt from other liabilities as a homestead, but such lien will not attach until the premium note stating the property on which it is a lien filed for record and treated in the same manner as though it were a mortgage from the maker thereof to the company except that it need not be acknowledged.

35. Nothing herein contained is intended to affect the interests of companies already organized farther than is above expressed.

AN ACT Granting to Railway Companies the Right of Way.

SECTION 1. Be it enacted by the General Assembly of the state of Iowa, That any Railroad corporation in this state, heretofore, or which may hereafter be, organized under the laws of this state, may take and hold, under the provisions contained in this act, so much real estate as may be necessary for the location, construction and convenient use of their road. Such corporation may also take, remove, and use for the construction and repair of said road and its appurtenances, any earth, gravel, stone, timber or other materials, on or from the land so taken. *Provided*, that the land so taken otherwise than by the consent of the owners, shall not exceed one hundred feet in width, except for wood and water stations, unless where greater width is necessary for excavations, embankments, or depositing waste earth.

SECTION 2. Such railroad corporation may purchase and use real estate, for a price to be agreed upon with the owners thereof, or the damages to be paid by such corporation for any real estate taken as aforesaid, when not agreed upon, shall be ascertained and determined by commissioners, to be appointed by the sheriff of the county where such real estate is situated, in conformity with the provisions of this act.

SECTION 3. Whenever any railroad corporation shall take any real estate as aforesaid, of any minor, insane person, or married woman whose husband is under guardianship, the guardian of such minor, or insane person, or married woman with the guardian of husband, may agree and settle with said corporation for all damages, or claims by reason of the taking of such real estate, and may give valid releases and discharges therefor.

SECTION 4. If the owner of any real estate, over which said railroad incorporation may desire to locate their road, shall refuse to grant the right of way through his or her premises, the sheriff of the county in which said real estate may be situated, shall, upon the application of either party, appoint six disinterested freeholders of said county, not interested in a like question, unless a smaller number is agreed upon by the parties, whose duty it shall be to inspect said real estate, and assess the damages which said owner will sustain by the appropriation of his land for the use of said railroad incorporation, and make report in writing to the sheriff of said county, who shall file and preserve the same; and if said corporation shall, at any time before they enter upon said real estate for the purpose of constructing said road, pay to said sheriff for the use of the said owner, the sum so assessed and returned to him as aforesaid, they shall be thereby authorized to construct and maintain their railroad over and across said premises: *Provided*, that either party may have the right to appeal from such assessment of damages, to the district court of the county where such lands are situated, within thirty days after such assignment is made. But such appeal shall not delay the prosecution of the work upon said railroad, if said corporation shall first pay or deposit with the sheriff, the amount so assessed by said freeholders; and in no case shall said corporation be liable for the costs on appeal, unless the owner of said real estate shall be adjudged entitled, upon the appeal, to a greater amount of damages than was awarded by said freeholders. The company shall, in all cases, pay the costs of the first assessment.

SECTION 5. The freeholders so appointed shall be the commissioners to assess all damages to the owners of real estate in said county; and said corporation may, at any time after their appointment, upon the refusal of any owner, or guardian of any owner, of lands in said county, to grant the right of way as aforesaid, by giving the said owner or guardian five days notice thereof in writing, either by personal service, or by leaving a copy thereof at his or her dwelling, with some member of the family over fourteen years of age—have the damages assessed in the manner herein before described.

SECTION 6. In case of the death, absence, neglect or refusal, of any said freeholders to act as commissioners as aforesaid, the sheriff shall summon other freeholders to complete the panel; and said commissioners shall proceed as directed in the preceding section. Said commissioners shall receive two dollars per day each for their services.

SECTION 7. If, upon the location of said railroad, it shall be found to run through the land of any non-resident owner, the said corporation may give four weeks notice to such proprietor, if known; and if not known, by a description of such real estate, by publication in some newspaper published in the county where such lands may lie, (if there be any, and if not, in the nearest one thereto,) that said railroad has been located through his, or her, lands. And if such owner shall not, within thirty days thereafter, apply to said sheriff to have the damages assessed in the mode prescribed in the preceding section, said company may proceed, as herein set forth, to have the damages assessed, subject to the same right to appeal, as in cases of resident owners; and upon the payment of the damages assessed to the sheriff for such owner, the corporation shall acquire all rights and privileges mentioned in the 5th section of this act.

SECTION 8. Any railroad corporation may raise or lower any turnpike, plank road, or other way, for the purpose of having their railroad pass over

or under the same; and in such cases, said corporation shall put such turnpike, plank road, or other way, as may be, in as good repair and condition as before such alteration.

SECTION 9. If the proprietors of said plank road or turnpike, or the trustees or city council having jurisdiction of such ways respectively, require further alterations or amendments of such turnpike, road or way, and give notice thereof in writing to the agent or secretary of such railroad corporation; and if the parties cannot agree respecting the same, either of the parties may apply to the county judge, who, after reasonable notice to the adverse party, shall make determination respecting such proposed alterations or amendments, and shall award costs in favor of the prevailing party.

SECTION 10. If such railroad corporation shall unnecessarily neglect to make such alterations and amendments, thus determined upon by the county judge, the said turnpike corporation, or city, or township, shall be entitled to their damages for such neglects.

SECTION 11. Every railroad corporation, while employed in raising or lowering any turnpike or other way, or in making any other alteration by means of which the same may be obstructed, shall provide and keep in good order suitable temporary ways, to enable passengers to avoid or pass such obstructions.

SECTION 12. Any railroad corporation may construct and carry their railroad, across, over or under, railroad, canal stream or water course, when it may be necessary in the construction of the same; and in such cases, said corporation shall so construct their railroad crossings, as not unnecessarily to impede the travel, transportation, or navigation, upon the railroad, canal or stream, so crossed. Said corporation shall be liable for the damages occasioned to any corporation or party injured by reason of said crossing.

SECTION 13. Every railroad corporation shall maintain and keep in repair all bridges, with their abutments, which such corporation shall construct for the purpose of enabling their road to pass over or under any turnpike, road, canal, water course, or other way.

SECTION 14. Every railroad corporation shall be liable for all damages sustained by any person, in consequence of any neglect of the provisions of this act, or of any other neglect of any of their agents, or by any mismanagement of their engineers, by the persons sustaining such damages.

SECTION 15. Any railroad corporation shall be authorized to pass over, occupy and enjoy, without payment of damages, any of the school, university, and saline, or other lands of this state, provided no more of such lands shall be taken, than is required for the necessary use and convenience of such corporation.

SECTION 16. When any persons own land on both sides of any railroad, the corporation owning such railroad shall, when required so to do, make and keep in good repair one causeway, or other adequate means of crossing the same.

SECTION 17. Any company organizing under this act shall, as soon as convenient after its organization, establish a principal office at some point on the line of its road, and change the same at pleasure, giving public notice in some newspaper of such establishment or change. And all processes against said company shall be served upon the president or secretary, or by leaving a copy at the principal office of the corporation.

SECTION 18. Every company organized under this act, shall be required to erect, at all points where their road shall cross any public road, at a sufficient elevation from such public road, to admit of free passage of vehicles of every kind, a sign, with large and distinct letters placed thereon, to give notice of the proximity of the railroad, and warn persons of the necessity of looking out for the cars. And every company neglecting, or any refusing to erect such sign, shall be liable in damages for all injuries occurring to persons or property, from such neglect or refusal.

SECTION 19. This act to take effect, from and after its publication in the Iowa Capital Reporter and Iowa Republican, published in Iowa city.

JAMES GRANT,

Speaker of the House of Reps.

W. E. LEFFINCWELL,

President of the Senate.

Approved, Jan. 18th, 1853,

S. HEMPSTEAD.

American Railroad Journal.

Saturday, April 9, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

Actions vs. Railroad Companies.

As an illustration of the speculating and often frivolous complaints brought against railroad companies, we are informed that out of fifteen judgments rendered since the 1st. of January, in suits against the Hudson River railroad company, fourteen were in favor of the company, and only one, (for \$89,) against them.

A proper understanding of the fate of these claims would discourage the predatory system of warfare on railroad corporations, incited by the occasional publication of large verdicts in extraordinary cases.

Louisville and Lake Erie Railroad.

The movement made some time ago for connecting Sandusky and Louisville, by means of a railroad to be constructed from Huntsville, on the Mad River and Lake Erie railroad, through Piqua and Eaton, has attracted the attention of our Toledo neighbors who talk of a road from the Ohio to their city. The *Republican* says that "it is proposed to start from Jefferson, opposite to Louisville, and extend to Madison, from thence in a direct line to Eaton, from Eaton to Piqua, from Piqua to Findlay, and from Findlay to Toledo. This route is very straight, and would give Louisville the advantage of a direct connection with Detroit and the Canada railroads, which it would not gain by any other route.

The Coinage in England and the United States.

The amount coined in England since 1848 is as follows:

	Gold coined.	Silver coined.
1848.....	£2,451,999	£35,422
1849.....	2,177,955	119,592
1850.....	1,491,836	126,096
1851.....	4,400,411	87,868
1852.....	8,742,270	189,696

This gives a total of £19,264,437 of gold, and £561,594 of silver; which, added to £12,308, the amount of copper coined, makes a total of £19,838,375. The coinage of gold in 1852, it will be seen, is nearly equal to that of the four previous years.

By reducing the above amounts from pounds to

dollars, at the rate of \$4 84 to the pound sterling, and comparing it with the coinage of the United States, we have the following result for the last five years:

	Great Britain.	United States.	Excess, U. S.
Gold.....	\$93,240,049	\$164,226,693	\$70,986,644
Silver....	2,718,115	7,794,907	5,076,792
Copper..	59,571	300,874	241,303
	96,017,735	172,322,474	76,304,739

By the above it appears, that the excess of the coinage in this country for the five years, was \$76,304,739. In the year 1852 the coinage of gold in Great Britain was \$42,312,587. In the United States, \$53,747,187. Excess in favor of the United States, \$14,564,800.

Commerce of Milwaukee.

We have before us the business statistics of the city of Milwaukee for the year ending March 1st, 1853, as published in the *Daily Wisconsin*. The following shows the amount of leading articles shipped during the year:

Flour, bbls.....	88,597
Wheat bu.....	394,386
Barley, bu.....	345,620
Oats, bu.....	428,611
Rye, bu.....	67,759
Live, and dressed hogs lbs.....	1,771,364
Pork, bbls.....	19,603
Smoked hams, lbs.....	102,314
Pickled " bbls.....	274
Smoked shoulders, lbs.....	85,972
Navy beef, bbls.....	6,661
Beef hams, bbls.....	1,112
Saleratus, lbs.....	150,000
Wool, lbs.....	351,121

The arrivals for the year were as follows:

Steamers.....	841
Propellers.....	330
Schooners.....	393
Sloops.....	1
Brigs.....	34
Total.....	1,599

The following shows the amount of a few leading articles in store on the 20th inst:

Flour, bbls.....	45,220
Pork, ".....	15,821
Beef, ".....	269
Lard, ".....	1,540
Wheat, bushels.....	225,600
Rye, ".....	22,200
Oats, ".....	65,249
Barley ".....	36,500
Flax seed.....	274
Wool, lbs.....	7,311

The lumber receipts foot up as follows:

Lumber, feet.....	12,649,426
Laths.....	1,565,000
Shingles.....	6,820,000
Shingle bolts, cords.....	800
Cedar posts.....	3,000

There were packed the season 10,151 bbls. of beef, and 23,707 bbls of pork.

The total value of articles manufactured in the city during the year is put down at \$2,050,668.32. One hundred and twenty-nine frame and 40 brick buildings have been put up at an estimated cost of \$415,150.

The tonnage owned in Milwaukee is represented as follows:

Sail vessels completed.....	6,258 tons.
" " now being built.....	1,490 " 7,748
Steam tonnage.....	800

Total number of tons..... 8,548

Milwaukee makes the following show respecting her present and prospective railroads:

"The Milwaukee and Mississippi railroad will be, when completed (with its branch to Janesville) to the Mississippi river, viz Madison, 200 miles in

length. The direct road is now in operation to Milton, 62 miles, which, together with the Janesville branch, 8 miles, makes 70 miles of new road now in running condition, and tributary to Milwaukee."

"Other roads surveyed or provisionally chartered are as follows:

Green Bay, Milwaukee and Chicago,	
Between Milwaukee and Chicago, miles..	85
" " " Green Bay.....	120
	205
Milwaukee and Beloit.....	70
" " Watertown.....	46
Continuation to Fort Winnebago.....	50
	96
La Crosse and Milwaukee, via Iron Ridge.....	200
Milwaukee Fond du Lac and Green Bay.	130
Milwaukee and Mississippi.....	200

Total number of miles..... 901

"The above makes seven railroads radiating in different directions from Milwaukee. Of these there will probably be built at the end of the present year:"

Milwaukee and Mississippi to Madison.....	100
" " branch to Janesville..	8
Green Bay, Milwaukee and Chicago, between Milwaukee and Chicago.....	85
Milwaukee and Watertown.....	46
La Crosse and Milwaukee to Iron Ridge.....	45
Milwaukee, Fond du Lac and Green Bay, to Fond du Lac.....	62

Total number of miles..... 346

Stock and Money Market.

The condition of matters in Wall street are pretty much as we left them last week. Money continues in good demand, without any particular stringency in the market. The first class railroad securities continue in good request. The fancy stock market is inactive. The receipts of railroads are much in advance of those of the previous year, which tends to keep up the price of sound securities.

The earnings of railroads for the month of March shows a large increase over the corresponding period, for the past year.

The earnings of the Erie road for March were..... \$371,479 84
March, 1852..... 251,170 61

Increase 48 p. cent..... \$120,329 23

The aggregate earnings of January, February, and March have been..... \$984,219
1852..... 624,481

Increase..... \$359,738

The earnings of the New York and New Haven railroad for March, were:

Passengers, etc..... \$54,728 67
Freight..... 10,000 00

Total..... \$64,728 67
Deduct paid Harlem road for 47,867 passengers..... 4,173 26

Net earnings..... \$60,555 41
March 1852..... 53,282 60

Increase..... \$7,272 81
March 1851..... \$48,511 66

The aggregate earnings of the first three months of the year, with all the drawbacks, are fully up to the receipts of the same quarter of 1851, as will be seen:

Jan., February, March, 1853..... \$161,182 49
Jan., February, March, 1852..... 160,007 74

Increase 1853..... \$1,174 75

The receipts of the Toledo, Norwalk and Cleveland railroad Co., for March were:

Passengers.....\$34,560 00
Freights, etc.....8,961 00

Total.....\$43,521 00

The receipts of the Little Miami railroad Co. for the week ending March 27, '53, are...\$10,911 34
Do. do. do. '52,.....7,937 96

Increase nearly 30 per cent., or...\$2,973 38

The following is the business of the Mint at Philadelphia:

COINAGE FOR MARCH, 1853.

Gold.	Pieces.	Amount.
Double Eagles.....	248,233	\$4,964,660 00
Quarter Eagles.....	108,406	271,015 00
Dollars.....	458,133	458,133 00

Total.....814,772 \$5,693,808 00

Three cent pieces.....5,460,000 163,800 00

Total.....6,274,772 \$5,857,608 00

Copper.		
Cents.....	403,376	4,033 76
Half cents.....	19,500	97 50

Total.....6,697,648 \$5,861,739 26

GOLD BULLION DEPOSITED.

From California.....\$7,440,000 00

From other sources.....70,000 00

Total.....\$7,150,000 00

Silver bullion deposited.....22,000 00

GOLD DEPOSITED.

	1851.	1852.	1853.
January.....	\$5,071,699	\$4,061,688	\$4,962,500
February.....	3,004,907	3,010,222	3,548,523
March.....	2,880,271	3,882,156	7,510,000

Total.. \$10,956,877 \$10,964,066 \$16,021,023

Philadelphia and Baltimore Central Railroad.

We learn from a letter in the *Harford Gazette*, that the engineers have completed one continuous line of survey from Philadelphia to Baltimore, making the distance between the two cities 97 miles. But they now propose to make the road still shorter, and with that in view, have commenced surveying what is called the Conowingo route; and, if ascertained to be practicable, it will shorten the road about six miles.

Marion and Mississinewa Valley Railroad.

This company was organized under the railroad law of Indiana in January last. It is intended as a link in the line from Union to Chicago, though it proposed now to extend only from Marion, Grant county, to Union, a distance of 51½ miles. It is intended, however, to extend the line to Peru, a distance of 33 miles further; and in the whole of that distance it will follow, within from one to three miles, the Mississinewa river, and there will scarcely be a deflection in the line of the road, so favorable is the ground over which it will pass.

Cleveland, Coshocton and Zanesville Railroad.

At a meeting of the stockholders of the company, held at Wooster, on Thursday, Messrs. R. Hilliard, and P. Handy, of Cleveland, H. Ainsworth, and D. B. Olcott, of Medina county, K. Porter, S. F. Day, C. Spink, J. Jacobs, R. Stibbs, C. Lake, and N. McCoy, of Wooster, were elected directors, and on Tuesday, at a meeting of the directors, K. Porter was chosen president, J. P. Coulter, secretary, and E. Quinby, jr., treasurer. The *Wooster Democrat* says—"The selections, both for the directors and officers, are most excel-

lent, and every thing is now auspicious for the speedy completion of the work. The preparatory surveys are entirely completed to Grafton, and are such as to warrant us in saying, there is no more favorable route in the state, and that it will cost less per mile than almost any road that has been built."—*Cleveland Herald*.

Journal of Railroad Law.

THE BROADWAY RAILROAD CASE.

The decision of the Supreme Court on this important case, was pronounced upon Saturday last. The following is a brief abstract thereof:—The petitioners for the injunction in this case, alleged that Broadway was an ancient street, opened by the owners of the land through which it passed, for their own convenience and that of the public—that they, the said petitioners, own certain lots fronting on Broadway,—and that they also own the land adjoining their said lots to the centre of the street, subject only to the easement of the right of way thereon. They then set forth the Broadway railroad grant as made in violation of an injunction, and without due authority,—and urge that the proposed double railroad track will be a nuisance. They also insist that a grant like the one in question could only be made by the sovereign Legislature of the State, and subject to the condition of making due compensation to the owners of the adjoining property,—and finally that the grant was corrupt and illegal.

Upon these grounds a perpetual injunction to prevent this grant from being carried into effect, was asked for.

The Court held that the question as to the general power of the corporation to authorize the laying down of a railroad track in the city, was settled in the case of *Drake vs. the Hudson River Railroad company*, and in several subsequent cases.

Would the proposed railroad be a nuisance? There was a possibility that it would ultimately prove such. But it was considered too early for the court now to interfere with the grant upon such ground.

In respect to the inquiry as to whether the petitioners owned land fronting on their lots to the centre of Broadway, and were entitled to compensation if deprived of it. The opinion of the court was expressed in the following terms:

"It is an elementary principle of the law that where a power, right, or thing is granted, either to a natural or an artificial person, all the incidents are granted which are necessary to the enjoyment of the power, right or thing. And whether the corporation be the owner of the fee of the streets in trust for the public, or whether it be merely the trustee of the streets and highways as such, irrespective of any title to the soil, it has the power to authorize their appropriation to all such uses as are conducive to the public good, and do not interfere with their complete and unrestricted use as highways; and, in doing so, it is not obliged to confine itself to such uses as have already been permitted. As civilization advances, new uses may be found expedient. It was upon this principle that the existing railways in this city and in Albany, and the tunnels in the city of Brooklyn and in the village of Whitehall have been sanctioned.

The next question discussed by the court substantially as follows, was whether the corporation had the right to make the railroad grant in this particular case?

The Common Council of New York may make such laws as shall seem proper. They have in this respect a large discretion within the limits of the charter, and whether their laws are wise or

unwise, prompted by good or by bad motives, the court will not inquire. But, in respect to the acts of the corporation, in reference to its private property, they stand on a very different footing. Such property is held for the common benefit of all the corporators, and in regard to such property the corporation exercises an important trust. If such property be squandered, it is no excuse to say that the corporation were acting in their legislative capacity. They were not so acting. They were in the position of any other individual holding property in trust. The mere fact that the forms of legislation were used, will make no difference in the character of their acts. If the form of proceedings defined the act, then many of the proceedings of Banking, Insurance, Railroad Companies, are legislative acts, as they are conducted more or less according to parliamentary rules. When a corporation either public or private, deals with its private property, its acts are equally of a private character, and so subject to judicial control. Otherwise, the corporation might at their next meeting, under the pretext of a legislative proceedings distribute among themselves all the property belonging to the city. This distinction between the public and the private proceedings of the corporation is well sustained by authority.

"In the case of *Frewin vs. Lewis*, (4 Mylne and Craig, 249,) which was a suit against the Poor Law Commissioners, who are a quasi public corporation, Lord Cottenham, in giving his opinion, said, 'So long as these functionaries strictly confine themselves within the exercise of those duties which are confided to them by law, this Court will not interfere. The Court will not interfere to see whether any alteration or regulation which they may direct is good or bad, but if they are departing from that power which the law has vested in them, if they are assuming to themselves a power over property which the law does not give them, this Court no longer considers them as acting under the authority of their commission, but treats them, whether they be a corporation or individuals, merely as persons dealing with property without legal authority.'

The Court thus arrived at the inquiry as to whether the corporation has violated its duty as trustee in making the grant under commission.

The defendants had paid nothing for the railroad grant,—and the only amount in which they would be bound to the city was the annual license fee of each car employed,—it being also agreed that only five cents would be charged as a single fare.

It had been shown that six offers to construct the railroad in question had been made to the corporation by other parties than the defendants.—One of those offers, if accepted, would have produced \$250,000 for the benefit of the city. Another \$300,000, and another \$100,000, the fare in each case to be fixed at five cents, as above. Another \$1,000,000 the fare of each passenger being three cents.

The Court was upon the whole of the opinion, that the rejected offers were very far more advantageous to the public than that accepted,—and that the good faith of those whose offers had been so rejected had not been sufficiently impeached.

With this view of the case, the Court was of opinion that the corporation had shown an entire disregard both of the public interests and of their own duties, in making the grant in question,—and that the former were bound to prevent the grant from being carried into effect.

The injunction was accordingly granted.

Chicago; its Commerce, Progress and Railroads.

The rapid growth of the city of Chicago, and the progress of that portion of our territory lying west and southwest of Lake Michigan, in population, in extent of production, in commerce and wealth; and the celerity with which its people have availed themselves of all those agencies, which to our highest comfort, but which are supposed to be attainable only in old, rich, and densely settled communities—afford a striking illustration of what our people are doing and achieving in every portion of the country. And we believe we cannot present anything more interesting—or in fact, useful—to our readers, than a brief account of the wonderful development which the ten past years has witnessed in the great "North-west."

The city of Chicago is situated upon the southwestern shore of Lake Michigan, and occupies one of the most important points upon the continent. From the southern extremity of this lake, to the northern shore of Lake Superior, in a direct northerly and southerly line, the distance is not far from 600 miles. These lakes, of course, present a complete barrier to any highway which is not itself upon the water. The northern shores, both of Lakes Huron and Superior, present innumerable obstacles to the construction of a railroad. In going from east to west, therefore, all our avenues of trade and travel deflect around the southern shore of Lake Michigan; and, as this point is upon a lower parallel than many of our leading eastern cities; and as there is an illimitable extent of fertile country lying to the north and west of this lake, which is now filling up with extraordinary rapidity, the value of the position that Chicago occupies, in a commercial and political point of view, will be readily appreciated.

The city of Chicago bears the same relation to the country lying to the south and west of it, that New York does to the whole union. From the western shore of lake Michigan a boundless plain extends to the slopes of the Rocky mountains. This great plain possesses a soil of surpassing fertility, is underlaid with vast beds of coal and iron ore, enjoys a salubrious climate, and is just in that condition to be turned to the best account, with the least labor. The greatest part of it has sufficient timber scattered upon the water courses for domestic purposes, while open prairies in every direction, have only to be turned over with the plough, to be prepared for crops, which may, apparently, be repeated for any length of time, without dressing, or rotation.

We see no reason for believing that a city can grow up still further west, than can in any manner intercept, or divert the trade of this vast region. Chicago is too strongly entrenched in her natural advantages, to allow such a supposition. Although by the St. Lawrence this city is 2000 miles from the ocean, it is accessible by sea going vessels of 400 tons burden, and from all the lakes, but Superior, by the largest class lake steamers. Merchandise from New York can be laid down in Chicago, at less cost than in any other of the great western cities, and consequently it must become the point of distribution over a greater extent of territory than any other western city. In commercial advantages it is certainly not surpassed by any, that may be termed interior city, in the world. By the St. Lawrence it is accessible from the ocean

by large steamers and sailing craft; and from N. York by the Erie canal. Two years more will open in to her Lake Superior with its inexhaustible mines of copper and iron. The completion of the *Sault Ste. Marie canal*, will extend many hundred miles the present area of her lake commerce, and when we consider that our great interior lakes are surrounded with a country possessing a soil of remarkable fertility, and that vast beds of coal and iron, the great agents in modern civilization are found almost upon their very shores, the extent of the commerce that must float upon their bosoms, can hardly be estimated by the most sanguine imagination.

Chicago has equally favorable connections with the southern state, by the Illinois canal and River, by means of which a direct communication is maintained with the Gulf states for a considerable portion of the year. Between the states bordering on the lakes and the Gulf of Mexico, a large trade must always exist from the total dissimilarity of their products; the former producing the cereals, and stock; and the latter cotton and sugar. The lines of communication that connect these two extremes of the country, may be said to coincide with the natural routes of commerce. Lake Michigan would appear to have been prolonged toward the Gulf, to facilitate the economical distribution of the products of the otherwise widely separated extremes of the country. As it is, Chicago is a port of easy access from the Gulf, as well as from the Atlantic ocean, and a convenient one for distribution over all the northern and northwestern states, of the products of the country lying upon our great southern boundary,—the Gulf of Mexico.

Such are some of the advantages of position to which Chicago owes in a great measure her present growth and prosperity. But she has not relied upon these alone. No city in the U. States has taken up with more zeal, or prosecuted with more energy, works of artificial improvement, that promised to add to her present strength, or ability to command a large trade, and no one is reaping a better return for its enterprise. To present a notice of those works, is one of the purposes of this article; but we will first give a brief view of the progress of this city, in population, wealth and commerce, from an early date up to the present time.

In 1830 the census of that year indicated the existence of no such town. In 1832, and '3, it was the theatre of military operations in the Black Hawk war. In 1840 its first census was taken, which gives it 4,479 inhabitants. The increase according to the several enumerations since that time is as follows:

1843.....	7,580	1858.....	20,023
1845.....	12,088	1849.....	23,470
1846.....	14,169	1850.....	28,267
1847.....	16,859	1852.....	38,269

From the rapid increase known to have taken place the past year, consequent upon the progress of railroads and the accumulation of business of every kind, it is estimated by good judges that the population of the city at the present date cannot be less than 50,000.

The following statement shows the amount and increase of the taxable property in the city for a series of years since 1840. The sums given are copied from the Collector's books, and do not represent one quarter of the real value of the property

1840.....	1,864,205	1847.....	6,189,885
1841.....	1,888,160	1848.....	9,986,000
1842.....	2,325,240	1849.....	7,617,102
1843.....	2,250,735	1850.....	8,101,000
1844.....	3,166,445	1851.....	9,481,826
1845.....	3,669,124	1852.....	12,031,037
1846.....	5,071,402		

The following statement will show the progressive value of the exports and imports of the city for a series of years:

IMPORTS.			
1836.....	325,203	1843.....	971,849
1837.....	373,677	1844.....	1,686,416
1838.....	579,174	1845.....	2,043,445
1839.....	630,980	1846.....	2,027,157
1840.....	562,106	1847.....	2,641,852
1841.....	564,347	1851.....	24,410,400
1842.....	664,349		

EXPORTS.			
1836.....	1,000	1843.....	682,210
1837.....	10,065	1844.....	785,504
1838.....	16,000	1845.....	1,543,519
1839.....	28,843	1846.....	1,813,468
1840.....	228,635	1847.....	2,296,299
1841.....	348,862	1851.....	5,395,474
1842.....	659,305		

The proposed articles of import are foreign and domestic merchandise, and lumber; of export, wheat, Indian corn, lard, bacon, beef, salted pork, and wool; of lumber there were imported in 1851 125,156,000 feet. The exports for the same year, were corn 3,221,317 bushels; lard, 2,976,747 lbs.; Hams, 899,504 do; tallow, 1,084,377 no; wool 10,86,944 do.

The arrivals at Chicago by lake in 1850, were as follows: steamers 662; propellers 183; schrs. 1182; brigs 239; barques 13; total 2277; total tonnage 956,500. We have not the returns for the past year. They would, however, show a great increase over the business of 1851.

But it is in the extent of the railroads in progress and operation, that challenges our admiration. The following statement, copied from the Chicago Free Democrat, shows the number of trunk and radiating lines, all of which are based upon that city:

TRUNK ROADS.	
Michigan Central.....	280 miles.
Michigan Southern.....	243 "
Chicago and Galena, to Freeport.....	125 "
Chicago and Rock Island.....	180 "
Chicago and Aurora.....	86 "
Illinois and Wisconsin.....	175 "
Chicago and Fort Wayne.....	180 "
Mississippi and Chicago.....	280 "
Lake Shore.....	92 "
Ill. Central, (Chicago to Cairo,).....	353 "
New Albany and Salem.....	285 "

2,279

BRANCH ROADS.	
Beloit Branch of Galena road.....	21 miles.
Beloit and Madison, (Extension,).....	53 "
Dubuque and Galena, to Janesville.....	86 "
" " " to Freeport.....	67 "
Savanna and Freeport Branch.....	35 "
Galena Branch of Ill. Central, from Freeport to junction with Aurora road.....	60 "
Fulton city to Dixon, branch.....	39 "
Ill. Central, from Clinton county to junction with Aurora road.....	195 "
Northern Cross and Central Military Tract, from Quincy, to connection with Aurora road.....	180 "
St. Charles Branch of Galena road.....	7 "
Fox River Valley.....	40 "
Mineral Point Branch road.....	32 "
Janesville to Madison.....	34 "

Total miles of Branch Roads..... 849

The Burlington, Oquawka and Peoria road feeding into the Central Military from two points on the Mississippi, and from Peoria on the Illinois, and taken into the account, though it is acknowledged that it will be an important contributor to the trade of the city; nor is the Mobile & Ohio included, which is, in reality a continuation of the Illinois Central to Mobile, nor the various lines in Iowa, continuing the roads touching the Mississippi westward to the Missouri.

Below we give a brief description of the routes, objects, and state of progress of the above roads:

The Galena and Chicago Union railroad may be considered the parent road of the state. It was projected in 1836, but failed with the general prostration of 1837. In 1847 a company was re-organized with Wm. B. Ogden, as president, and John B. Turner as superintendent. Soon after the organization, a committee of directors went over the line to ascertain the probable amount of its business, and after a careful enquiry found that only two and a half per cent of the county within a belt of a few miles in width along the line of the road was under cultivation. The estimate of passengers after the completion of the first division to Fox river was 17,000. After a thorough canvass of the city and adjoining country for months, subscriptions were obtained to the extent of about \$400,000, of which it was supposed two-thirds would be paid up, and the rest partly paid and forfeited. On proceeding east to obtain loans, none could be got on the credit of the company, and its agents were obliged to pledge their individual names. When the road reached a point about 14 miles from Chicago, the public were astonished to find that its business had exceeded all expectation, and was paying 6 to 8 per cent on the outlay. Finally it reached Fox River, and the demands of trade far outran the means of the road to accommodate it. The stock went up, and ten, twelve, fifteen and sixteen per cent, in regular half-yearly dividends was successively declared. The estimates of the engineer of the business to be expected on its completion were greatly surpassed by the actual results, when but one third of the road was finished.

The Chicago and Aurora railroad has been completed to Aurora for two years, and a little over a year ago books were opened for stock to extend it 45 miles further to a point north of La Salle where it is to be met by the Illinois Central from the south, the Galena branch of the same road from the north-west, and the Northern Cross and Cent. Military Tract road from Quincy. The Aurora road will be completed by the first of August, when it will be met by the Central road, and in one month after the N. C. & C. M. railroad is also to be finished.

The Chicago and Rock Island road is to run from Chicago to Rock Island on the Mississippi, a distance of 180 miles. This road is completed to Peru, on the Illinois river, a distance of 100 miles and the work is rapidly advancing beyond that point. It is proposed to bridge the Mississippi at Rock Island, and to extend this road westward through Iowa to Council Bluff.

The Chicago Branch and the Illinois Central will connect Chicago with Cairo, 353 miles.

In connection with the Mobile and Ohio road it will soon be practicable to travel from Chicago to Mobile in 48 hours. This period will be all that

will be required to exchange climates so widely dissimilar as are those of the Lake and the Gulf.

The length of the Chicago and Mississippi railroad is 280 miles, connecting Alton and Chicago, of which the section from Alton to Springfield is completed while that from Springfield to Bloomington is under contract to be finished by the first of August. At Bloomington it will connect with the Illinois Central, so that on reaching that point, railroad communication will be opened between Alton and Chicago, by way of the Central and R. Island roads.

The Illinois and Wisconsin road runs in a north-westerly course from Chicago to Janesville, in Wisconsin, and branching there, one branch to Fond du Lac, and another to Madison and thence to Minnesota. The whole line is under contract. This road has a six feet gauge. A branch has been projected, on the same gauge, from Janesville to Galena and Dubuque, and these latter sites have each guaranteed a subscription of \$200,000 for its construction.

The Lake Shore road, connecting Chicago with Milwaukee, needs only \$200,000 further to be subscribed to put the entire line between the two cities under contract.

The Mich. Southern is at present the great route of travel from Chicago towards the East, extending from that city to Monroe and to Toledo, here it connects with the roads running to the seaboard, as well as those leading to Pittsburgh and Cincinnati. When the direct connections shall have been made, and the different gauges of the Lake Shore reduced to uniformity, passengers will pass but one night in the cars, in going from Chicago to the eastern cities.

The Michigan Central has the same general direction as the last named road, and on the 1st. of next September will unite with the Great Western Canada road, which will give it a very direct line to the East. When this connection is made, passengers will be carried in thirty-two hours from Chicago to New York.

The Chicago and Fort Wayne road is one of the most important lines leading east from Chicago, being the extension of the Pennsylvania & Ohio and the Baltimore & Ohio railroads, and being on the shortest line towards the cities of the seaboard. It will also open to the trade of Chicago the rich counties of Lake, Porter, Marshall, Kosciusko, Whitley, and Allen, in Indiana, counties not now in connection, to any extent, with the other roads.

The branches of the lines terminating in Chicago are not unimportant in giving perfection to the system.

The Northern Cross and Central Military Tract road extends from Quincy, on the Mississippi, to a point near La Salle, where it connects with the Chicago and Aurora. It has a feeder in Oquawka branch of the Peoria and Burlington Road, which gives it a connection with the Mississippi, at Oquawka. The whole road will be finished during the year.

The St. Charles Branch of the Galena and Chicago road accommodates the business of St. Charles and Galena, flourishing towns on the Fox river.

The Beloit Branch is to run from Belvidere to Beloit, and is now in process of construction, and to be opened next July or August. At Beloit it connects with the Beloit and Madison Branch, ex-

tending through Janesville to Madison, a distance of 53. The stock is partly taken, and the section between Beloit and Janesville will be finished during the present year.

The Savanna Branch is 35 miles long, and the nearest route to the Mississippi, by the Chicago and Galena road. The stock is already subscribed, and the road will soon be put under contract, and completed during the year.

The Dubuque and Galena branch of the Illinois Central will feed the Chicago and Galena road, from Galena to Dubuque. Much of the work is already done, and the whole is expected to be completed by the 1st. of August next.

The Fulton Branch extends from Fulton city on the Mississippi, to Dixon, on the Galena Branch of the Illinois Central road, a distance of thirty-nine miles.

The Fox River Branch is to extend from Elgin, in the valley of the Fox River, north to the State line, a distance of forty miles. The surveys have been made, the company organized, and the friends of the work confident of success. It is to be met at the State line by the people of Wisconsin, who intends to continue it forty miles further up the valley of the Fox River. It is also proposed to extend from the State line a Branch northwest to the great bend of the Wisconsin River.

The Mineral Point Branch is intended to leave the Galena branch of the Ill. Central road, some distance west of Freeport, and run to Mineral Point, the very heart of the lead region. The distance is thirty-two miles, and the county equally rich in agricultural and mineral products. It will be finished, it is believed in 1853.

The Dubuque, Galena and Wisconsin Branch is to be constructed on the six feet gauge, from Dubuque to Galena, through the southern tier of counties in Wisconsin, to Janesville, where it connects with the Illinois and Wisconsin road.

A period of three years will witness the completion of at least 3,000 miles of road, all based upon Chicago, a city which, 15 years ago, hardly had an existence, even in name. During the same period, a vast territory, embracing an area equal to that of several of our largest States, will have been reclaimed from nature, and filled with an active, industrious and prosperous people. Where can the world show a parallel?

Pittsburgh and Cincinnati.

In the month of August, 1850, the population of the city of Pittsburgh was 86,771. In January, 1853, it was 110,241. The value of taxables, \$65,000,000.

The population of the city of Cincinnati in 1850 was 117,350. On the 1st of January, 1853, it was 160,120. The taxable property of that city, according to the assessments in 1851, was \$43,402,810. In 1852 it was \$69,462,110; but the actual value of taxables at fair valuation now reaches to at least \$100,000,000.

The entire debt of the city of Cincinnati on the 1st of January last was \$2,240,000. \$450,000 of that sum is a loan of credit to four railroad companies, when a first mortgage on the respective roads is given, to secure the city in the repayment of the amount, with interest; so that, in fact, the city debt is \$450,000 less than the amount stated above.

The city owns, in her corporate capacity, real and personal property within her limits, including the water works, valued at \$4,575,677 35. This estimate does not include the city's stock in the Whitewater Canal company, which cost \$430,000, but is now of uncertain value. The revenue of

the city for 1852, arising from taxation and all sources, was 433,200.

Virginia Finances.

The committee of finance of the Virginia legislature have made the following statement of the debts and liabilities of the state on the 1st inst.

Bonds held by the public	\$15,569,515 31
Bonds held by the board of public works and literary fund	1,522,518 91
Old valid subscriptions	1,144,269 46
Authorized by former laws	684,460 00
Guaranteed bonds	3,914,874 00
Temporary loans	328,400 00

23,164,037 68

Loans at present session to 1st March, 1853

Direct appropriations to internal improvement companies, up to same day

Direct appropriations, not to internal improvements

Authorized subscriptions

Total debt and liabilities to 1st March, 1853

From the 1st of March to the 10th, inclusive, additional appropriations were made equal to

From the 10th March to 16th, inclusive, other appropriations have been made equal to

Total to 16th March, 1853

This sum may be increased by a million.

TABLE OF RESOURCES.

Bank stock	\$1,143,850 00
Stock in other joint stock companies	743,207 80
Stock in old James river company	254,500 00
Bonds of joint stock companies	182,818 00
Bonds of James river and Kanawha company	1,989,145 33

Applicable to public debt

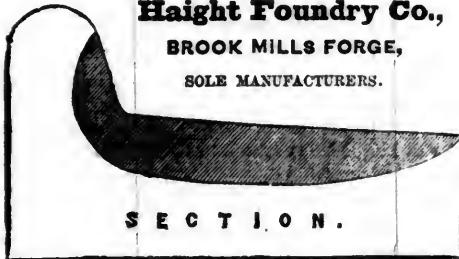
In addition to this sum of resources, the commonwealth has invested in works of internal improvement not yet complete, the sum of \$9,430,159 48, for which profits may be expected when the works are completed; but any estimate now of those profits would be mere conjectural.

Investments have been made in other works equal to \$1,409,986 94, but as they have yielded no dividend heretofore, though in a state of completion, no profit is expected from them through the future.

Gooch's Patent Steel Tires.

Haight Foundry Co.,

BROOK MILLS FORGE,
SOLE MANUFACTURERS.



GEORGE WOODWARD, 10 Ferry Street, New-York, will agent to the HAIGHT FOUNDRY COMPY, offers their make of GOOCH'S PATENT STEEL TIRES; Charcoal Iron Tires, finished or in the rough, superior to any other English make for hardness and endurance; Wrought Iron Driving Wheels, Axles, and every description of forgings, at the lowest scale of prices commensurate with the high character of the material and Workmanship.

GAS CANNEL and Coal, supplied, to order, direct from the GIDLOW and SWINLEY mines, of the most superior quality. New-York, 31 March, 1853.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

The Troy Iron Bridge Co.

ARE prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or under, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address **BLANCHARD & FELLOWS, Troy, N. Y.** April 1st, 1853.

CAUTION.

RAILROAD COMPANIES are CAUTIONED against an infringement of the Patent granted H. M. PAINE, under date of January 6th, 1852, "for excluding dust, from Railroad Cars," incorporated in which is the following claim:—*I insure ventilation without the annoyance of dust, by means of the windows alone, without the addition of the deflectors.*

We also, warn R. R. Companies against the misrepresentations of H. B. GOODYEAR, who seeks to mislead them by means of Circulars, Protests and Notices of CAUTION, &c. Attested copies and drawings of GOODYEAR'S Patents sent gratis.

N. B.—Company Rights sold and guaranteed by this Company as usual.

H. J. HALE, Sec'y
R. R. Car Ventilating Co.,
146 Broadway.

New York, April 1st, 1853.

RAILROAD IRON VIA RIVER ST. LAWRENCE.

JOHN ANDERSON,

FORWARDING and COMMISSION MERCHANT, and
WAREHOUSEMAN, Hunt's Wharf, Quebec.
General Agent for receiving and forwarding Railroad and
Pig Iron, &c. April 1st, 1853.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
90 Beaver st.

April 1, 1853.

Wilkinson's EXPLOSIVE RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

A. Whitney & Son, PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31st

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.
4t 12 **WM. BAILEY LANG.**

To Contractors for Masonry.

PROPOSALS will be received by the subscriber, up to April 20th next, for the masonry of four stone bridges, on the Philadelphia and Reading Railroad, as follows, viz:

Falls Bridge—At the Falls of Schuylkill, near Philadelphia, will consist of 6 oblique arches, with square built ribs, of 78 feet span each, crossing the Schuylkill river and navigation, with an elevation of roadway 48 feet above the water. It will contain 10,166 perches of masonry; the piers and abutments must be raised to the springing line during the present season, and the arches turned, and work as nearly as possible finished in the year 1854.

Peacock's Locks bridge—Is located 6 miles above the city of Reading, and will consist of 8 square arches of 63 feet span each, crossing the river Schuylkill, and one oblique arch, with square built ribs of 75 feet span, crossing the Schuylkill navigation. The elevation of roadway is 58 feet above the surface of water in the river. This bridge will contain about 10,651 perches of masonry; its piers and abutments must be raised to the springing line during the present season, and the arches turned, and work as nearly as possible finished in the year 1854.

Black Rock dry arches—Is a structure intended to increase the water way of Black rock bridge, near Phoenixville, and will consist of two square arches, of 50 feet span each, with a roadway elevation of 23 feet above the ground. It will contain about 1450 perches of masonry, and must be finished during the present season.

Fourth crossing bridge—Located near Orwigsburg landing, is intended to replace a wooden bridge recently destroyed by fire, and will consist of 4 square arches, of 46 feet span each, crossing the river Schuylkill, with a roadway elevation of 21 feet above the surface of the water. It will contain about 400 perches of masonry, and must be finished during the present season.

In all the above structures, the work must be carried on so as not to interfere with the trade of the road. The railroad company will prepare the foundations, erect and maintain the centres, furnish the lime, sand and cement, and the cars and motive power necessary to transport the stone on their road. All other expenses connected with the masonry to be borne by the contractors.

Plans and specifications in detail may be seen at this office, where all other necessary explanations will be given to those who wish to bid for the work.

J. DUTTON STEELE.
Engineer's office, P. & R. road, }
Pottstown, Pa., March 16, 1853 }

Notice to Contractors.

HANNIBAL AND ST. JOSEPH RAILROAD.
SEALED PROPOSALS will be received at the office of the undersigned, in the city of Hannibal, Missouri, until the twentieth day of April, for the graduation, masonry and bridging of 25 miles of said road, extending west from Hannibal.

Proposals will also be received at our office, in the city of St. Joseph, Missouri, until the tenth day of May, for the graduation, masonry and bridging of 25 miles additional, extending east from St. Joseph. The remainder of the line, extending a distance of over 150 miles, will be placed under contract as soon as the same can be prepared by the engineers.

This line embraces some very heavy excavations and embankments, and several large bridges.

Plans, profiles and specifications will be ready at each place one week previous to the letting.

DUFF & LEARNED.
Contractors H. and St. J. RR.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

To Contractors.

PROPOSALS WILL be received to the 23d of April inclusive, at the Engineer offices of the Northwestern Virginia Railroad in Parkersburg, West Union and Clarksburg, for the GRADUATION and MASONRY of about 60 sections, averaging 1 mile each, of the road. The work will be mostly of the lighter kind, but embracing many sections of good size and some bridge masonry and tunnelling. There are 103 sections upon the road, of which upwards of 40 are under contract. The route to and along the line is easy—the Baltimore and Ohio Railroad, the Ohio River, and the Northwestern Turnpike, rendering it very accessible at all points.

Specifications will be distributed from the offices named, and also from Fetterman on the Baltimore and Ohio Railroad, near the east end of the line, on and after the 11th of April. Bidders must be well recommended, and will state what other work they may have in hand.

By order of the President and Directors.
BENJ. H. LATROBE,
 Chief Engineer.

Baltimore, March 9th, 1853.

Notice to Contractors.

MISSISSIPPI and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until, and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853 at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROWN, President.
S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
 90 Beaver st.

March 2d, 1853.

Notice to Contractors.

SEALED PROPOSALS will be received at the office of the Clinton line railroad company, in Hudson, Ohio, until the 20th day of May next, for the grading, masonry, bridging and superstructure of their entire road, from Hudson to the Pennsylvania state line.

Plans, profiles, and specifications will be exhibited, and all requisite information given, at the office of the company, in Hudson, on and after the 10th day of May next.

By order of the board of directors.
H. N. DAY, president.
W. B. BRINSMADDE, engineer.
 Hudson, March 29, 1853.

Notice to Contractors.

NEW ORLEANS, Jackson and Great Northern Railroad.—Sealed proposals will be received at the office of the company, No. 45 Carondelet street, New Orleans, until the eighth of April next, for the Grading, Masonry and Bridging, of the remaining part of the first division of the New Orleans, Jackson, and Great Northern Railroad, extending from the line of the state of Louisiana to the city of Jackson, Mississippi, a distance of about 95 miles.

The route, generally, is through a high, healthy pine country, which, with the character of the work, renders it worthy the attention of northern contractors.

Satisfactory evidence of ability will be required with proposals.

Plans and profiles will be ready for examination at the Engineer's office in New Orleans, and information regarding the line given by the Assistant Engineers, at Jackson and Gallatin, after the 28th of March.

JAMES CLARKE, Chief Engineer.
 New Orleans, Feb. 28, 1853.

Hoole, Staniforth & Co.,

MINERVA WORKS,

SHEFFIELD,

Steel Converters and Refiners;
 Manufacturers of Improved Cast Steel Engineering and Machine Files;
 Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by **RICHARD MAKIN,**

Agent for the Manufacturers,
 43 24 Broadway.

FORGINGS.

AXLES, SHAPING, AND OTHER FORGINGS from the **GLENDON FORGES**, for sale by

GEORGE GARDNER & CO.,
BOSTON.

March 9, 1853.

STEEL.

NAYLOR & CO.,

MANUFACTURERS OF STEEL,

AT SHEFFIELD, ENGLAND.

HAVE on hand at their principle depots,
 No. 99 and 101 John Street, New York,
 No. 11 Liberty Square, Boston,
 No. 11 Commerce Street, Philadelphia.

A large assortment of CAST, SHEAR, GERMAN BLISTER AND SPRING STEEL, of different qualities adapted to the various purposes for which Steel is used.
 March, 26, 1853.

Pease & Murphy,

FULTON IRON WORKS,

FOOT of Cherry st., E. R. Office, 27 Corlears, corner of Cherry st. Manufacturers of Land and Marine Engines.

N. B. Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with **ALPHONSE BRETT**, trading under the firm of **A. BRETT & CO.**, Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,
 Apl 1m 50 South Third street.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with **DUPONT'S** best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

So. Manufacturers,

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the **AMERICAN INSTITUTE** was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849.

ly

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF AMERICAN SECURITIES,

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of

Railroad Iron, Chairs, or any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co, London.

" Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

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Virginia Locomotive and Car Works.

Wolfe Street and River Potomac, Alexandria, Va
SMITH & PERKINS, Proprietors.

MANUFACTURE

Locomotive Engines and Tenders.

Marine and Stationary Engines and Boilers.

Chilled Car Wheels and Axles

Patent Chilled and Wrought Slip-tire.

Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

La 100 of the Alexandria Iron Works.

THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.

July 22 1851

CAUTION.**India-rubber Car Springs.**

AN advertisement having lately appeared in the public papers, signed **H. H. Day**, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to **F. M. RAY**, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA—Awarded by the American Institute to **F. M. RAY**, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed,

JAMES TALLMADGE,

President.

N. MEIOS, Recording Sec'y.

ADONIRAM CHANDLER, Cor'g. Sec'y.

New York, Oct., 1851.

New England Car Spring Co., No. 104 Broadway New York. 7tf

RAILROAD CONTRACTS.

THE MOBILE AND OHIO RAILROAD CO.

HEREBY OFFER FOR CONTRACT THE GRADUATION, MASONRY AND BRIDGING OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 15th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York. January 28, 1853.

PATENT

Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be rebored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

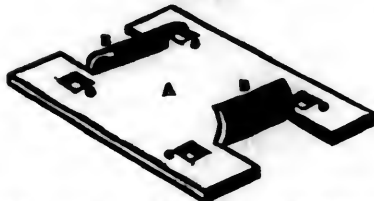
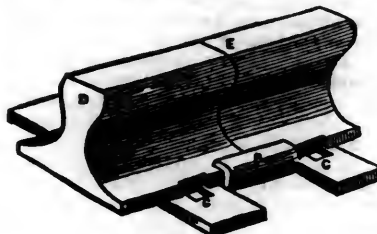
KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTELL IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

The American Railroad Chair Manufacturing Co.

IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga,
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennbec and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

IMPROVED SAFETY FUSE.

THIS superior article, manufactured of the best material, for igniting the charge when blasting, is kept for sale in any quantity by

BRIDGES & BROTHER,
64 COURTLAND STREET,
NEW YORK.

R. GROVES & SONS,
SHEFFIELD, ENGLAND,
Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shears, Blister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maiden-lane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

Railroad Iron.

5000 TONS Best Staffordshire Rails for sale on early delivery in Liverpool by
NAYLOR & CO.,
121st 99 John street.

Lightner's Patent Axle Boxes, FOR RAILROAD CARS.

THE attention of those engaged in building and using Railroad Cars is called to this

Patent Axle Box,

As possessing numerous advantages over all others, among which we enumerate the following:—

- 1st. The original cost is much less.
- 2nd. It saves seventy-five per cent in oil.
- 3rd. No dust can gain access to the journals.
- 4th. It prevents all possibility of "heating."
- 5th. Cars furnished with them run much easier, and require less power to move them.
- 6th. Its construction is simple—not liable to become loose by service, and allows a free inspection of the journals and boxes.
- 7th. The bearings of an eight wheel LOADED car, can be removed from the journals while under the car, and returned in less than half an hour, by ONE man.
- 8th. The trucks and wheels are free from oil and dirt, usually seen on Railroad Cars.

The following Testimonials are submitted:—

This certifies that I have been particular in comparing and testing the Patent boxes of John Lightner, for one year, with the various other boxes in use upon the Old Colony Railroad. I do not hesitate in pronouncing Mr. Lightner's boxes far superior in every respect to any other boxes in use. We find the consumption of oil to be but one quart per month for each eight wheel car; this being the quantity with which they are replenished regularly once a month. The Journal and oil is perfectly secure from dust, and after one year's hard service, the composition boxes or bearings exhibit no apparent wear. I think the bearings will run three times the distance in Lightner's that they will in any other box in use; besides, the cars are not detained from the road for repairs of boxes.

The bearings may be removed from the Journals of an eight wheel car, examined and returned to their places, by one man, occupying but twenty minutes, which would require two men, half a day, with the common boxes in use in New England.

For economy and convenience, Mr. Lightner's patent axle boxes excel any thing which has hitherto been applied to Railway Cars.

Signed, PAGE LOVEJOY,
Supt. Car Building and Repairs Old Colony R. R. Co.

I fully concur in the opinions above expressed, having thoroughly tested the merits of J. Lightner's patent boxes upon tenders of Locomotives of the Old Colony Railroad.

S. M. CUMMINGS,
Supt. Motive Power Old Colony Railroad.

OFFICE OF THE FITCHBURG AND WORCESTER R. R. }
Fitchburg, June 2nd, 1852 }

MR. JOHN LIGHTNER,

Dear Sir,—Your Patent Axle Box has been in use upon our Railroad during the last year and has given entire satisfaction. We find our Engines and Cars require much less power to move them, than others not furnished with this box, and the saving in oil is very great.

Our freight Cars run upon connecting roads, and are sometimes beyond our control; therefore as a matter of safety, we have the boxes examined once a month, and oiled if necessary, the quantity of oil required is small.

Our Passenger and Baggage Cars, which are in constant use, run nine hundred miles per week. We find it necessary to oil them only once in three months. In one or two instances, they have run more than sixteen thousand miles, without being oiled or sustaining any injury.

Yours Respectfully,
IVERS PHILLIPS, President.

The subscriber, begs leave to suggest to all Railroad Corporations (new or old) the importance of an EARLY application of this valuable improvement, to their NEW CARS, WHILE IN PROCESS OF CONSTRUCTION; as thereby much detention of cars, and great expense will be avoided.

Models and Testimony of the above Boxes, may be examined, and arrangements may be made for the Right to use the same, with the subscriber.

WM. SHERBURNE,
PRINCIPAL AGENT,
Office, No. 167 Broadway, New York.

March 26, 1853.

HAMMERED CAR.

AND

LOCOMOTIVE AXLES, FROM THE PENCOYD IRON WORKS.

THE Subscribers are prepared to manufacture the above of the very BEST materials and with promptness.

Address A. & P. ROBERTS,
Office, No. 80 1-2 Walnut St., Philadelphia.

March 26, 1853.

FOR SALE.

TWO Sixty Horse Power Steam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia, (where they may now be seen.)

Apply to A. & J. ROBERTS,
No. 80½ Walnut Street, Philadelphia.

Notice to Contractors.

OFFICE N. O., OPELOUSAS & GREAT
WESTERN RAILROAD CO.,
New Orleans, March 5th, 1853.

SEALED PROPOSALS will be received at this office, until the 10th of May next, for the construction of that portion of the road between Bayou Lafourche and Berwick's Bay, a distance of 31 miles; also from Berwick's Bay to Washington, 92 miles, including a branch road of 18 miles. Proposals will be made for the entire completion of the road, (except furnishing iron.)

References of ability, and security, will be required.

Plans and specifications of the work to be seen at this office, after the 10th of April.

JAMES G. GIBBES, Chief Engineer.

Locomotive Engines.

**DANFORTH, COOK & CO.,
PATTERSON, N. J.,**

HAVING erected an extensive Shop, with the most approved Machinery and Tools, are prepared to execute orders for the various classes of Freight and Passenger Locomotive Engines and Tenders, in the best manner and on the most favorable terms.

Also, Stationary Engines, and the various Tools suitable for furnishing Repair Shops.

The business of Machine making, heretofore carried on by Charles Danforth & Co., is continued by the present firm, and all orders will receive prompt attention.

ly49

BOWLING TIRE BARS.

40 Best Flange Bars 5 1-2x2 inches, 11 feet long.
40 " " 5 1-2x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by

RAYMOND & FULLERTON,
45 Cliff street.

Iron, Steel and Hardware.

H. & J. HOPKINS,

93 & 95 Barclay St.,

NEW YORK,

IMPORTERS OF ENGLISH and REFINED IRON of the BEST BRANDS, suitable for LOCOMOTIVE and CAR BUILDERS' use.

Also, Cast, Spring and German Steel, of all sizes—together with a full assortment of Hardware—Contractors and Blacksmiths' Tools, Chains, etc., which we offer at the lowest rates.

March 9, 1853.

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

February 23, 1853.

TOWNSEND & COIT, Buffalo.

on, Mt. Carmel and New Albany Railroad.

NOTICE is hereby given, that there are no Bonds of this company in circulation, as the books of this company will testify that no bonds have ever been issued or authorized.

And, as all the stock formerly subscribed on the books of this company was, on the 4th and 18th of December, 1852, sold by the sheriff, under executions issuing from the Circuit Court of Edwards county, Illinois, and was by the purchasers at such sales, or by their assignees, surrendered to the present board of directors, on the 29th of January, 1853: All Certificates of Stock bearing date previous to that time are worthless.

It having been reported, that bonds and certificates of stock of this company have been offered for sale or pledge by parties formerly connected with this company, the board have thought it right thus to put the public on their guard.

F. B. THOMPSON,

Pres't. Mt. C. & N. A. R.R. Co.

SAMUEL THOMPSON, M. D.,

Sec'y to the Board.

March 7th, 1853.

1m12

**A. Whitney & Son,
PHILADELPHIA, PA.,**

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31st

**RAILROAD CAR
AND COACH TRIMMINGS.**

Doremus & Nixon,

No. 21 PARK PLACE,

AND

13 MURRAY STREET.

IMPORTERS

OF PLAIN AND FIGURED MOHAIR PLUSH;

Printed and Uncut do. do. entirely new designs;

ALSO GERMAN OIL CLOTHS FOR HEAD LININGS,

Enamelled with Gold and Silver and Velvet Printed.

These Headings are the most beautiful ever shown,

having been made expressly for American Cars.

D. & N. are sole Agents.

ALSO, PATENT PARIS COTTON FELT.

This is a patented article, makes a better and more

desirable cushion than hair; retains its elasticity

longer, and is free from vermin.

It is being extensively used by Car and Omnibus

builders, and is sold at about half the price of

curled hair.

ALSO, BROCCATELLES and MOQUETTES.

ALSO, CURLED HAIR.

N. B.—We have the Plush and Linings in bond

for exportation.

DOREMUS & NIXON.

November, 1852

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Peoria and Oquawka.	" 1863
6 per ct.—Maysville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877
1st Mortgage Bonds:	
7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1867
7 per ct.—Troy and Bennington.	" Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Moccogee Railroad.	" Savannah, 1862
7 per ct.—Huron and Oxford.	" New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	" 1865-67
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa.	" Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.	" Huron, 1861
7 per ct.—Town of Newark, O.	" New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock.	" 1866
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1865
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.	" 1862
Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.	
Stock in the Western Vermont R. R. Co.	
Stock in the Mad River R. R. Co.	
Stock in the Buffalo, Corning and New York R. R. Co.	
Stock in the Mansfield and Sandusky R. R. Co.	
Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.	

GLENDON REFINED IRON.

**BAR, RODS, BAND IRON, etc., for sale by
GEORGE GARDNER & CO.,
March 9, 1853. Boston, Mass.**

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer. Address "H. W.," this office. 3*12

To Railroad Companies, Car Builders, Machinists, etc.

**SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, Pa.**

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,

Railroad and Boat Spikes,

Car and Locomotive Springs,

" " Spring Steel,

Solid Box Vices, etc., etc. 1517*

**The Cold Spring Iron Works
INCORPORATED IN 1848.**

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.

E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder,

Address HENRY MELLUS, Agent,

Boston, Mass.

or, GEO. W. PRESCOTT, Sup't,

Otis, Mass.

November 12, 1852.

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

Leave Toledo at 9 A. M. and 10 P. M.

Leave Cleveland at 9.20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Railroad, for Chicago and the West.

At Bellevue with trains of Mad River and Lake Erie Road, for Sandusky City, Dayton, Indianapolis, Cincinnati, etc.

At Monroeville with Mansfield and Sandusky City Road, for Sandusky City, Shelby Junction, Columbus, Newark and Zanesville.

At Grafton with Cleveland, Columbus and Cincinnati Road, for Shelby Junction, Columbus and Cincinnati.

At Cleveland with Lake Shore Road, via Dunkirk, for New York and Boston, via Buffalo, for New York and Albany and for Western Road and Boston, with Cleveland and Pittsburgh Road for Pittsburg, Wheeling, Philadelphia, Baltimore, & Washington City.

E. B. PHILLIPS, Sup't.

Office T. N. & C. R. R.,

Norwalk, O., Feb. 2 1853.

Iron for Machinists.

THE SUBSCRIBERS,

IMPORTERS AND DEALERS IN

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HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE and CAR BUILDERS,

AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,

Feb. 16, 1853.

90 Heckman st., N. Y.

Fire Bricks.

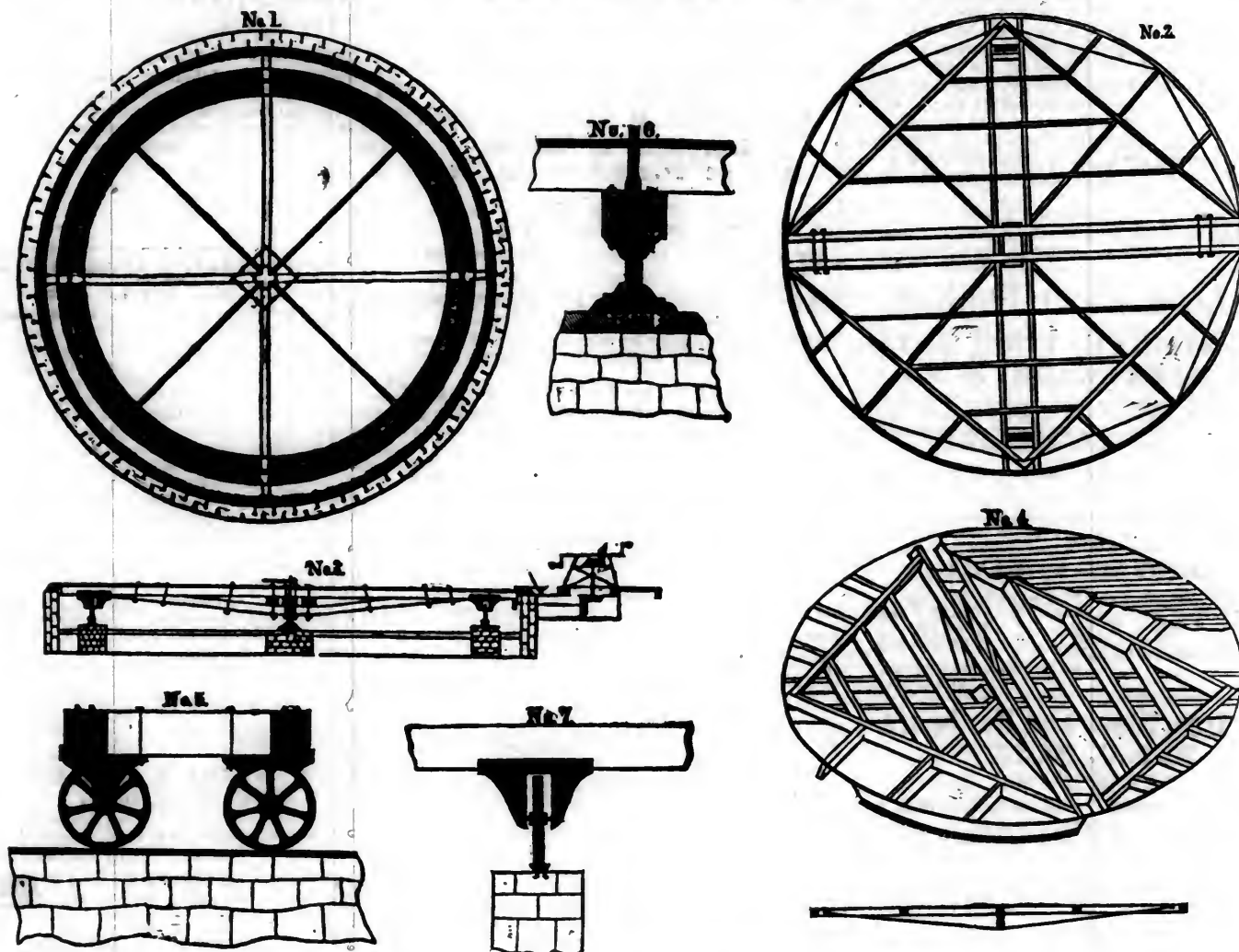
SCOTCH Patent—for sale in lots to suit purchasers, by

G. O. ROBERTSON,

November 19, 1852.

135 Water street, corner of Pine, New York.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in **25 SECONDS**.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Furguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.

A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally, are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.
Oct. 2, 1862. 17*

E. DeWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.
Feb 9 1853. JAS. PRENTICE,
315 Broadway, N. Y.

Railroad Iron.

THE undersigned Agent for the manufacture, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales, or at this port.

For terms, apply to

JOHN H. HICKS,
90 Beaver st.

March 24, 1853.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,
Sole Agents, 23 Platt st., New York.
New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1821.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 16.]

SATURDAY, APRIL 16, 1853.

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PUBLISHED BY J. H. SCHULTE & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, April 16, 1853.

Canal Statistics.

The following Erie Canal statistics are official, from the report of the auditor of the canal department:

I. The total tonnage of all the property on the canals, ascending and descending, its value, and the amount of tolls collected for the last seventeen years:

Year.	Tons.	Value.	Tolls.
1836.....	1,340,907	\$67,634,343	\$1,614,342
1837.....	1,171,295	55,809,288	1,292,623
1838.....	1,333,011	65,746,559	1,590,911
1839.....	1,436,713	73,399,764	1,616,382
1840.....	1,416,046	66,303,892	1,775,747
1841.....	1,521,661	92,202,929	2,034,882
1842.....	1,236,931	60,016,608	1,749,196
1843.....	1,513,439	76,276,909	2,081,590
1844.....	1,816,586	90,921,152	2,446,374
1845.....	1,985,011	100,553,245	2,646,181
1846.....	2,268,662	115,612,109	2,756,106
1847.....	2,869,810	151,563,428	3,635,381
1848.....	2,796,230	140,086,157	3,252,312
1849.....	2,894,732	144,732,285	3,268,226
1850.....	3,076,617	156,397,929	3,273,899
1851.....	3,582,744	159,981,801	3,329,727
1852.....	3,863,441	196,603,517	3,118,004

II The total tons coming to tide water from Erie and Champlain canals, for each of the last nineteen years, and the aggregate value thereof in market:

Year.	Tons.	Value.
1834.....	553,596	\$13,405,022
1835.....	753,191	20,525,446
1836.....	696,847	26,932,470
1837.....	611,781	21,822,354
1838.....	640,481	23,088,510
1839.....	602,128	20,163,199
1840.....	669,012	23,213,573
1841.....	774,334	27,325,322
1842.....	666,626	22,751,013
1843.....	836,861	28,453,408
1844.....	1,019,094	34,183,167
1845.....	1,204,943	45,452,321
1846.....	1,362,319	51,105,256
1847.....	1,744,283	73,092,414
1848.....	1,447,705	20,883,907
1849.....	1,579,946	52,375,521
1850.....	2,033,868	55,474,637
1851.....	1,977,151	53,927,508
1852.....	2,234,822	66,893,102

III. The whole quantity of wheat and flour which came to the Hudson river, from 1834, to 1852, inclusive, with the aggregate market value of the same, and the amount of tolls received on all the wheat and flour transported on the canals in each year, from 1838 to 1852, inclusive, is as follows:

Year.	Tons.	Value.	Tolls.
1834.....	130,452	\$5,719,795	Not asc't'd.
1835.....	123,552	7,395,539	do.
1836.....	124,982	9,796,540	do.
1837.....	116,491	9,640,156	\$301,739
1838.....	133,080	9,883,586	380,161
1839.....	124,683	7,217,841	404,525
1840.....	244,862	10,362,862	700,071
1841.....	202,360	10,165,355	621,046
1842.....	198,231	9,284,778	606,727
1843.....	248,780	10,283,454	731,816
1844.....	277,865	11,211,677	816,711
1845.....	320,460	15,962,950	851,533
1846.....	419,366	18,836,412	1,099,325
1847.....	551,205	32,890,938	1,460,424
1848.....	431,641	21,148,421	1,126,133
1849.....	434,444	19,308,595	1,128,064
1850.....	461,781	20,218,188	1,114,619
1851.....	457,624	16,487,652	867,881
1852.....	576,772	22,564,256	995,160

IV: The following table shows for each of the preceding eighteen years how much of the tolls received in each year of navigation was on "products from Western States," how much was on "products of this State," and how much was on "merchandise going from tide water."

Year	From Western States.	From this State.	From tide water.	Total on all canals.
1835.....	\$153,063	\$384,049	\$510,997	\$1,548,109
1836.....	211,760	853,022	549,564	1,614,336

1837..	160,116	723,756	408,751	1,292,623
1838..	247,241	803,967	539,703	1,590,911
1839..	310,072	756,723	549,587	1,616,382
1840..	427,480	865,758	482,510	1,775,748
1841..	500,630	924,326	609,927	2,034,883
1842..	467,792	827,841	453,565	1,749,198
1843..	623,297	892,151	566,142	2,081,590
1844..	676,032	1,088,274	682,068	2,446,374
1845..	677,922	1,240,678	727,582	2,646,182
1846..	1,013,478	1,100,699	641,929	2,756,106
1847..	1,583,500	1,213,761	837,943	3,635,204
1848..	1,157,905	1,213,060	881,402	3,252,367
1849..	1,101,860	1,261,229	905,137	3,268,226
1850..	1,137,731	1,222,877	913,291	3,273,899
1851..	1,251,390	1,027,124	1,051,213	3,329,727
1852..	1,304,018	1,013,990	799,650	3,117,658

V. The following statement gives the total tonnage arriving at tide water, by way of the Erie canal, for a series of seventeen years, distinguishing between the tonnage from this State, and the tonnage from Western States:

Year,	From Western States—tons.	From this State—tons.	Total tons.
1836.....	54,219	364,906	419,125
1837.....	56,255	331,251	387,506
1838.....	83,233	336,016	419,249
1839.....	121,671	264,596	386,267
1840.....	158,148	309,167	467,315
1841.....	224,176	308,314	532,520
1842.....	221,477	258,672	480,149
1843.....	256,376	378,969	635,345
1844.....	308,025	491,791	799,816
1845.....	304,551	655,039	959,590
1846.....	506,830	600,662	1,107,270
1847.....	812,840	618,412	1,431,252
1848.....	650,154	534,183	1,184,337
1849.....	768,659	498,068	1,266,724
1850.....	773,858	598,001	1,371,859
1851.....	966,993	541,684	1,508,677
1852.....	1,151,978	492,721	1,644,699

VI. The following statement furnishes the progressive increase of the trade in Flour and Wheat. The results in the second column are arrived at by assuming that all the Flour and Wheat from Western States arrived at tide water, and by deducting it from the total arrival at tide water.—In turning wheat into barrels the practice has been followed of calling five bushels a barrel. It is not strictly accurate, but as it is done for the whole series, it answers for the purpose of a comparison of years. The average price of Flour each year at Albany is also given.

Year	Western States.	This State	Blls. arriving at tide water.	Price
1835....	268,259	868,561	1,136,778	\$2.50
1836....	317,108	775,979	1,093,087	8.75
1837....	284,902	747,676	1,032,578	9.50
1838....	558,283	637,036	1,195,319	8.50

1839....	683,509	425,544	1,109,058	6,50
1840....	1,666,615	1,080,084	2,146,699	4,84
1841....	1,232,987	596,657	1,829,644	6,00
1842....	1,146,292	543,064	1,776,051	5,18
1843....	1,568,645	670,532	2,239,177	4,50
1844....	1,727,714	746,939	2,474,653	4,50
1845....	1,553,740	1,288,416	2,842,156	5,57
1847....	2,733,474	929,330	3,652,804	5,06
1847....	3,989,232	791,106	4,780,338	6,84
1848....	2,983,688	790,114	3,753,802	5,58
1849....	2,842,821	886,938	3,739,759	5,06
1850....	3,084,959	905,277	3,990,236	5,00
1851....	3,495,734	495,467	3,991,201	4,00
1852....	3,937,366	877,731	4,815,097	4,53

Of the \$3,118,244 collected during the last year of navigation, there was paid:

On Flour and Wheat.....	\$995,160
On other products.....	1,323,924

Total on down freight.....	\$2,319,084
On up freight or merchandise.....	799,160

Total.....\$3,118,244

From which it appears that flour and wheat paid nearly one half of the down freight tolls, and about one-third of the whole amount collected.—The auditor suggests that if flour and wheat from the Western states should increase in the same ratio as during the previous ten years, it might at the end of another term of that duration, add \$3,000,000 to the amount of tolls collected during the last season.

The total number of boats employed on the canals at the close of last season, as ascertained by actual count, was 3,404, their average tonnage being 80 tons, and the number of tons delivered at tide water from the Erie canal was 1,644,699.—An expenditure of \$500,000, according to the auditors statement, would enlarge the channel of the Erie canal sufficient for the passage of boats of a 150 tons. At an increase at the same rate as that of the last ten years, this would accommodate the business for twenty years to come, or at the same rate as the increase for the season of 1852, ten years. The auditor says:

With a delivery at tide water last year of 1,644,699 tons from the Erie canal, the whole tolls on the canals were over \$3,000,000 or about \$2 on a ton of the delivery. At the present rates it may be assumed that every ton of increased arrival at tide water will add \$2 additional toll, so that the delivery at tide water from the Erie canal shall reach 3,000,000 of tons, whether in twenty years or in ten years, the tolls may be \$6,000,000, and at that rate for any less time. Every increased delivery of 100,000 tons may be given at an increase of \$200,000 in tolls.

The number, tonnage, &c. of boats at the times when the three last actual counts, were made, were as follows:

Jan. 1.	No.	Tonnage capacity.	Tons from Erie canal delivered at tide water	Lockages at Alex-ander's Lock.
1844....	2,126	117,453	799,816	28,219
1848....	3,991	266,280	1,431,252	43,957
1853....	3,404	256,700	1,644,699	41,572

The tons and lockages as put down are in each case for the year preceding the one named.

The following table shows for a series of years, the average tonnage of the boats; the time necessary to make a passage, and the cost to bring a bbl. of flour from Buffalo to Albany; the lockages at Alexander's lock, and the total tons delivered at tide water from the Erie canal:

Year	Average tonnage of boat.	Days time between Buffalo & Alb'y.	Fr'ght on a bl. at Alex-ander's Lock.	Lock'es at tide water	Tons delivered from Erie Canal.
1841.....	41	9	71c	30,320	532,520
1844.....	49	7½	60c	28,219	799,816
1847.....	67	10½	77c	43,957	1,431,252
1848.....	71	9	58c	34,911	1,184,337

1849.....	68	8¾	58c	36,918	1,266,724
1850.....	76	9	58c	38,444	1,554,675
1851.....	78	8½	49c	40,396	1,608,677
1852.....	80	9	53c	41,572	1,644,699

The following tables show the cost of transportation of up and down freight for a series of years, distinguishing between the amounts paid to the State for tolls, and to the forwarding merchant as freight. The upward freight is calculated upon the basis of one hundred pounds of merchandise, and the downward on that of a barrel of flour of 216 lbs.

UP FREIGHT PER HUNDRED LBS. FROM ALBANY TO BUFFALO.

Year.	May.	June.	July.	Aug.	Sept.
1830.....	1 00	1 00	1 00	1 00	1 00
1831.....	1 00	1 00	1 00	98	97
1832.....	1 00	1 00	1 00	1 00	1 00
1833.....	92	79	70	69	69
1834.....	82	82	82	82	82
1835.....	80	80	80	80	80
1836.....	1 05	1 05	1 05	1 05	1 05
1837.....	1 05	1 06	1 01	90	84
1838.....	85	85	88	85	85
1839.....	87	81	76	81	90
1840.....	80	80	85	80	85
1841.....	68	63	59	47	50
1842.....	75	71	68	58	58
1843.....	56	55	51	46	51
1844.....	77	60	48	48	67
1845.....	51	44	48	49	49
1846.....	38	40	41	35	43
1847.....	39	39	39	39	39
1848.....	39	39	39	39	39
1849.....	39	39	39	39	39
1850.....	37	35	35	35	36
1851.....	31	31	30	30	31
1852.....	28	26	25	25	26

Total average for — years..... 69 67 65 63 65

Year.	May.	June.	July.	Aug.	Sept.
1830.....	1 00	1 00	1 00	51	49
1831.....	99	99	99	51	48
1832.....	1 00	1 00	1 00	51	49
1833.....	67	73	74	44	36
1834.....	83	82	82	33	49
1835.....	80	80	80	33	47
1836.....	1 05	1 05	1 05	33	72
1837.....	75	88	93	33	60
1838.....	83	88	85	33	52
1839.....	90	90	85	33	52
1840.....	84	87	83	33	50
1841.....	58	81	61	33	28
1842.....	60	81	62	33	33
1843.....	61	72	56	33	23
1844.....	77	80	65	33	33
1845.....	47	50	48	33	15
1846.....	40	49	40	24	16
1847.....	39	39	39	24	15
1848.....	39	39	39	24	15
1849.....	39	39	39	24	15
1850.....	37	39	36	24	12
1851.....	31	32	31	22	9
1852.....	26	28	26	15	11

Total average for — years..... 66 70 67 33 34

DOWN FREIGHT PER BBL. 216 LBS. FROM BUFFALO TO ALBANY.

Year.	May.	June.	July.	Aug.	Sept.
1830.....	1 00	99	97	86	99
1831.....	1 04	97	91	92	90
1832.....	1 01	97	90	97	1 00
1833.....	91	82	86	83	90
1834.....	87	78	78	81	85
1835.....	70	65	66	64	64
1836.....	80	78	72	72	76
1837.....	80	80	82	72	83
1838.....	80	73	71	68	73
1839.....	68	67	65	65	78
1840.....	80	78	74	67	76

1841.....	75	65	68	63	66
1842.....	72	60	60	62	62
1843.....	60	60	59	57	58
1844.....	75	61	55	55	54
1845.....	55	55	54	57	55
1846.....	61	61	53	54	53
1847.....	1 12	1 02	67	62	57
1848.....	54	50	54	54	52
1849.....	51	55	55	52	52
1850.....	51	50	53	54	53
1851.....	46	46	50	43	46
1852.....	47	47	51	47	54

1709 1608 1551 1508 1576

Total average for — years..... 74 70 67 66 69

Year.	May.	June.	July.	Aug.	Sept.
1830.....	1 01	1 02	98	55	43
1831.....	97	1 02	96	55	41
1832.....	1 00	1 06	1 00	55	45
1833.....	91	91	88	39	49
1834.....	85	88	83	35	48
1835.....	76	75	68	35	33
1836.....	80	80	77	35	42
1837.....	77	97	81	35	46
1838.....	70	76	73	35	38
1839.....	87	1 00	75	35	41
1840.....	80	1 13	81	35	46
1841.....	73	85	71	35	36
1842.....	63	76	65	35	30
1843.....	62	70	60	35	25
1844.....	57	65	60	35	25
1845.....	53	96	71	35	26
1846.....	58	1 05	64	31	33
1847.....	66	73	77	31	46
1848.....	66	72	58	31	27
1849.....	57	71	56	31	25
1850.....	59	81	57	31	26
1851.....	53	60	49	23	26
1852.....	58	68	53	23	30

1671 1952 1661 825 827

Total average for — years..... 73 85 72 36 36

These tables show that while the carrier in 1830, 49 cents per hundred lbs., on up freight, and 43 cents per barrel on down freight, he received in '52, only 11 and 30 cents respectively.

Tables are given in the report showing the whole cost of transportation on the canals, for sixteen years past, distinguishing between that which goes to the state and that which goes to the carrier.

For those years the—

Whole cost of transportation was.....\$78,697,554

Deduct carrier's charge..... 39,029,602

And it leaves the sum of.....\$39,876,876

as a tax belonging to the state, and which has gone into the treasury.

Deduct the cost of repairs, etc., of canals for the same time..... 10,991,526

And it leaves the sum of.....\$28,876,336

This shows an annual charge of about \$1,800,000 imposed upon the commerce of the canals, for the purpose of paying the interest and principal of the debt which has been incurred for purposes connected with them, and for the completion of the unfinished works.

Racine, Janesville, and Mississippi Railroad.

The *Racine Commercial Advertiser*, of the 16th, says, that on Monday the corps of engineers, under the direction of Charles L. Prescott, chief, commenced running the line and laying the road, preparatory to the letting of contracts for making the road, which will take place in the first part of April. The amount already subscribed towards the stock of this road, warrants this early contracting for its being built; and we doubt not, from the well-known enterprise of the president and directors of this company, that this road will be as soon completed as any road of equal length in the United States.

Abstract of the Returns made by the Massachusetts Railroads to the State Legislature for the year ending January 1, 1883.

NAMES OF RAILROADS.	Capital.	Capital paid in.	Cost.	Length.	Length of double track.			Speed of passenger trains.	Speed of freight trains.	Earnings.	Expense of work.		Net earnings.	Dividends.	Debt.	Surplus.		CASH ALIEN, &c.
					of branch.	of branch.	of branch.				ing.	ing.				of	of	
Agricultural Branch*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amherst and Belchertown*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Berkshire	\$600,000	\$600,000 00	\$600,000 00	21.20	.....	.....	.....	25	12	\$12,000 00	.....	.....	\$12,000 00	.....	.....	.....	.....	.....
Boston, Barn & Gardner*	1,830,000	1,830,000 00	1,926,249 02	26.77	26.77	1.87	.....	26	12	\$68,406 97	.....	.....	\$10,881 04	137,250 00	.....	\$36,444 03	4	1
Boston and Lowell	4,165,700	4,076,974 52	4,092,926 58	74.26	27.79	8.79	.....	24	11	661,521 63	323,306 21	338,215 42	220,899 00	150,000 00	.....	117,924 79	5	2
Boston and Providence	3,160,000	3,160,000 00	3,546,208 89	41.00	15.75	12.00	.....	25	14	429,484 34	216,838 92	212,656 42	173,800 00	3,000,000 00	.....	47,897 78	4	2
Boston and Worcester	4,500,000	4,500,000 00	4,845,966 99	44.63	44.63	24.00	.....	25	11½	758,819 47	427,522 68	331,266 79	315,000 00	540,916 20	.....	100,626 78	6	7
Cape Cod Branch	300,000	421,950 00	633,906 61	27.08	.....	.....	.....	21½	14	60,743 88	30,687 08	30,056 25	7,500 00	171,800 00	.....	.....	.....	.....
Charles River Branch†	125,800	100,586 86	160,728 90	12.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	65,223 75	.....	.....	.....	.....
Cheshire	2,250,000	2,078,625 00	3,002,094 48	53.64	.....	.....	.....	25	10	287,768 60	232,501 65	55,266 95	103,644 00	785,508 26	.....	15,145 54	1	1
Connecticut River	1,750,000	1,591,110 00	1,801,964 26	50.00	.....	.....	.....	25	10	229,004 98	156,976 62	72,028 96	88,780 00	210,300 07	.....	33,945 73	3	.....
Dorchester and Milton Branch†	130,000	73,340 00	136,372 77	3.25	.....	.....	.....	.....	.....	7,530 00	.....	.....	.....	51,377 84	.....	.....	.....	.....
Danvers and Georgetown*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eastern	3,150,000	2,850,000 00	3,120,301 67	38.20	16.00	13.87	.....	21	15	488,973 81	247,956 92	241,017 39	250,687 50	1,462,906 61	.....	12,688 42	3	.....
Essex	700,000	226,257 31	609,006 90	19.86	2.00	1.36	.....	20	15	36,718 21	34,637 29	2,180 92	84,000 00	407,621 09	.....	45,180 10	.....	2
Fall River	1,200,000	1,050,000 00	1,050,000 00	42.24	.....	.....	.....	22	13	229,446 37	129,856 89	99,689 48	.....	.....	.....	.....	.....	.....
Fitchburg	3,540,000	3,540,000 00	3,633,673 57	50.93	50.93	16.85	.....	24½	12½	574,574 36	341,787 04	232,787 82	212,400 00	110,000 00	.....	157,185 66	9	4
Fitchburg and Worcester	500,000	213,128 55	312,228 75	13.99	.....	.....	.....	22	12	31,402 78	23,528 10	7,874 68	6,126 00	87,817 07	.....	11,283 13	1	2
G. June, R. R. & Depot Co.	1,200,000	793,151 58	1,282,072 97	6.49	.....	.....	.....	30	12	3,000 00	.....	.....	.....	516,703 09	.....	.....	.....	.....
Hartford and N. Haven	300,000	20,680 00	26,701 38	5.87	.....	.....	.....	.....	.....	.....	.....	.....	.....	497,000 00	.....	.....	.....	.....
Harvard Branch	40,000	121,000 00	237,327 56	6.63	.....	.....	.....	25	12	41,778 67	27,320 60	14,458 07	8,000 00	154,067 70	.....	16,492 92	1	.....
Lex. & West Cambridge	200,000	200,000 00	346,062 83	12.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lowell and Lawrence	200,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marlborough Branch*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medway Branch†	35,000	32,050 50	33,588 75	3.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nashua and Lowell	600,000	600,000 00	651,214 88	14.58	14.20	.....	.....	28	14	132,545 83	73,493 54	51,513 60	48,000 00	.....	.....	16,327 66	.....	.....
New Bedford and Taunton	500,000	500,000 00	520,475 73	20.13	.....	.....	.....	26½	16	164,230 26	120,279 33	43,950 93	33,500 00	.....	.....	26,164 38	1	.....
Newburyport	300,000	131,030 00	255,613 88	14.58	.....	.....	.....	24	24	18,319 92	.....	.....	.....	.....	.....	.....	.....	.....
N. London, W. & Palmer	1,700,000	558,861 23	1,511,111 70	66.00	.....	.....	.....	24	12	114,410 78	123,268 32	.....	.....	905,682 17	.....	.....	.....	.....
Norfolk county	1,200,000	457,015 00	1,256,927 72	25.97	.....	.....	.....	24	12	67,261 90	43,836 93	23,416 97	.....	848,763 11	.....	.....	.....	.....
N. & Worcester	2,825,000	2,121,100 00	2,596,488 20	59.00	1.80	.....	.....	22	11	267,561 70	191,484 72	76,126 98	80,711 55	721,844 48	.....	44,221 22	3	1
Old Colony	2,100,000	1,964,070 00	2,293,534 83	37.25	11.50	7.75	.....	20	12½	322,218 74	220,703 30	101,510 44	.....	283,800 00	.....	152,046 68	3	1
Peterborough and Shirley**	275,000	210,800 00	263,540 28	14.08	.....	.....	.....	.....	.....	.....	.....	.....	.....	38,452 64	.....	.....	.....	.....
Pittsfield and North Adams	500,000	450,000 00	443,677 68	18.65	.....	.....	.....	20	.....	40,395 55	18,087 33	22,308 22	27,000 00	.....	.....	.....	.....	.....
Providence and Bristol*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Providence and Worcester	1,457,500	1,457,500 00	1,731,498 18	43.41	5.17	.....	.....	20	12	258,630 54	114,175 93	139,514 61	87,450 00	300,000 00	.....	6,988 72	.....	.....
Salem and Lowell	400,000	243,305 00	362,672 42	16.88	.....	.....	.....	25	12	63,694 86	53,629 04	65 32	.....	128,399 79	.....	.....	.....	.....
Saugus Branch*	160,000	123,650 00	128,866 93	8.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Southbridge and Blackstone*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Reading Branch	400,000	209,632 73	236,226 61	8.15	.....	.....	.....	22	16	51,566 19	43,338 91	8,237 28	7,500 00	26,693 88	.....	17,393 26	.....	.....
South Shore†	600,000	259,686 00	428,850 70	11.05	.....	.....	.....	.....	.....	24,680 00	.....	.....	.....	146,408 03	.....	2,243 50	.....	.....
Stockbridge and Pittsfield††	448,600	448,700 00	448,700 00	21.93	.....	.....	.....	28	12	31,408 00	.....	.....	.....	.....	.....	.....	.....	.....
Stony Brook	275,000	266,900 00	263,813 17	13.16	.....	.....	.....	28	12	13,310 57	.....	.....	.....	.....	.....	.....	.....	.....
Stoughton Branch	85,400	85,400 00	93,443 29	4.04	.....	.....	.....	20	.....	27,165 62	19,247 28	7,918 34	5,124 00	.....	.....	2,794 34	.....	.....
Taunton Branch	250,000	250,000 00	307,136 29	11.10	.....	.....	.....	22	14	137,401 78	113,002 22	24,399 56	20,000 00	.....	.....	41,776 02	.....	.....
Troy and Greenfield	354,900	88,831 02	3,451,628 73	42.55	.....	.....	.....	20	12	218,679 14	200,080 36	18,648 78	.....	1,101,977 78	.....	.....	.....	.....
Vermont and Massachusetts	3,300,000	2,240,538 04	3,451,628 73	63.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ware River*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Western	6,500,000	5,150,000 00	9,653,758 84	155.40	53.14	.....	.....	28	16	1,339,873 09	656,578 17	683,194 92	834,760 00	5,313,620 00	.....	137,413 53	11	.....
West Stockbridge	39,600	39,600 00	41,516 29	2.75	.....	.....	.....	.....	.....	1,326 66	.....	.....	1,782 00	.....	.....	218 14	.....	.....
Worcester and Nashua	2,100,000	1,134,000 00	1,321,945 54	45.69	.....	.....	.....	23	10	162,109 20	95,209 20	66,900 00	66,325 50	173,993 79	.....	18,856 72	1	.....
Total	56,236,600	46,539,220 34	60,019,051 77	1,280.29	270.38	103.88	23.63	12.98	7,713,208 35	4,541,468 31	3,211,197 75	2,463,546 94	16,009,095 77	1,112,072 96	63 24	.....	.....	.....

* Not in operation. † Run by Housatonic R. R. Co. ‡ Run by Boston & Wor. R. R. Co. § Run by Old Col. R. R. Co. ¶ Run by Fitchburg R. R. Co. ** Run by Norfolk co. R. R. Co. *** Run by Fitchburg R. R. Co. †† Run by Old Colony R. R. Co. ††† Run by Housatonic R. R. Co. §§ Run by the Nashua & Lowell R. R. Co. ¶¶ Receipts for nine months.

Journal of Railroad Law.**TIMELY NOTICE OF AN ACCIDENT.**

While the telegraphs furnish facilities, they impose duties.

This was lately shown in the case of *Hodgson, vs. Manchester, Sheffield and Lincolnshire Railroad Company*, tried in the Northern Circuit of England.

The plaintiff was a guano dealer, and having a season ticket on the defendants' road, was in the habit of constantly travelling upon it for the sake of attending markets. He was on one occasion going from Sheffield to Manchester, and at a few miles beyond Wadsley station, there happened a slide of the bank, which stopped the progress of the cars. The train in which the plaintiff was travelling had arrived safely at the Wadsley station. At that station a signal was up to stop, but before this direction could be complied with, they ran into a pilot engine; in consequence of which plaintiff was bruised in the leg, and was compelled to pay 18 guineas to his surgeon.

The judge left it to the jury to decide whether or not the defendants had been guilty of negligence in not having availed themselves of their telegraph in such a way as to give notice of the bank slide in due season to prevent the occurrence which had taken place.

The jury awarded £100 to the plaintiff.

POWERS OF DIRECTORS OF RAILWAY COMPANIES IN REGARD TO LOCATING ROUTES.

A very important opinion respecting this subject has lately been delivered by judge Caldwell, of the Ohio Supreme court, in the case of *W. H. Baldwin, vs. the Hillsborough railroad company and others*. An injunction had previously been issued against the company, ordering them to desist from completing a proposed extension of their road.

The plaintiff was a stockholder in said company and complained of an alteration in the route of the road as originally laid out. The company was about to extend its road east from Hillsborough to a point near or opposite Parkersburg, in Virginia, in order to connect with the North Western Virginia railway.

The original intention of the company had been to connect with a road to Chillicothe; but this plan had failed, and resulted in two rival roads with both of which it was said the proposed extension interfered.

The Judge thought that in a case like this the directors were invested with a certain discretionary power in regard to the location of the routes. If there had been any evidence of a fraudulent purpose on the part of the directors in selecting the route in question, the court would not have hesitated to enjoin them against proceeding. But no evidence has been produced showing that the directors have not consulted the best interests of the company in the matter under consideration.

But it was urged that the route of the proposed road had been virtually located by the act of the 12th of March, 1851, by which the proposed extension was authorized. That act was adopted at a meeting of the stockholders of the railroad company, and in pursuance of the provisions of said act, the stockholders selected a route by the way of Paint Valley. The directors had 14 miles of that route surveyed. They did more. They made contracts for constructing a road thereon. But making a survey is not a location of a route. Nor

do mere resolutions of a board of directors amount to the location of a route. They had a right to change their minds,—and to change the routes, if the interests of the company required it.

It was urged that stock was subscribed for in view of the extension by the route so originally selected. This might or might not have been so. There appears to have been no intentional bad faith on the part of directors towards subscribers of any class. Although the company had made contracts in reference to the route originally selected, those contracts were conditional. A mere resolution may always be rescinded.

It being urged that the route can only be changed by the stockholders, the Court decided the selection of a route to be the proper duty of the directors. But this had been the turning point at the last election of directors; and their conduct had been in the main ratified by the company.—And in regard to the arguments that it was indicated by the charter that the road should be continued to Marietta, the Court remarked, that for aught that appeared the proposed route might be the best route for reaching Marietta.—The position that the directors had fraudulently issued bonds for the purpose of carrying out their project, was also deemed wholly untenable,—especially as the plaintiff had sanctioned other but similar measures by his own vote.

The injunction was dissolved.

THE SECOND AVENUE RAILROAD.

A like decision was made in this case.

The grounds of the same, were thus briefly set forth by Judge Roosevelt:

The allegation of the great pecuniary value of the grant of the railroad in question, not being denied, is, in effect, admitted to be true.

No corporation, whether monied or municipal, having stockholders or constituents, has a right without their consent, to give away the property entrusted to its care.

The exclusive privilege of laying rail track and running cars, and receiving pecuniary emolument therefrom, like the franchise of a bridge or ferry, or other incorporeal hereditament, is as much a subject of property as the Park or the City Hall, or the moneyed contents of the City Treasury.

To grant such a privilege to a few favored individuals, without any public equivalent, is in principle, the same as a resolution or ordinance of the Common Council directing a division of the funds of the City, raised by taxation, among the members themselves.

Such acts, whether done or threatened, are all alike, gross breaches of trust, and subject as such to the jurisdiction of the supreme court, sitting as a court of equity.

It is the duty of the court, in such a case, as in the case of any other trust, on the complaint of injured parties, who, in the present instance, are the oppressed tax payers, to restrain the commission of such acts, by injunction, and where the grants are already made, to declare them null and void.

If it be true, (and such is admitted to be the fact,) that the franchise in question was of the value of, and might have been disposed of for "many thousand dollars," it follows, as an inevitable consequence that by giving it away the Common Council were in effect, taxing their constituents unlawfully, to the extent of as many thousands.

J. Morris, dissented in both cases.

CAN RAILROAD COMPANIES BE EMPOWERED TO SUBSCRIBE FOR STOCK.

This question has been decided affirmatively by the Supreme Court, in the case of *White, vs. the Utica and Schenectady railroad company*.

The Legislature, in a special act, empowers the said company to subscribe to stock of a Canadian

railroad company,—with whose road a communication was to be effected by the said Utica and Schenectady company. This subscription has now received the sanction of a judicial tribunal.

Geographical, Geological, and Statistical relations of the Ohio and Mississippi Railroad.

The Ohio and Mississippi Railway, when completed, will be the central axis,—like the hub to the wheel,—in what may properly be called the Railway System of the Mississippi Valley. That system will be as grand in artificial works as that valley is vast in extent and resources. Already, ten thousand miles of railway, exceeding, in aggregate, those of all Europe, are either finished, constructing or planned, with a moral certainty of completion. On the north they connect with the great Basin of the Lakes, from the Gulf of St. Lawrence to the Arctic Plains; on the south they stretch to the Gulf of Mexico; on the east they are linked to every great city of the Atlantic and on the west they are already rapidly tending towards the bosom of the Pacific. On a straight line between Cincinnati and St. Louis will be found a point midway between the Atlantic and the Rocky Mountains, and between the lakes and highlands of the Gulf; on that line also will be found the centre of population for that wide region, where eight millions of people already reside, and where nature has furnished abundant food and temperate climate for hundreds of millions in time to come. In every sense, therefore, natural, commercial and civil, the railway line between Cincinnati and St. Louis occupies a central and commanding position in reference to the whole railway system of the central west.

In estimating the traffic and profits of such a work we must not merely consider what we know of the present, but look beyond into some of the great elements of nature, society, industry and commerce; for the stream of business and of movement, on the artificial communications of a country, as certainly proceed by fixed laws, from the resources of nature and the arts and growth of a people in that country, as do the streams of water from their original and perennial fountains.—Therefore, in discussing the problem you have submitted to me, I shall consider the subject in the following order, trusting that, if the details seem dry, you will consider that they lead to an inevitable and a satisfactory conclusion.

1. The Geographical position of the Cincinnati and St. Louis Railway.
2. The Geological elements of wealth, subsistence and population in the country traversed.
3. The magnitude and commerce of the cities connected.
4. The actual surplus productions of the country traversed.
5. Tributary Railway lines.
6. The shortened distances, by these lines, from the central cities to the seaboard.
7. Estimate of through passengers.
8. Estimate of lateral passengers.
9. Estimate of way passengers.
10. Estimate of freight derived from the surplus productions.
11. Estimate of freight derived from merchandize and manufactures.
12. Final estimate of profits.

1. GEOGRAPHICAL POSITION.

Whoever examines the geographical features of the Mississippi Valley will at once observe that it has two great NATURAL AXES, nearly at right angles with one another. One is the longitudinal axis of the Mississippi itself, extending from the Arctic Plains to the Gulf of Mexico, in a straight line less than 1,500 miles, but by the river course 3,860 miles; the other is the transverse axis, formed by the Ohio, the Missouri and the Platte, pursuing a general course east and west. This axis is not quite so direct as that of the Mississippi; but pursues a geographical direction, substantially, at right angles with the former. The southern deflection, terminating at the mouth of the Ohio, is form-

ed by the general declivity of the Valley towards the Gulf of Mexico. The length of this transverse axis, from the eastern to the western mountain chains, is about equal, on a straight line, to the longitudinal axis—1,500 miles—although, by the river distances, it is more than three thousand.

The existence of these two great natural axes determines three great principles, in reference to all the future railway systems of the central west.—These principles will exert a controlling influence over all particular works, and must have an important bearing on the line between Cincinnati and St. Louis. They are

1. Nature having formed great highways on which, naturally, all commerce flows—to which all plains incline, and where, by the aid of steam applied to vessels, a large portion of the movement of the country must still go on—it follows that the railway system must conform, generally, to those natural ones. They must tend to supply, as far as their artificial uses go, the original purposes of these great channels. They must take the general direction of either the longitudinal or transverse axis, or they cannot supply the demands of commerce on those interior plains which descend towards those axes.

3. The Valleys of these great axes are, in consequence of their extraordinary irrigation, and the descent of the whole country towards them, the great depositories of vegetable productions, and, therefore, of food to men and animals. There, life, both vegetable and animal, most abounds, and there movement is most necessary to life; there gravitates the means of subsistence, and there also gravitates the living population, which will produce, consume or fabricate it into the merchandise of commerce. Thus we see arise on the great transverse axis of the Ohio and the Missouri the cities of Pittsburgh, Wheeling, Cincinnati, Louisville and St. Louis, whose united population is double that of all the cities on the Lakes and the Gulf of Mexico together. The centralization of commerce and population in the transverse valleys is double what it is on both sides, north or south, and quadruple what it is on either one. The existence of the great axes, therefore, has determined, as a second principle, the centralization of population, production and commerce of these lines.

3. It follows inevitably, from those facts, that those railways which are nearest to and conform most to the natural axes of the country will have the most business, and be the most profitable, for they lie on the centres of population and production.

These are general principles which flow directly from the geographical features of the Mississippi Valley. Their application to the Cincinnati and St. Louis railway is direct and obvious. This work lies precisely on the line of the transverse axis, having avoided only the deflection of that axis at the mouth of the Ohio; but preserving the general direction of the Ohio, the Missouri and the Platte. Intersecting the Missouri Valley at its outlet, it commands the entire transit traffic of the great plain west of the Mississippi; it there proposes to transfer so much of that traffic destined eastwardly, over a straight line of less than half the length of the water course, again intersecting the Ohio at the very centre of its trade and population, it rejoins the natural axis, where it can command the trade of the east tending westwardly. In fact, it never leaves the great natural current, except to avoid its sinuosities.¹ Such is its geographical position. The direct advantages which flow from it are these; that the entire Railway system of the central valley, covering two million two hundred and fifty thousand square miles, will radiate round this axial line; that no longitudinal line, connecting the basin of the Lakes with the Gulf of Mexico, can exist without intersecting this work, or its continuances; that all the great lines of the east must tend towards it, as a centre of union; that any highway hereafter constructed to the Pacific will become a continuance of this; and lastly, that by connecting the great commercial centres of Cincinnati and St. Louis, it becomes the channel into which the population, commerce and manufactures of the valley pour their united streams.

2. GEOLOGICAL FORMATION.

This is a consideration not to be lost sight of when we would estimate the traffic of railways on extending lines. In some countries we might pass over sandy plains in order to reach distant cities; in others, mountain regions, unfruitful of anything but mineral resources; in others, through land wholly arable, or in others of grassy plains. The geology of the country through which the Ohio and Mississippi railway passes is one characterized by all the elements of great wealth. At Cincinnati is nearly the centre of the blue limestone region, that which is probably more fitted to the production of Indian corn, and all the vegetable materials of food than any other section of the country. In the Valley of White River, on the Wabash, the road passes for long distances through the finest alluvial beds in the great alluvial plain of the West. In Illinois it passes through the same formation; while midway on the line it intersects a portion of the immense coal field which there crosses the Valley of the Ohio. Near St. Louis, at its western extremity, are immense bodies of iron and lead, scarcely begun to be developed, which must, hereafter, form the basis of immense manufacturing establishments. Such is the geology of the country traversed by this work, and of the neighboring sections, which must contribute to its business.—Its alluvial character makes the road easier of construction, while it greatly increases the materials of its traffic. With this peculiar characteristic there is singularly united, in and around the same region, deposits of coal, iron and lead, greater in magnitude than any found equally accessible in any country.

3. THE MAGNITUDE AND COMMERCE OF THE CITIES.

Cincinnati and St. Louis, the two cities at the extremities of this line, have no rivals in the rapidity of their progress, the accumulation of their wealth or the splendor of their prospects; they stand where there is more positive power to feed men, more materials for manufacture, and greater extent of inland manufactures than is to be found at any other points in America. The adventurous merchant finds thirty thousand miles of internal coast open to his commerce, before he even reaches the ocean. The manufacturers and artisans find, spread within their reach, coal, iron, stone and timber, in quantities such as populous nations in accumulated ages of time cannot exhaust. And hungry millions, in search of food and comfort, find a soil fertile in every salutary plant, and abounding in every physical element of human happiness.—It is such causes which have produced the rapid population of the west, and such causes will, for centuries to come, continue its growth and increase the magnitude of its cities. That the growth and prospects of Cincinnati and St. Louis may be fully understood, I present the following tables—exhibiting, in the first place, their absolute growth, and next, their growth as compared with New York and Philadelphia, when at the same relative magnitude.

1. TABLE OF THE POPULATION AND GROWTH OF CINCINNATI.

Years.	Population.	Decennial Increase.	Increase per cent.
1800	750	....	....
1810	2,320	1,570	200
1820	9,602	7,282	314
1830	24,831	15,229	158
1840	46,338	21,507	87
1850	116,108	69,770	150

2. TABLE OF THE RELATIVE GROWTH OF NEW YORK, PHILADELPHIA AND CINCINNATI.

NEW YORK.			PHILADELPHIA		
Years.	Population.	Increase.	Years.	Population.	Increase.
1790	33,131	—	1790	42,520	—
1800	60,489	82 per ct.	1800	70,287	66 pr ct.
1810	96,373	60 "	1810	96,664	40 "
1820	123,706	30 "	1820	108,116	13 "
CINCINNATI.					
Years.	Population.	Increase.			
1820	9,602	—			
1830	24,831	158 pr ct.			

1840	46,338	87 "
1850	116,108	150 "

This table proves that Cincinnati has grown much more rapidly, at corresponding eras, than either New York or Philadelphia; and there is certainly nothing in the relative situation of either to show that their relative growth will not continue. In thirty years (at similar periods) New York increased 90,000 (275 per cent); Philadelphia, 66,000, (159 per cent); and Cincinnati, 106,506, (1,100 per cent.)

3. TABLE OF THE RELATIVE GROWTH OF ST. LOUIS.

Years.	Population.	Decennial Increase.	Ratio of Increase.
1820	4,598	....	....
1830	5,853	1,554	30
1840	16,469	10,617	180
1850	82,742	66,273	400

4. TABLE OF THE COMBINED GROWTH OF ST. LOUIS AND CINCINNATI.

Years.	Population.	Decennial Increase.	Ratio of Increase.
1820	14,206	....	....
1830	30,683	16,483	106
1840	62,807	34,124	105
1850	198,850	126,043	215

The very remarkable fact is presented in this table, that the ratio of increase has doubled in the last period. The increase of New York city has never been beyond 70 per cent in a decennial period; while we find that of Cincinnati and St. Louis 216 per cent, when they had reached an average magnitude of 100,000 inhabitants! This fact proves that, as the internal commerce of the west increases it impels the growth of the marts of trade at an increased ratio, in order to distribute the products of its fertile soil and its rapidly increasing population. The combined growth of the cities of the Ohio valley, viz: Pittsburgh, Wheeling, Cincinnati and Louisville, presents the same fact in a striking point of view; in 1810 they had 10,000 inhabitants; in 1830 60,000, and in 1850 270,000. In 1860 the commercial towns of the Ohio Valley will have a population exceeding half a million.

I shall not undertake to predict the period when St. Louis and Cincinnati will be parallel in magnitude with New York and Philadelphia; but that such a period will come cannot be doubted by those who have attentively considered the far greater resources, and ultimate population, which will supply the elements of trade and civic employment, to the central cities in comparison with those of the seaboard. If, then, it be profitable to employ six millions of capital in railways radiating from Boston; if it be profitable to send forth railways from New York, Philadelphia and Baltimore—tunnelling the mountains—traversing the shores of the Lakes—and pursuing their devious way in pursuit of part only of the commerce of the west—how much more profitable must it be unite the commercial capitals of the west, in a direct line, through that fertile garden filled with that much coveted commerce? Nothing can be plainer than the superiority of its results to those which can possibly be obtained, even on the most prosperous of those lines, in which such enormous capitals have been embarked.

4. THE ACTUAL SURPLUS PRODUCTIONS OF THE COUNTRY TRIBUTARY TO THE CINCINNATI AND ST. LOUIS LINE.

The positive surplus production of a country must be determined, before we can properly estimate the profits of commerce. Even then we shall fall much short of the amount which is moved on the transit lines; for we ascertain a surplus only by subtracting from the production the aggregate consumption. But it is obvious that as, even in the smallest territory, one part of the people produce for the consumption of another part—there must be, even on small surfaces, a continual movement of articles which enter into the aggregate of consumption. For example, every county town of Indiana or Illinois derives its food from farms, often at a great distance. A large part of that food, therefore, becomes the subject of locomotion on rivers, canals or railways. The movement of arti-

cles of consumption, in the States where raised, becomes therefore no inconsiderable part of railway traffic. When, then, we assume the surplus production of a State as the great element of its commerce, we, in fact, fall much short of what that production furnishes to that commerce. We assume the surplus, however, as the greatest element, and make it a standard of comparison, in reference to the freight traffic. The following table will show the actual production of the states of Ohio, Indiana, Illinois and Missouri; the surpluses, after deducting the consumption of the inhabitants; and the actual surpluses exported from Cincinnati, St. Louis and intermediate places. The proportion of these surpluses, which will enter into the traffic of the Ohio and Mississippi railroad, I shall consider in the estimates.

5. TABLE OF THE PRINCIPAL AGRICULTURAL PRODUCTS OF OHIO, INDIANA, ILLINOIS AND MISSOURI FOR 1851.

Articles.	Ohio.	Indiana.	Illinois.
Corn, bush.	59,788,750	52,887,564	57,177,283
Wheat, bush.	30,000,000	8,200,000	10,366,000
Cattle, No.	1,116,145	608,000	678,000
Hogs, No.	1,436,643	822,000	863,000
Butter, lbs.	34,180,458	12,748,186	12,605,554
Cheese, lbs.	21,350,178	686,896	1,283,758
Tobacco, lbs.	10,480,967	1,035,146	844,129
Seeds, bush.	185,598	35,083	13,439
Missouri.			
Corn, bush.	35,709,042		205,562,639
Wheat, bush.	3,233,000		51,799,000
Cattle, No.	546,000		2,948,145
Hogs, No.	722,000		3,864,643
Butter, lbs.	7,762,124		67,296,322
Cheese, lbs.	201,597		23,522,839
Tobacco, lbs.	7,038,364		29,398,626
Seeds, bush.	2,182		237,022

Of this immense grain crop, and of the animals sustained by that and grass, there is a surplus, in its magnitude enormous. The surplus of wheat can be exactly ascertained by allowing six bushels to each individual of the population for the annual consumption. Of hogs and cattle fitted for market, and of whisky manufactured from corn, the surplus is very nearly known from the annual shipments. When these have all been determined, there remains a very large surplus of corn which would go to market if there were facilities of transportation. Determined by these data, the surpluses are as follows, viz:

6. TABLE OF SURPLUSES.

	Corn, bush.	Wheat, bush.	Cattle, No.	Hogs, No.
Ohio, 20,000,000	18,000,000		100,000	500,000
Ind'na, 15,000,000	2,200,000		70,000	300,000
Illinois 20,000,000	4,666,000		80,000	350,000
Missouri 10,000,000			60,000	200,000
Total, 65,000,000	24,666,000		310,000	1,350,000
Cheese, Tobacco, Seeds, Butter				
	lbs.	hhd.	bush.	lbs.
Ohio, 12,000,000	6,000	180,000		5,000,000
Indiana, 300,000	600	30,000		2,000,000
Illinois, 400,000	400	12,000		2,000,000
Missouri,	9,000	2,000		1,000,000
	12,600,000	16,000	224,000	10,000,000

The above surpluses amount to more than three millions of tons weight; an aggregate equal to double the whole tonnage carried on all the railroads of New York, the central railroads of Pennsylvania, and the Baltimore and Ohio railroad. How much of this immense surplus production is likely to be carried on the axial line, between Cincinnati and St. Louis, may be inferred, in some degree, from the exports of those cities.

7. TABLE OF THE EXPORTS OF THE LEADING ARTICLES OF DOMESTIC PRODUCE FROM CINCINNATI, ST. LOUIS, AND INTERMEDIATE POINTS.

Flour, bbls.	1,210,000
Beef, bbls.	60,500
Whiskey do.	336,724
Salt do.	63,800
Small Grain, bush.	2,206,000
Tobacco, hhd.	31,900

Hogs, slaughtered	825,000
Corn, bush.	4,000,000
Lead, lbs.	20,000,000
Cheese, lbs.	6,000,000
Butter, bbls.	15,000
Candles, lbs.	6,000,000
Cattle, head.	2,000

The above articles are in weight above 500,000 tons, of which the freight will be divided among the various modes of transportation from these cities. The aggregate may serve to guide in forming a general idea of the freights of agricultural produce only, from these cities, and two or three intermediate points, on the line of this railway. We may assume, safely, that the way freight, or that which moves from point to point on the line, will fully be equal to one half of this, and there can be scarcely a doubt that the very existence of a new and facile mode of transportation, from points heretofore secluded from the avenues of locomotion, will add another half to the general aggregate. Thus, we shall find, at the various commercial points on this work, a million of tons of freight from domestic produce alone, ready to be transported to either the exterior or intermediate markets.

Domestic produce, however, forms but one part of the freight traffic of a railway, although, on the fertile plains of the west, the greatest. There are two other classes of freight of great magnitude. These are the distribution of merchandise and manufactures, constituting the principal elements of supply to a country where agriculture is more than sufficient for its support.

The following table is an approximation to the amount of various kinds of groceries, merchandise and manufactures distributed from the ports of Cincinnati and St. Louis.

8. TABLE. DISTRIBUTION OF GROCERIES, MERCHANDISE AND MANUFACTURES.

Coffee, lbs.	16,584,640
Sugar, hhd.	40,360
Molasses, bbls.	75,866
Merchandise, tons.	44,635
Manufactures, do.	25,009

The above articles in these cities alone, furnish about 110,000 tons, of which a much larger proportion will pass over the Ohio and Mississippi R. R., than of domestic; for the arrival of merchandise and the distribution of manufactures are more directly east and west, than the distribution of produce, much of which passes to the south.

We have now arrived at general data in relation to the tonnage and distribution of freight on the line of the Cin. and St. Louis railway, which may serve as guides in a general estimate. The surplus productions of the four states in which it lies are equal to three millions of tons, entirely exclusive of the immense freight of merchandise, manufactures, groceries and minerals. It is farther seen that the tonnage of distribution at Cincinnati, St. Louis and intermediate points, is equal to one million one hundred and ten thousand tons. The determination of these facts rests on an incontrovertible basis: the statistics of the United States, and of the cities of Cincinnati and St. Louis, obtained with the utmost care and accuracy.* If there are errors, they are unquestionably errors of diminution and not of excess.

5. TRIBUTARY RAILWAY LINES.

By this, I mean those lines, however important and primary they may be in themselves, which by their position and connections, must bring traffic to this line; all lines which are lateral to this, or intersect it, from either side are of this description. So also, all continuances of this line east or west, belong in relation to this road to the same class. The number and extent of these will be far beyond those of any other railway in America. The reason of this is obvious, from the considerations advanced under the head of "Geographical Position." This is an Axial line, on and around which near-

*The Annual Review of Trade and Commerce, in Cincinnati, prepared by Richard Smith, superintendent of the Merchants' Exchange, is the most accurate commercial document I know of.

ly the whole railway system of the Central West must radiate.

(To be continued.)

Railroads in France.

The *Moniteur* has just published in tabular form an interesting document in support of the favorite theme of the governmental papers, viz: the immense impulse given to the prosperity of France since, and in consequence of, the recent political changes which have taken place here. This document is the comparative expositions of the gross incomes of the French railways, quarter by quarter, for the years 1851 and 1852. We have condensed below all that would be interesting to the American reader, converting the francs and kilometres into dollars and miles. We shall have in about two months statements of the net profits of these roads. One franc is equal to 18 cents 7 mills. One kilometre is equivalent to 1,093,633 English yards; and five kilometres is only 185 yards more than three English miles.

Names of Railroads	No. miles worked	Receipts for 1852.
North, Paris and Bologne, &c.	441	\$5,597,535
Auzon and Somain	113 1/4	36,245
East, Paris and Strausbourg.	310 3/4	3,070,191
Mulhouse and Thann	13	34,486
Strausbourg and Basle	87 1/2	504,682
Paris and Lyons	287 3/4	3,353,663
Montrean and Troyes	62	263,609
Saint Etienne and Lyons	41	947,458
Saint Etienne and Andrezieux	11 1/4	85,316
Andrezieux and Roanne	42 1/2	184,864
Avignon and Marseilles	74 1/2	811,038
Railways of Gard	57 3/4	
Montpellier and Nimes	33	729,248
Montpellier and Cete	18 1/2	
Bordeaux and Teste	33	50,400
West, Paris and Chartres	61 1/2	538,451
Paris and Versailles, left bank	10 3/4	153,754
Paris and Versailles, right b'k	14 1/4	320,803
Paris and Rouen	87	1,819,064
Rouen and Havre	57 1/2	730,793
Dieppe et Fecamp	31 3/4	169,215
Paris and Orleans and Corbeil	82 1/2	
Centre Railroad	151 1/2	5,007,067
Orleans and Bordeaux	157 3/4	
Tours and Nantes	121 3/4	
Paris and St. Germain	16 1/2	280,348
Paris and Secon	6 1/2	58,026

Totals	2,308	\$24,735,938
Total receipts for 1851		20,002,912

Excess in favor of 1852..... \$4,733,056

This excess of nearly five millions of dollars in the receipts of the year 1852 over those of 1851 is to be attributed mostly to the completion or extension, during the year that has just closed, of several of the most important lines of railways radiating from the capital to the frontiers. The eastern railway from Paris has been opened to Strasbourg, on the Rhine, and the several sections completed on the Western railroad and on those destined to connect Bordeaux, Marseilles and Lyons with Paris. The number of additional miles of railway opened to travel and traffic during the year 1852, throughout the whole empire, was 349 miles.—But something, too, must doubtless be put down to the account of the greater commercial activity and increased prosperity of the country caused by the establishment of a strong government, assuring order and giving confidence in the future. It was impossible for commerce and manufactures, or any industrial pursuits that required exposure of capital for longer or shorter terms, to thrive when the danger of political revolution, and perhaps of social disaster, was ever imminent. The four railways of which the receipts per mile were largest during the year 1852 were those connecting St. Etienne and Lyons, Paris and Versailles, (right bank of the Seine,) Paris and Rouen, and Paris and St. Germain. The same order was observed in 1851, although the profits of all the railways in France have increased. The four yielding the last income per mile are the Bordeaux and Teste railway, Mul-

house and Thann, Anzon and Somain, and Montereau and Troyes. The grand average receipts per mile for all the railways in 1852 were \$10,787.

Albany and Buffalo Central Line of Railroad.—Time Table.

The following is the spring arrangement for the running of the Trains, to commence on Monday, April 11th, 1853:

GOING WEST.

First Express.—Albany, 6 30 A. M.; Schenectady, 7 05; Utica, 9 55; Syracuse, 12 M., leave 14 20 P. M.; Rochester, 4 P. M.; Buffalo, 6 30 P. M.

Second Express.—Albany, 7 30 A. M.; Schenectady, 8 05; Utica, 10 55; Syracuse, 12 50 P. M., leave 1 20; Rochester, 5; Buffalo, 7 30.

Mail.—Albany, 9 A. M.; Schenectady, 9 40; Utica, 1 P. M., leave 1 30; Syracuse, 3 45, leave 3 55; Rochester, 8 30; Buffalo, 12 midnight.

Third Express.—Albany, 10 30 A. M.; Schenectady, 11; Utica, 1 20 P. M., leave 1 50; Syracuse, 3 24; Rochester, 6 29; Buffalo, 8 30.

Emigrant.—Albany, 12 M.; Schenectady, 1 15 P. M.; Utica, 6 05; Syracuse, 10 P. M., leave 11; Rochester, 7 A. M.; Buffalo, 12 M.

Express Freight.—Albany, 1 30 P. M.; Schenectady, 2 51; Utica, 9 03; Syracuse, 1 16 A. M.; Rochester, 9 33; Buffalo, 3 P. M.

Accommodation to Syracuse.—Albany, 4 P. M.; Schenectady, 4 40; Utica, 8; Syracuse, 10 30.

Through Freight.—Albany, 5 P. M.; Schenectady, 6 20; Utica, 12 40 A. M.; Syracuse, leave 9 A. M.; Rochester, arrive 5 30 P. M.; Buffalo, 3 A. M.

Fourth Express.—Albany, 6 30 P. M.; Schenectady, 7 15; Utica, 10 45; Syracuse, 1 13 A. M.; Rochester, 6 A. M.; leave 6 30; Buffalo, 9 20.

Fifth Express.—Albany, 11 P. M.; Schenectady, 11 37; Utica, 2 20 A. M.; Syracuse, 4 20; Rochester, 8 04; Buffalo, 10 30 A. M.

Accommodation from Utica.—Utica, 6 15 A. M.; Syracuse, 8 30; Rochester, 1 30 P. M., leave 2; Buffalo, 5 P. M.

GOING EAST.

First Express.—Buffalo, 5 30 A. M.; Rochester, 7 45, leave 8 15; Syracuse, 11 30, leave 11 40; Utica, 1 25; Schenectady, 3 55 P. M.; Albany, 4 30 P. M.

Second Express.—Buffalo, 8 A. M.; Rochester, 10 27; Syracuse, 2 11 P. M., leave 2 45; Utica, 4 30; Schenectady, 7; Albany, 7 35 P. M.

Mail.—Buffalo, 10 A. M.; Rochester, 1 P. M., leave 1 30; Syracuse, 6 15; Utica, 8 25; Schenectady, 11 25; Albany, 12 midnight.

Emigrant Train.—Buffalo, 12 M.; Rochester, arrive 5 45 P. M.; Syracuse, 3 15 A. M.; Utica, 8 15; Schenectady, 1 45 P. M.; Albany, 3 P. M.

Third Express.—Buffalo, 5 P. M.; Rochester, 7 33 P. M., leave 8 15; Syracuse, 12 09 A. M.; Utica, 2 09; Schenectady, 5 04; Albany, 5 40 A. M.

Through Freight.—Buffalo, 5 30 P. M.; Rochester, 11 20; Syracuse, 8 16 A. M.; Utica, 12 51 P. M.; Schenectady, 7 33; Albany, 9 P. M.

Fourth Express.—Buffalo, 11 P. M.; Rochester, 1 20 A. M.; Syracuse, 4 54; Utica, 6 44; Schenectady, 9 24; Albany, 10 A. M.

Accommodation from Syracuse.—Syracuse, 8 A. M.; Utica, 10 30; Schenectady, 2 P. M.; Albany, 2 35 P. M.

Important Railroad Decision.

In the February term of the Fayette county, Ky., circuit court, Judge Goodloe presiding, the constitutionality of the subscription of stock by Fayette and Jessamine counties, in the Lexington and Danville railroad, and the tax levied to pay the subscription, was contested, as well as the legality of the organization of the company, and of the resolution of the board of directors, by a vote of the majority of the stockholders, to extend the road to McMinnville, Tenn.; and also the regularity of the assessment of the damages for the right of way through Pettit's (the defendant's) land. The learned Judge, in an oral opinion of

some length, decided in favor of the railroad company, upon all the questions presented.

Albany and Savannah Railroad.

F. P. Holcomb, Esq., chief engineer of the Savannah and Albany railroad company, visited Albany in the early part of the present week; and from that gentleman we learn the following particulars of the survey.

A line was completed from Savannah to two different crossings on the Altamaha, some two weeks since. The distance is 50 miles—seven miles less than appears by Bonner's map of Georgia. One of these crossings is in the upper part of McIntosh, and the other above, in Liberty county. Another favorable crossing may be obtained in Tattnall county, near the mouth of the Ohoopsee river. The two lines have been connected on the west of the Altamaha, and the survey has proceeded about 45 miles in the direction of Albany. The whole route is, so far, very favorable; no cut or fill, except near the Altamaha crossing, exceeding ten feet. The extreme grade is 30 feet to the mile, and even this is seldom necessary. The country is very level, and the line almost without curves.

The distance from Albany to Savannah by this roads, will be, Mr. Holcomb thinks, not much, if any, over 180 miles.—*Albany Patriot.*

Rochester Scale and Safe Manufactory.

This branch of mechanical industry is gaining steadily in extent of business and the number of persons employed and benefitted by it. The extensive Scale Works of Messrs. Duryee & Forsyth are hives of industrious mechanics, each of the four or five compartments presenting an array of busy workmen in the midst of the crude, half-finished, nearly completed and perfect articles which are turned out of this establishment. About one hundred men are now engaged in the manufacture of scales, safes, trucks, etc., thirty of whom are in the safe department, under the direction of Mr. H. W. Covert, whose "Fire King's" have a sure reputation throughout the country, established by repeated fiery trials. Our attention was directed to a large safe weighing three tons, finished in the highest style, for the firm of Huson and Holmes, of Cincinnati, (the latter member of the firm one of our schoolboy friends.) Others of the same size are ordered, and one is in use by the Union Transportation company, in the office of Davis and Sutton, Buffalo. Some three hundred and fifty safes, large and small, are manufactured annually.

Of the scales manufactured by Messrs. D. & F., but little need be said, so well is their character known throughout this country, and even abroad. A shipment was recently made to Messrs. Dodge and Brewster, in London, where they will undoubtedly be appreciated.—The largest, and we believe the best scale ever manufactured in this country, and now used in the Weigh-Lock in this City, was made by this company. They turn out articles of this kind, and the small balances for household use, with equal facility. Railroad tracks are furnished with them, and warehouses and stores must of course have them. Some four hundred tons of iron are used yearly, besides a large amount of steel, brass, lumber, paints, etc., and a business amounting to \$125,000 per annum, requires some fifteen travelling and local agents in its ramifications.

We have perhaps said all that is essential to our purpose of calling attention to the operations of this enterprising firm, and we will leave it to the Indiana State Board of Agriculture to speak of the award which they deserve from the public whom they serve and benefit. In the report of the proceedings of the board on the 8th of January last, published in the Indiana Farmer, we find the following:

Resolved, That the secretary be instructed to forward to Messrs. Duryee and Forsyth, of Rochester, New York, a cup, as a substitute for the cash premium to which they are entitled for superior cattle scales, bank safe, and depot scales, exhibited at the recent state fair.

Mr. Dennis submitted the following resolution.

Resolved, That the premium of \$10 on cattle scales, be awarded to Duryee and Forsyth of Rochester, for the scales put up by them at the State Fair; which was referred with all matters to the Executive committee, to which committee, Mr. Dennis was on motion added.

Mr. Dennis, from the committee for that purpose, made the following report:

Recommend premium of \$10 to Duryee & Forsyth, for best cattle and hay scales.

Recommend silver cup to Duryee and Forsyth, instead of \$15 now in the treasury.—*Rochester Democrat.*

The Railway from Vincennes to Paducah.

The lateral extension of the Mississippi and Ohio railroad, from Vincennes to the Ohio river, opposite Paducah, by the construction of the road chartered at the late session of the Legislature of Illinois called the Wabash and Ohio railroad, must surely commend itself to our business men and capitalists.

The distance from Cincinnati to Vincennes by the present railway location is 190 miles, and from that place to Paducah, allowing for the deviations to secure the most advantageous ground for its construction, will not exceed 125 miles. This connection made, will place Cincinnati, by railway in direct connection with the Ohio, below all obstructions from sand bars in low water, and ice in winter, and the intervening distance will then be easily travelled in the sunlight of the same day. The distance, it will be perceived, will only be 315 miles, which can be made in ten hours, thus affording a safe and exceedingly expeditious route for travellers; and when it is completed, passengers leaving Paducah by the way of Vincennes and Cincinnati, will be able to reach New York in the time usually taken by steamboats from Paducah to Louisville. The floating palaces, New Orleans packets, heavily freighted as they usually are on their ascending trips, are generally five or six days from New Orleans to Paducah, and notwithstanding the superb comforts of their accommodations, passengers become weary of the monotonous confinement of a steamboat. When they reach Paducah, a day light trip on the railway, through the beautiful region of Illinois, Indiana and Ohio would be not only a beautiful transition, but a pleasure and recreation, and must induce a large amount of travel, on this pleasant and expeditious mode of transportation.

This extension of our railroad facilities will afford a safe outlet to the rich products of the Wabash and the intervening region, and concentrate them here, which now go south, and give Cincinnati a most desirable direct connection with the Tennessee river. The speedy completion of the Ohio railroad will also place Cincinnati in connection with the Gulf of Mexico, and open up for her manufacturing interest, a market through the interior counties of Tennessee, Alabama and Mississippi. The road from Paducah to Vincennes, while it traverses the rich mineral region of Illinois, abounding in iron, coal and lead, will open a cheap and safe route for the shipment of cotton and tobacco, from the Cumberland and Tennessee rivers.

Canada.

Great Western Railroad Company.—We learn from the Chatham (Canada) Advertiser, that, in accordance with an order of the legislative assembly, the secretary of the Great Western Railroad company has made the following return:

Total shares, 29,719. Of those, four corporations hold 5,000; the directors, 394, and private individuals, 24,325. Amount paid up by the first, £93,750; by the second, £7,506; and individuals, £435,870. Total paid, £537,126; and amount unpaid, £205,048.

The directors are: Robert William Harris, president; Sir Allen Napier McNab, chairman; John Young, Erastus Corning, R. Juson, Geo. S. Tiffany, Wm. P. McLaren, J. W. Brooks, John Masterman, jr., Henry McKinstry, John M. Forbes.

Officers of the company, with their salaries:—

J. T. Clark, chief engineer, £1,000; J. D. Gildison, secretary, £400; W. S. Benton, auditor, £750; Q. McKendrick, accountant, £300; D. C. Gunn, general agent, £360; C. A. Clark, clerk, £150; Jacob Bishop, messenger, £95.

American Railroad Journal.

Saturday, April 16, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for *BOOK AND JOB PRINTING*, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

Railroad from Chicago to Council Bluff.

The rapid prominence which Chicago is assuming among the cities of the west, points it out as an appropriate starting point for one of the great lines of railroad to the Pacific. There can be no doubt that private enterprise will be able to construct one, or more, roads from that city to the base of the Rocky mountains. For this distance the face of the country offers no obstacles of any moment, while its fertility is creating settlement at a rate that promises to fill up the intermediate country in a very few years. There are already several projects on foot for the construction of a railroad from Chicago to Council Bluff on the Missouri, which is looked upon as the first resting place after leaving Lake Michigan. One of these lines is to be made up of the Mississippi and Rock River Junction, and the Lyons Central Iowa companies, both of which are actively engaged in making the necessary surveys; and one, if not both, are already under contract. The point of crossing the Mississippi river by these lines is at *Fulton*, and together, this makes a very nearly straight line between their termini. It is the intention of parties connected with these roads to push them forward with the utmost vigor, to their completion. Council Bluff is nearly opposite the mouth of the Platte river, which is the leading line now followed by the emigration to Oregon and California, and there can be no doubt that a road from Chicago to this point would at once command the immense tide of population moving west. Nearly one half of that portion of the state of Iowa traversed by this road is already well settled, and the whole is filling up with a rapidity that promises an abundant traffic to railroads as soon as one can be constructed. We wish these enterprises that promise to promote the public advantage, as well as secure private enterprise, the best success.

American Railway Agency.

We invite the attention of the Railway public to Mr. O. A. Norris's advertisement of an agency established by him in Philadelphia, for the purpose of supplying railroad companies with all the articles used in the equipment of railroads. Mr. Norris was formerly connected with the well-known firm of Norris Brothers, Locomotive builders, in

Philadelphia, and has an experience which peculiarly fits him to meet the wants of companies, and to make their purchases in a much more favorable manner than they can make them themselves.—The advantages of employing a person of capacity and experience in such matters will be readily appreciated.

Sault Ste Marie Canal.

The greatest of our inland seas are soon to be united with the great plain occupied by Lakes Huron, Michigan and Erie, by a canal of the largest dimensions. The contractors are—Erastus Corning, of Albany; Messrs Fairbanks, of Vermont; R. B. Forbes, of Boston; George Griswold, A. Belmont, H. Dwight, Jr., and others, of New York; J. F. Seymour, of Utica; and T. Dyer, of Chicago, and associates, who agree to complete the canal in two years, and receive in pay the lands granted by Congress for this purpose, which amount to 750,000 acres.

The canal will be about one mile in length. It is to be 100 feet wide, with 12 feet depth of water. The Locks will be 350 by 70 feet wide. The walls will be 25 feet high, and will be 18 feet thick at their base, gradually tapering to 7 feet at the top, with heavy abutments in the rear their entire length. The present lift of locks required to overcome the height of the Falls is 18 feet, but they are constructed to allow of 25 feet lift, should the periodical rise of water in the Lakes require as much.

The lock gates are to be built on the plan of those used at the Brooklyn Dry Dock, a work costing the general Government a sum of \$2,000,000; those at Brooklyn being higher, but not so wide as these. They will be of oak, heavily ironed.—Each single gate will be some 42 feet wide and 25 feet high, and by using friction rollers beneath them, it is expected that these ponderous affairs will be opened or closed with ease by means of a capstan on the walls and connecting chains.

Patent valve gates have been adopted, which are being introduced on the enlarged Erie canal, in place of the old style, by means of which it is believed the locks at Ste. Mary's, large as they are, can be filled or emptied in from four to five minutes.

The sides of the canal are to be walled with stone from bottom to top, of tow-path its entire length. At the upper end a pier is to be extended from the mouth of the canal some 900 feet into deep water, above the Falls, on the north side of which a channel somewhat larger than the canal is to be dug, thus requiring a large amount of under water excavating, by means of coffer dams, &c. Caisson gates are also to be provided, by means of which the water can be shut out of the canal in winter, or in case of accident to gates, &c.

Peru and Indianapolis Railroad.

We gave last week the recent exhibit of this company, showing the object of the road, its condition, business prospects, etc., etc. We believe the line to be a strong one both in through and local traffic. We think it will become, in connection with the Wabash canal, the channel of business communication between an important portion of Central Indiana and New York. It traverses one of the best portions of the state, and is entirely removed from the competition of other roads for its local traffic. The road will be built at low cost, and we believe its bonds now offered in the

market, to be an excellent security, and valuable from their convertibility into stock. The affairs of the company are in good hands, and we believe the bonds now offered will prove an excellent and safe investment.

Scioto and Hocking Valley Railroad.

This work is intended to connect Portsmouth, Scioto county, (says the *Railroad Record*), with Newark, Licking county, a distance of 125 miles. By this connection a complete line through the state, north and south, will be formed from Portsmouth to Sandusky. There are two considerations which will make this a profitable enterprise. It will connect Portsmouth with every large town in the west, and with all the cities of the east, and all the ports of the lakes. Thus, beginning at the east, by the Hillsborough road it connects with Baltimore; by the Marietta road with Philadelphia; by the Steubenville road, with Pittsburgh; by the Cleveland road, with Cleveland; by the Zanesville road, with Columbus; by the Mansfield road, with Sandusky and Toledo; by the Cincinnati and Marietta line, with Cincinnati and St. Louis; and by the Maysville and Big Sandy railroad, south, with Maysville and Lexington, Ky. There is, in fact, no road, which crosses so many other important lines.

The second consideration is, that it passes through the very heart of the mineral region of Ohio. Heretofore this section has not been developed, and nothing but ready means of carrying off its products can develop it.

The following elements of this work have been derived from recent inquiries:

Length.....	125 miles.
Finished, about.....	20 "
Gauge.....	5 feet 4 inches.
Weight of rail.....	60 lbs to yard.
Business.....	iron and coal.
Cost of construction (estimate).....	\$2,500,000
Cost per mile, about.....	\$20,000

The following are the distances from point to point on the line:

	To places.	Whole.
Sciotoville.....	6 miles.	6 miles.
Bloomfield.....	12 "	18 "
Oakhill, Jackson Co.....	13 "	21 "
Jackson C. H.....	13 "	44 "
Berlin.....	6 "	50 "
McArthur, Vinton Co.....	12 "	62 "
Logan, Hocking Co.....	12 "	84 "
Somerset, Perry Co.....	22 "	106 "
Newark, Licking Co.....	10 "	125 "

It will be seen that this road runs through six counties, and penetrates the very centre of the iron and coal deposits.

The iron rail is expected to be laid as far as Jackson, by the first of June proximo.

The Law of Railroads.

In the course of an opinion recently delivered by Judge Warren, of the Cincinnati Probate Court, in a railroad case, he said:

In England all persons have free liberty to use the railway with carriages properly constructed, upon payment of the rates and tolls demanded by the company, and subject to the rules and regulations which they shall from time to time make under their act. The effect of such an enactment is to constitute the railway, in a point of law, a highway on which all the world may have a right to carry passengers. In this country no such right has generally been recognized; it would be impracticable if it were. The mode of transportation, and the transportation itself, must then be under the entire control of the company.

Cincinnati and Fort Wayne Railway.

The directors of this and the Four Mile Valley company met at Fair Haven, in Preble county, on Friday last, and united their two companies by articles of consolidation, binding them together for all future time. The annual election for directors of the Four Mile Valley road was held at the same time and place, which resulted in the following choice:

Peter P. Bailey, of Fort Wayne, Ind.
Wm. Young, of Richmond, Ind.
J. Larsh, of Fair Haven, Preble county, Ohio.
James Elliott, of Fair Haven, Preble county, Ohio.

Wm. Huston, of Rossville, Butler county, Ohio.
Sam. Snively, of Rossville, Butler county, Ohio.
Edgar Conkling, of Cincinnati, Ohio.

The new board organized by electing Peter P. Bailey, president, which makes him chief officer of the line through from Cincinnati to Fort Wayne, he being already president of the other company. There were a large number of persons in attendance at the meeting for the election of directors, who were addressed by Messrs. Young, of Richmond, Moore, of Rossville, and Bailey, of Fort Wayne. The greatest enthusiasm prevailed. The subscription list is increasing rapidly, and preparations are making to put the road under contract the whole length in a few weeks. The directors intend making a first class road, the very best in the country, and will quite likely use the compound rail.

Stock and Money Market.

Our notice of the financial condition of Wall st., will differ but little from that given the two preceding weeks. Money continues in active request without any excessive stringency. The regular trade is well supplied, and a good demand continues for sound securities of all kinds. The *fancies* are still dull, with but little doing in them. New projects that are strong both in means and in line, are well received. The market is bare of those in demand on foreign account. Both our roads in progress, and those constructed, have the prospect of an active season before them.

The receipts of the Baltimore and Ohio railroad for March are as follows, in round numbers:

Receipts on main stem.....\$216,000
Receipts on Washington Branch..... 54,000

Total.....\$270,000

This is an increase on the main stem over the month of March 1853 of.....\$97,000
And on the Washington branch of..... 23,000

Total increase.....\$120,000

The receipts for March shows an increase over February of about \$117,000,

The earnings of the Macon and Western railroad company for March 1853, were:

Passengers.....\$6,815 13
Mail..... 1,080 04
Freight..... 18,697 54

Total.....\$36,592 71

Corresponding month last year..... 26,402 77

Increase.....\$189 94

The receipts of the Cleveland and Pittsburgh road for March were.....\$31,669 52
March 1852..... 15,740 25

Increase.....\$15,929 25

The receipts of the Ohio & Penn. railroad in March 1852.....\$38,743 68
Corresponding month last year..... 17,081 76

Increase.....\$21,711 98

The foregoing is the corrected statement, excluding the sums received for other companies.

Receipts in the first quarter of 1853...\$96,133 72
" " " " 1852... 37,763 34

Increase.....\$58,370 38

This road is now opened to its western terminus at Crestline.

The San Francisco Prices Current and Shipping List publishes the following comparative statement of shipments of gold dust from San Francisco for 1851 and 1852:

	1851.	1852.	Inc'se 1852.
Jan..	\$2,805,848 00	\$2,915,870 00	\$103,921 00
Feb..	2,278,928 00	1,791,120 00	* 487,803 00
Mar..	2,054,998 20	2,191,704 20	186,705 00
April.	1,187,642 85	3,497,293 00	2,309,650 15
May..	1,997,261 75	5,473,585 00	3,475,323 25
June.	2,515,283 92	3,575,266 00	1,058,982 08
July..	8,053,285 26	4,180,967 43	1,124,882 17
Aug..	3,185,492 41	3,619,929 00	434,436 59
Sept.	3,535,256 00	4,108,680 00	673,374 00
Oct..	3,955,969 73	5,117,316 00	1,161,416 27
Nov..	4,484,582 00	5,274,499 00	789,917 00
Dec..	3,433,085 00	4,055,172 00	623,087 00

\$34,492,634 12 \$45,801,821 63 11,308,637 51

* Decrease.

The following were the distributions of the shipments:

	1851.	1852.
For New York....	\$30,062,498 47	\$39,007,367 00
For N. Orleans....	403,294 11	470,783 00
For London.....	3,392,760 88	6,020,927 00
For Panama.....	151,204 64	46,000 00
For San Juan....	.....	43,626 00
For Valparaiso and		
Talc'no.....	460,132 00	87,907 43
For Chinese ports.,	2,554 00	115,611 20
For other ports....	20,000 00	.....

Total.....\$34,492,634 12 \$45,801,321 63

The following are the London quotations for some of our leading securities, received by the last steamer:—

United States 5 per cent bonds, 1865.	97	a	93
United States 6 per cent bonds, 1862.	104	a	105
United States 6 per cent bonds, 1868.	110	a	111
Ditto 6 per cent stock, 1867—1868.	108½	a	109¼
Ditto.....	Ditto, 1862	.....	103 a 104
N. Y. State 5 per cents, 1858—'60.	.....	98	a 100
Penn. 5 per cent bonds.....	.....	87	a 89
Penn. bonds, 1882.....	.....	92	a 94
Mass. 5 per cent Stg. bonds, 1868.....	107½	a	108
Maryland 5 per cent Stg. bonds.....	.....	98	a 99
Virginia inscribed bonds, 1857—1875.	95	a	96
Ditto.....	6 per cent bonds, 1886.....	98½	a 99½
Kentucky 6 per cents, 1863.....	.....	97	a 98
Bost'n city 4½ per cent Stg. bonds, '72	103	a	104
Mont. city 6 per cents, 1857—1865.....	85	a	87
N. Y. city 5 per cent St., 1855—1858..	96	a	98
New Orleans city 6 per cent.....	93	a	94

RAILROAD BONDS.

Phil. & Reading, 6 p. ct., M. B., 1860.	36	a	88
Penn. Central 6 per cent, 1880.....	99	a	—
N. Y. & Erie 7 per ct., 1st Mortgage,			
1868—1859.....	108	a	—
Ditto 7 per ct. convertibles, 1862.....	90	a	91
Mich. Cent. 8 p. cts, con'tible, 1850..	105	a	106
Seaboard & Roanoke 7 p. ct. 1st Mort.			
1860.....	84	a	85

The receipts of the Toledo, Norwalk and Cleveland railroad Co., for March were:

Passengers.....\$34,560 00
Freights, etc..... 8,961 00

Total.....\$43,521 00

The receipts of the Little Miami railroad Co. for the week ending March 27, '53, are...\$10,911 34
Do. do. do. '52,..... 7,937 96

Increase nearly 30 per cent., or...\$2,973 38

The earnings of the Erie road for March were.....\$371,479 84
March, 1852..... 251,170 61

Increase 48 p. cent.....\$120,329 23

The aggregate earnings of January, February, and March have been.....\$984,219
1852..... 624,481

Increase.....\$359,738

The earnings of the New York and New Haven railroad for March, were:

Passengers, etc.....\$54,728 67
Freight..... 10,000 00

Total.....\$64,728 67

Deduct paid Harlem road for 47,867
passengers..... 4,173 26

Net earnings.....\$60,555 41

March 1852..... 53,282 60

Increase.....\$7,272 81

March 1851.....\$48,511 66

The aggregate earnings of the first three months of the year, with all the drawbacks, are fully up to the receipts of the same quarter of 1851, as will be seen:

Jan., February, March, 1853.....\$161,182 49
Jan., February, March, 1852..... 160,007 74

Increase 1853.....\$1,174 75

O. A. NORRIS,

American Railway Agency,

FOR THE PURCHASE, ON COMMISSION, OF

ALL ARTICLES REQUIRED BY

RAILROAD COMPANIES.

Office, 12 Farquhar Buildings,

Philadelphia.

**Wilkinson's
EXPLOSIVE
RAILWAY SIGNAL,**

For sale by

BRIDGES & BROTHER,

64 COURTLANDT STREET.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

THIS WILL BE FOUND ONE MORE PREVENTIVE OF COLLISION. It is often the case that during a fog or snow storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January, 20, 1853.

Notice to Contractors.

PROPOSALS will be received at the Office of the Fort Wayne and Chicago Railroad Company in FORT WAYNE, until noon on Friday, the 20th of May next, for the Bridging, Grading, and delivering of Cross-ties for said Road.

PLANS, PROFILES and SPECIFICATIONS will be exhibited at the Office three weeks prior to the day of letting.

This line, One Hundred and Fifty miles long, embraces much heavy work, is well suited for prosecution in winter, and is divided into sections of from one to six miles in length, and may be bid for singly, or for the entire work.

J. R. STRAUGHAN,
Chief Engineer.

Railroads vs. Canals.

Mr. H. V. Poor.—Permit an old correspondent, among the first in your journal, and I believe in this State, to advance the doctrine of the superior advantages of railroads—"as the better improvement of the age;"—over canals. I am led to this subject again by the admission into your valuable journal of a comparison—taken from the *Argus*—between the Erie Canal and the leading lines of railroads in this State, furnished by the Canal State Engineer; I would say, and not officially, prepared for the region of Albany, during the session of the Legislature. With all the conceded abilities of the gentleman, in my view, his statements cannot be considered a fair comparison of what a well-equipped freight railroad, with a double track, sufficient turn-outs, men and depots can do, where there is ample freight, in contending with the Erie canal, on a nearly level and descending line from Buffalo to the Hudson; nor does the whole drift of his remarks, and I will add of his predecessor in the canal department, place the subject in a correct light. If my memory serves me, one of these distinguished engineers figured it up that it would take nine double track railroads to do the business of the enlarged Erie canal, while the other's echoes approximated to the same results, yet, forsooth, railroads in this enlightened age must be taxed to enlarge our canals.

Is it fair to state what the central line of railroads transported from 1848 to 1851, inclusive,—(4 years,)—400,000 tons, when subject to canal tolls and many difficulties, and a large passenger business,—and then present the transportation of only 100,000 tons per annum, in comparison with 12 millions transported during the same period on all our canals, up and down; when it is well known that the "Central line," composed of many disjointed railroad companies, did not act in harmony, and was not, in fact, equipped for the responsibilities for general freight business. In fact they avoided it as much as they could by charging high prices, and in a quiet manner they turned it over to the express line; as they could not employ the labor to load and unload, for the limited period they were permitted to carry freight free of tolls and do it with profit, particularly when they transported an ample number of passengers, to pay large dividends, who loaded and unloaded themselves. Nor did they state that the canal boats were generally loaded by the shippers of property. Had the gentleman quoted the business of a freight railway, say, for instance, the Philadelphia and Reading, in the transportation of 1,840,219 tons of 2000 lbs. of the bulky article of coal the last year, from the mines to the Delaware—100 miles,—at the rate of one cent and sixteen hundredths per ton per mile, or \$1.30 the gross ton—with large profits—being, in fact, more tonnage one way than was carried through on the Oswego and Erie canals, he would have conveyed to the public some idea of what a well equipped and well managed railway can do, by the side of the best equipped canal in the United States—contending for the same business, but carrying but about one-third of the quantity. The amount carried by the Reading railroad was not half its capacity for transportation one way, as they could not get regular supplies from the mines, although they paid \$151,865 98 under the name of "drawback" as deductions on freight, as a bonus to get the coal from the canal. The working expenses of this road was

\$1,076,773. The receipts from coal \$2,150,667.—Passengers and merchandize \$329,960,—total \$2,480,626.

I am pleased to find that one of the gentlemen alluded to, is called from the fog of the canal department to the Chief Engineership of the New York and Erie railroad. It is a work he will find constructed under many difficulties, as to grades and high summits, at great cost; and cannot be compared with the central line of railroads, now they are consolidated, yet, I trust, ere a year has passed, he will change his mind and some of his views, as to the capacity of a well equipped railway with moderate and descending grades to transport freight, and at cheaper rates too, than by a canal. And even if not, the day has passed when the consumer will be content to receive his supplies during six or seven months in the year from the West,—the granary of the United States,—instead of the entire year. The people in the interior will have their varied necessities supplied daily, while the city of New York in its growth and in its comforts of living, will get its bread, butter, fresh and salt provisions as required, for home or foreign consumption. To compete with the continent of Europe or London, we should receive our wheat in winter: I trust the gentleman will retract the opinion at the close of the article you published to the prejudice of railroads, in which he says:—"From the above remarks, it appears that the Central and Southern lines of railroads in this State have diverged but a small amount of freight from the canals, and that in most instances such freight either could not be re-carried on the canals, or if so carried, would be liable to great loss of weight, quality or value, while undergoing transportation!"

If this is not blackballing railways with a vengeance, I do not understand the king's English. It is unsound and not founded on experience. Railroads carry what canals cannot.

What are the facts in this case? Railways have completely superceded canals in New England. New York, in the year 1836, decreed the enlargement of the Erie canal and the construction of the Black River and Genesee Valley canals, after a report by the state engineer that "a railway was but a little better than a turnpike." The two latter works, after the expenditure of more than eight millions of dollars, on them, and about three millions on the Chenango canals, are being superceded by railways, and so much money lost to the people of this state. Not a canal has been projected in this state or any state west of us, for the last sixteen years; whilst railways during the same period, have increased from 3000 miles to 15,000; and with every prospect of being doubled, in the United States before the lapse of eight or ten years, while they are certain to be extended to the Pacific.

The state of Pennsylvania, with the city of Philadelphia, has been forced to aid her Central line of railways, destined to supercede her amphibious state system, that could not contend with ours. Maryland, boasts of her B. & Ohio railway, even with its 115 feet grades to the mile, and transporting coal by contract at 1½ cents per ton per mile. She is forgetting her Chesapeake and Ohio canal, except so far as she will have to raise a tax to pay off her bonds, issued in aid of its construction. This work to pass the Alleghany mountains without

water, will remain a monument of past error; like the "James River canal improvement" of Virginia,—are in a fair way of being superceded by railways. Like the Blackstone, the Essex, the Farmington, the Chenango, the Black River, the Genesee Valley canals, they may be considered obsolete works. I am aware this will not be the case with the Erie and Oswego canals, connecting as they do, inland seas with the ocean,—as the vast increase of tonnage to and from the west, and from the borders of the several lakes, will give these works full employment, when enlarged.

To my railroad vision, there is not a canal from the seaboard, into the interior, or in the western states, that can compete with the several lines of continuous railway to and from the west, that are now just beginning to equip their roads for freight, in the contest to come off for the same business, by the several states, on the eve of completing their lines to St. Louis; there to reach "the handle of of the fare of eastern railways," to use the language of Col. Benton, in his letter on the Pacific railway.

I may go more fully into the subject of what railways have done, and canals; in the meantime I will close with the eloquent, but true language of W. Lincoln, in "the report of a committee to the legislature of Massachusetts, Feb. 1839, "to consider the subject of aid by the state to the Western railroad company," in which he says "railways universally have created the means of their own sustenance, and have drawn to their tracks employment for their motion. If the beneficence of Providence had followed a channel from our coast to the western lakes, and poured the floods of those inland seas eastward to the ocean, the blessings would have been too great for sufficient gratitude, as they would have been beyond all computation. The river swelled by tributary streams, from every valley, would have scattered wealth along its course. For all practical purposes, the invention of art, bestows better advantages, and furnishes communication more easy and certain, than the bounty of nature could give. During the stern winter of our climate the rivers are closed for one third of the year with ice; in summer, they are exhausted for a nearly equal period; their navigation is bounded by the rills that supply their fountains. The railroad is neither locked up by cold, nor dried up by heat, nor confined by ridges. Stretching out its arms to every town and village, it may be extended beyond the highland barriers of water passage, and beyond the lakes, until its iron bands clasp together in a net-work of improvement overspreading the whole Union."

How true the picture, how true the reality after a lapse of 14 years.

J. E. B.

We agree with J. E. B., in his general proposition, that railroads are superior to canals as public carriers; but we by no means agree with him that the Erie canal is ever to be superceded by the former; nor do we believe that the great bulk of western products will ever take any other route to market. The route by the canal is not only the cheapest, as far as mere cost of transportation, but still more so, as far as the handling and storage of freight is concerned. We believe it would require six double track roads to do the business of the canal. The great advantage that the canal possesses is in the ease and cheapness with which freight, arriving at either terminus, can be received.

ed and forwarded to the points of its ultimate destination. Take the case of the canal boats arriving at tide water. As soon as they reach Albany, they drop into a perfectly secure harbor, 180 miles long. Till the cargo is sold, the boat serves as a warehouse for its freight. The captain of the boat acts as factor. These boats are towed to New York for a few dollars, and as soon as a sale of their cargoes is effected they are taken along side of a ship, to which their contents are transferred in a few hours, at an expense not exceeding one-tenth the cost, probably, of removing an equal amount of freight from a railroad depot to the same ship. Were we compelled to store all the down tonnage of the canal, all the city of N. York would be hardly large enough for this purpose.

Again, railroads will not probably transport freight for less than two cents per ton per mile. At this rate it would cost more than two dollars to transport a barrel of flour from Chicago to the seaboard. In a year or two more, this will be done by way of the lakes and canals, for 50c. per bbl. While such are the admitted facts, it is useless to talk about the canals being superseded in the carriage of heavy and bulky goods by any other known mode of conveyance.

The Erie canal is no more the rival of railroads than are the great lakes or the Atlantic ocean. They mutually aid each other. The leading business of most of the western roads will be to collect upon the lakes freight for the canals. The roads having the same general direction, and which may be regarded as competitors for the through business of the former, will have too much local traffic to allow them to become serious rivals for its appropriate business.

North Carolina Railroad.

We learn that this company has been organized by the choice of the following gentlemen as directors:

Duncan McRae, President.

Directors: — Colby, Samuel Smith, E. J. Hale, A. A. McKeithan, J. G. Shepherd, James Banks, T. S. Lutterloh, T. R. Underwood, and John D. Williams.

Secretary and treasurer, John M. Rose.

Ohio.

The public debt of Ohio is as follows:

FOREIGN DEBT.		
Payable after 1856.....	\$3,515,779	24
" " 1860.....	6,812,481	00
" " 1865.....	1,025,000	00
" " 1870.....	2,180,531	93
" " 1875.....	1,600,000	00
	\$15,133,792	17
DOMESTIC DEBT.		
Due at the pleasure of the state.....	\$ 48,825	38
Due after 1852.....	85,591	32
" " 1863.....	298,685	00
Total.....	\$15,584,893	00
Irreducible and trust funds.....	1,734,323	19
Total debt.....	\$17,339,216	06

The Hillsborough Railroad.

This is the road that is to form the direct connection with the Baltimore and Ohio railroad at Parkersburg, and run through there in the straight line to Cincinnati. A short time since, we noticed that an injunction had been issued against it by a court in Ohio, to suspend operations on it till a question in dispute as to the right of way should be legally settled. We have now the satisfaction of announc-

ing that it has been settled, and settled in favor of the Hillsborough road. A despatch from Cincinnati, dated yesterday, says:

"Injunction against the Hillsborough railroad, finally dissolved by Judge Caldwell."

This removes all difficulty in the way of the early completion of the road from Belpre through Hillsborough to Cincinnati; and when it shall be completed we will have the Parkersburg road completed also, and then have a direct straight line of railroad from Baltimore to Cincinnati.

Great Western Railroad Co. of Illinois.

The above road was formerly known as the "Sangamon and Morgan railroad," and constitutes that portion of the "Northern Cross railroad" of 1836, which lies east of the Illinois river, starting at Naples and passing through Jacksonville, Springfield, Decatur, to the Indiana State line. At the last session of the legislature, the name was changed to that which now stands at the head of this article. The company have resolved to lay that portion of the road now built from Springfield to Naples with T rail, and to extend the road from Springfield eastward to Decatur. To do this \$1,000,000 ten per cent bonds of the company were thrown upon the New York market. The whole road is under contract, a considerable portion of the iron has been purchased, and is now on the way, and it is the intention of the company to have it completed by the 1st of September.

To Contractors.

L A CROSSE AND MILWAUKEE RAILROAD.—Proposals will be received at the office of the Engineer of this road, in the city of Milwaukee, upon the 20th day of May next, for the Grading, Bridging, Superstructure, Station House, Water Stations and equipments of the first division of the La Crosse and Milwaukee Railroad, extending from the city of Milwaukee to Portage City, on the Wisconsin River.

Propositions will also be considered for the grading in sections, and for the superstructure and buildings, separately.

By order of the Board,

J. L. BEAN, President.

Milwaukee, April 6th, 1853.

A Whitney & Son, PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. \$1 1/2

CAUTION.

RAILROAD COMPANIES are CAUTIONED against an infringement of the Patent granted H. M. PAINE, under date of January 6th, 1852, "for excluding dust &c., from Railroad Cars," incorporated in which is the following claim:—*I insure ventilation without the annoyance of dust, by means of the windows alone, without the addition of the deflectors.*

We also, warn R. R. Companies against the misrepresentations of H. B. GOODYEAR, who seeks to mislead them by means of Circulars, Protectors and Notices of CAUTION, &c. Attested copies and drawings of GOODYEAR'S Patent sent gratis.

N. B.—Company Rights sold and guaranteed by this Company as usual.

H. J. HALE, Sec'y
R. R. Car Ventilating Co.,
146 Broadway.

New York, April 1st, 1853.

RAILROAD IRON VIA RIVER ST. LAWRENCE.

JOHN ANDERSON,

FORWARDING and COMMISSION MERCHANT, and WAREHOUSEMAN, Hunts Wharf, Quebec. General Agent for receiving and forwarding Railroad and Pig Iron, &c.
April 1st, 1853.

\$300,000 PERU and INDIANAPOLIS RAILROAD FIRST MORTGAGE CONVERTIBLE SEVEN PER CENT BONDS.

We offer for sale, at reasonable rates, \$300,000 of the 7 per cent 1st Mortgage Convertible Bonds of the Peru and Indianapolis Railroad Company.

Forty miles of this road, lying between Indianapolis and Tipton, is now completed and in operation. The Madison Road operates the same. The residue of the line to Peru, 32 miles, will be completed and in operation by the 1st of November next.

The entire Road will cost, when completed and equipped, about \$1,200,000.

The available stock subscription is 829,000. The mortgage debt is but \$600,000 in all, the above being a part thereof. The Road owes no other debt.

This Road is advantageously located, connecting at Indianapolis with the Madison road (of which it is a direct extension northwardly) and the other roads there centering.

At Peru it connects or intersects with the Wabash and Erie Canal, and it will shortly be extended to the Fort Wayne and Chicago Road at Warsaw.

It traverses a region of great fertility and productiveness, having no other outlet to a market. Its local business alone, will, it is thought, yield a handsome support.

Pamphlet exhibits, with maps of the work, and any other more detailed information desired, will be furnished on application to the subscribers.—New York, April 7, 1853.

WINSLOW, LANIER & Co., No. 52 Wall-st.

Notice to Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Cleveland and Pittsburgh Railroad Company, in Millsville, from the first to the tenth of May next, for the gradation and masonry of thirty-nine miles of the Wheeling extension of the Cleveland and Pittsburgh Railroad, from the mouth of Yellow Brick to Bridgeport, opposite Wheeling.

Plans, profiles and specifications will be exhibited and all requisite information given at the office of the Company, in Millsville.

By order of the Board of Directors.

C. PRENTISS, President.

J. LINTON, Chief Engineer.

Office of the C. & P. R. R.,
Cleveland, April 8th, 1853.

The Troy Iron Bridge Co.

ARE prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or under, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address **BLANCHARD & YELLOWS, Troy, N. Y.**

April 1st, 1853.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the gradation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.
Portland, April 9, 1853.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

To Contractors for Masonry.

PROPOSALS will be received by the subscriber, up to April 20th next, for the masonry of four stone bridges, on the Philadelphia and Reading Railroad, as follows, viz:

Falls Bridge—At the Falls of Schuylkill, near Philadelphia, will consist of 6 oblique arches, with square built ribs, of 78 feet span each, crossing the Schuylkill river and navigation, with an elevation of roadway 48 feet above the water. It will contain 10,166 perches of masonry; the piers and abutments must be raised to the springing line during the present season, and the arches turned, and work as nearly as possible finished in the year 1854.

Peacock's Locks bridge—Is located 6 miles above the city of Reading, and will consist of 8 square arches of 63 feet span each, crossing the river Schuylkill, and one oblique arch, with square built ribs of 75 feet span, crossing the Schuylkill navigation. The elevation of roadway is 58 feet above the surface of water in the river. This bridge will contain about 10,651 perches of masonry; its piers and abutments must be raised to the springing line during the present season, and the arches turned, and work as nearly as possible finished in the year 1854.

Black Rock dry arches—Is a structure intended to increase the water way of Black rock bridge, near Phoenixville, and will consist of two square arches, of 50 feet span each, with a roadway elevation of 23 feet above the ground. It will contain about 1450 perches of masonry, and must be finished during the present season.

Fourth crossing bridge—Located near Orwigsburg landing, is intended to replace a wooden bridge recently destroyed by fire, and will consist of 4 square arches, of 46 feet span each, crossing the river Schuylkill, with a roadway elevation of 21 feet above the surface of the water. It will contain about 400 perches of masonry, and must be finished during the present season.

In all the above structures, the work must be carried on so as not to interfere with the trade of the road. The railroad company will prepare the foundations, erect and maintain the centres, furnish the lime, sand and cement, and the cars and motive power necessary to transport the stone on their road. All other expenses connected with the masonry to be borne by the contractors.

Plans and specifications in detail may be seen at this office, where all other necessary explanations will be given to those who wish to bid for the work.

J. DUTTON STEELE.
Engineer's office, P. & R. road,
Pottstown, Pa., March 16, 1853.

Notice to Contractors.

HANNIBAL AND ST. JOSEPH RAILROAD.
SEALED PROPOSALS will be received at the office of the undersigned, in the city of Hannibal, Missouri, until the twentieth day of April, for the graduation, masonry and bridging of 25 miles of said road, extending west from Hannibal.

Proposals will also be received at our office, in the city of St. Joseph, Missouri, until the tenth day of May, for the graduation, masonry and bridging of 25 miles additional, extending east from St. Joseph. The remainder of the line, extending a distance of over 150 miles, will be placed under contract as soon as the same can be prepared by the engineers.

This line embraces some very heavy excavations and embankments, and several large bridges.

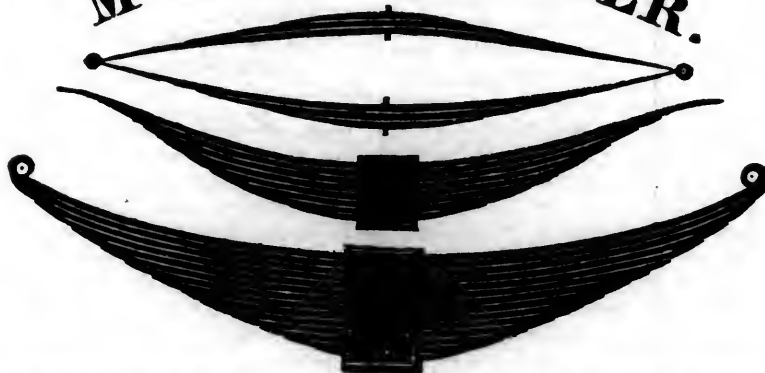
Plans, profiles and specifications will be ready at each place one week previous to the letting.

DUFF & LEARNED,
Contractors H. and St. J. RR.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

LOCOMOTIVE, TENDER AND RAILROAD CAR SPRING MANUFACTORY.**Mc DANIEL & HORNER.**

THE UNDERSIGNED, Manufacturers of Locomotive, Tender and Railroad Car Springs, beg leave to inform Railroad Companies, Locomotive and Car Builders, that we have enlarged our Works, and are prepared to execute,

ON THE MOST REASONABLE TERMS,

any orders for **LOCOMOTIVE, TENDER and CAR SPRINGS**, they may favor us with, **OF THE BEST OF STEEL**, all of which we have manufactured to order from **SWEDEN STEEL IRON**.

Mc DANIEL & HORNER,
WILMINGTON, DELAWARE.

April 15, 1853.

We respectfully call attention to testimonials in favor of our Springs from the following well-known gentlemen connected with Railroads:—

TESTIMONIALS.

Locomotive Works, Philadelphia,
1st September, 1852.

Messrs. **Mc DANIEL & HORNER,**
Wilmington, Del.

Gentlemen:—In reply to your letter of yesterday, with regard to the character of the Springs which you have made for the Locomotives and Tenders constructed by us, we have much pleasure in stating that they have given entire satisfaction, and we have found them, upon trial with those made by others, to be superior in the essential qualities of elasticity and durability, combined with lightness, the result of employing the best material only, and having it properly manufactured.

We are using them exclusively under our Locomotives and Tenders, and can with confidence recommend them as being superior to any we have yet met with.

Yours respectfully,

NORRIS, BROTHERS.

Macon and Western Railroad,
Macon, Oct. 14, 1852.

Messrs. **Mc DANIEL & HORNER,**

Dear Sirs:—This company have used the Springs made by your firm for several years under Engine, Baggage and Freight Cars, and have found them superior to any I have seen.

Yours respectfully,

THOS. DOUGHERTY,
Master Machinist M. and W. R. R.

Richmond, Va., November 1, 1852.

Messrs. **Mc DANIEL & HORNER,**

It affords me much pleasure to say, after some seven or eight years' use of your Steel Car Springs, I find them equal to any we have used, and have given entire satisfaction.

I am very respectfully yours,

THOS. SHARP,
Sup't R. F. and P. R. R.

Petersburg, Va., Sept. 18, 1852.

Messrs. **Mc DANIEL & HORNER,**

Dear Sirs:—I have been for several years past using Steel Springs of your manufacture under a large portion of the Cars that I have built for the different Railroads in this vicinity, and I consider them as good in every respect as any Steel Springs I have ever used.

Very respectfully yours, etc.,

URIAH WILLS,
Per Jas. J. LILL.

This is to certify that we have for a number of years been using Steel Springs manufactured by McDaniel & Horner, under our Locomotives, Tenders, Passenger and Freight Cars on the Philadelphia, Wilmington and Baltimore Railroad, I take pleasure in saying that they have always given entire satisfaction. Their durability and elasticity are superior to any others that we have used, and can confidently recommend their make of Spring to all Railroad Companies, and others who may want a good article.

I. R. TRIMBLE,

Gen'l Sup't P. W. and B. R. R.
Wilmington, Sept. 20, 1852.

Superintendent's Office Central Railroad,
Savannah, Ga., October 15, 1852.

Messrs. **Mc DANIEL & HORNER,**
Wilmington, Del.

I have much pleasure in certifying to the superiority of your Steel Springs.

This company have for upwards of two years had in constant use your Locomotive, Tender and Railroad Car Springs, (the latter in large numbers,) and we have found them uniformly well finished, properly tempered and durable. Our orders have always been promptly filled, and your terms have been moderate.

Very truly yours,

MACPHERSON B. MELLE,
General Superintendent.

A considerable number of Engine and Car Springs were furnished the Philadelphia and Reading Railroad several years since, by Mr. John McDaniel, before the Company made such articles in their own workshops.

These Springs proved invariably of excellent quality, elastic and durable, and equal to the best in use during the above period.

G. A. NICOLLS,
Engineer, etc., Philadelphia and Reading R. R.
Reading, Pa., Sept. 9, 1852.

Macon and Western Railroad,
Macon, Oct. 11, 1852.

Messrs. **Mc DANIEL & HORNER,**

Gents: This Company have purchased and used Car and Engine Springs of your manufacture. They have been tested under the same Cars with Springs from other approved makers, and so far as appears to us, have proved themselves fully equal to any we have used.

Yours very respectfully,

EMERSON FOOTE, Sup't.

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly **Wrought Iron Wheels** at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

WM. BAILEY LANG.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
90 Beaver st.

April 1, 1853.

To Contractors.

PROPOSALS WILL be received to the 23d of April inclusive, at the Engineer offices of the Northwestern Virginia Railroad in Parkersburg, West Union and Clarksburg, for the GRADUATION and MASONRY of about 60 sections, averaging 1 mile each, of the road. The work will be mostly of the lighter kind, but embracing many sections of good size and some bridge masonry and tunnelling. There are 103 sections upon the road, of which upwards of 40 are under contract. The route to and along the line is easy—the Baltimore and Ohio Railroad, the Ohio River, and the Northwestern Turnpike, rendering it very accessible at all points.

Specifications will be distributed from the offices named, and also from Fetterman on the Baltimore and Ohio Railroad, near the east end of the line, on and after the 11th of April. Bidders must be well recommended, and will state what other work they may have in hand.

By order of the President and Directors.
BENJ. H. LATROBE,
Chief Engineer.

Baltimore, March 9th, 1853.

Notice to Contractors.

MISSISSIPPI and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BAUGH, President.
S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

Notice to Contractors.

SEALED PROPOSALS will be received at the office of the Clinton line railroad company, in Hudson, Ohio, until the 20th day of May next, for the grading, masonry, bridging and superstructure of their entire road, from Hudson to the Pennsylvania state line.

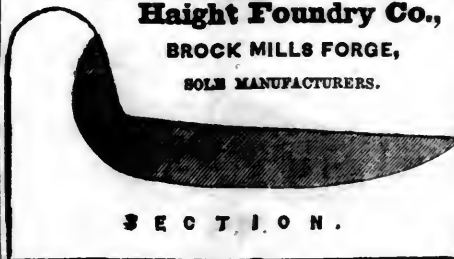
Plans, profiles, and specifications will be exhibited, and all requisite information given, at the office of the company, in Hudson, on and after the 10th day of May next.

By order of the board of directors.
H. N. DAY, president.
W. B. BRINSMADE, engineer.
Hudson, March 29, 1853.

Gooch's Patent Steel Tires.**Haight Foundry Co.,**

BROCK MILLS FORGE,

SOLE MANUFACTURERS.



SECTION.

GEORGE WOODWARD, 10 Ferry Street, New-York, sole agent to the HAIGHT FOUNDRY CO., offers their make of **GOOCH'S PATENT STEEL TIRES**; Charcoal Iron Tires, finished or in the rough, superior to any other English make for hardness and endurance; WROUGHT IRON DRIVING WHEELS, Axles, and every description of forgings, at the lowest scale of prices commensurate with the high character of the material and Workmanship.

GAS CANALS and Coal, supplied, to order, direct from the GIDLOW and SWINLEY mines, of the most superior quality.
New-York, 31 March, 1853.

Hoole, Stanforth & Co.,

MINERVA WORKS,

SHEFFIELD,

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by **RICHARD MAKIN**,
Agent for the Manufacturers,

43

24 Broadway.

FORGINGS.

AXLES, SHAPING, AND OTHER FORGINGS from the **GLENDON FORGES**, for sale by

GEORGE GARDNER & CO.,
BOSTON.

March 9, 1853.

STEEL.

NAYLOR & CO.,

MANUFACTURERS OF STEEL,

AT SHEFFIELD, ENGLAND.

HAVE on hand at their principle depots,
No. 99 and 101 John Street, New York,
No. 11 Liberty Square, Boston,
No. 11 Commerce Street, Philadelphia.

A large assortment of CAST, SHEAR, GERMAN BLISTER AND SPRING STEEL, of different qualities adapted to the various purposes for which Steel is used.
March, 20, 1853.

Pease & Murphy,

FULTON IRON WORKS,

FOOT of Cherry st., E. R. Office, 27 Corlears, corner of Cherry st. Manufacturers of Land and Marine Engines.

N. B. Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

Apr 1m

50 South Third street.

Fulton Car Manufactory,

CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Soe Manufacturers,
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1849.

1v

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF
AMERICAN SECURITIES,

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

George Peabody & Co, London.

Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

39

Virginia Locomotive and Car Works.

Wolfe Street and River Potomac, Alexandria, Va
SMITH & PERKINS, Proprietors.

MANUFACTURE

Locomotive Engines and Tenders.

Marine and Stationary Engines and Boilers.

Chilled Car Wheels and Axles.

Patent Chilled and Wrought Slip-tire.

Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

Lat of the Alexandria Iron Works.

THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.

July 22 1851

CAUTION.**India-rubber Car Springs.**

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA.—Awarded by the American Institute to F. M. RAY, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed,

JAMES TALLMADGE,
President.

N. MEIGS, Recording Sec'y.

ADONIRAM CHANDLER, Cor'g. Sec'y.

New York, Oct., 1851.

New England Car Spring Co., No. 104 Broadway
New York.

7td

RAILROAD CONTRACTS.



THE MOBILE AND OHIO RAILROAD CO.
HEREBY OFFER FOR CONTRACT THE

GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 15th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.

New York. January 28, 1853.

PATENT

Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be rebored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

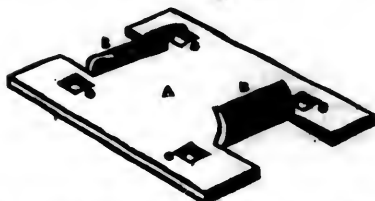
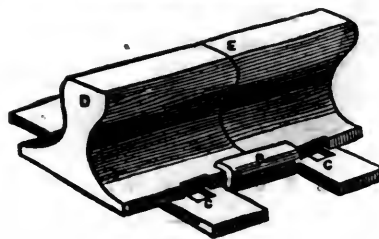
KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTEING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

The American Railroad Chair Manufacturing Co.

IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAILROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica, Chester Valley, Penn.,
Buffalo and Rochester, Tioga,
Northern, Norwich and Worcester,
Montreal and New York, Kings Mountain, S. C.,
Kennebec and Portland, Columbia and Granville,
Plattsburg and Montreal, Buffalo, Bayou Brazos and
Chicago and Rock Island, Colorado, Texas,
Milwaukee and Miss., Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

IMPROVED SAFETY FUSE.

THIS superior article, manufactured of the best material, for igniting the charge when blasting, is kept for sale in any quantity by

BRIDGES & BROTHER,
64 COURTLAND STREET,
NEW YORK.

R. GROVES & SONS, SHEFFIELD, ENGLAND,

Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Billet, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
68 Maiden-lane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

Railroad Iron.

5000 TONS Best Staffordshire Rails for sale on early delivery in Liverpool
by NAYLOR & CO.,
12th 99 John street.

Lightner's Patent Axle Boxes, FOR RAILROAD CARS.

THE attention of those engaged in building and using Railroad Cars is called to this

Patent Axle Box,

As possessing numerous advantages over all others, among which we enumerate the following:—

- 1st. The original cost is much less.
- 2nd. It saves seventy-five per cent in oil.
- 3rd. No dust can gain access to the journals.
- 4th. It prevents all possibility of "heating."
- 5th. Cars furnished with them run much easier, and require less power to move them.
- 6th. Its construction is simple—not liable to become loose by service, and allows a free inspection of the journals and boxes.
- 7th. The bearings of an eight wheel LOADED car, can be removed from the journals while under the car, and returned in less than half an hour, by ONE man.
- 8th. The trucks and wheels are free from oil and dirt, usually seen on Railroad Cars.

The following Testimonials are submitted:—

This certifies that I have been particular in comparing and testing the Patent boxes of John Lightner, for one year, with the various other boxes in use upon the Old Colony Railroad. I do not hesitate in pronouncing Mr. Lightner's boxes far superior in every respect to any other boxes in use. We find the consumption of oil to be but one quart per month for each eight wheel car; this being the quantity with which they are replenished regularly once a month. The Journal and oil is perfectly secure from dust, and after one year's hard service, the composition boxes or bearings exhibit no apparent wear. I think the bearings will run three times the distance in Lightner's that they will in any other box in use; besides, the cars are not detained from the road for repairs of boxes.

The bearings may be removed from the Journals of an eight wheel car, examined and returned to their places, by one man, occupying but twenty minutes, which would require two men, half a day, with the common boxes in use in New England.

For economy and convenience, Mr. Lightner's patent axle boxes excel anything which has hitherto been applied to Railway Cars.

Signed, PAGE LOVEJOY,
Supt. Car Building and Repairs Old Colony R. R. Co.

I fully concur in the opinions above expressed, having thoroughly tested the merits of J. Lightner's patent boxes upon tenders of Locomotives of the Old Colony Railroad.

S. M. CUMMINGS,
Supt. Motive Power Old Colony Railroad.

OFFICE OF THE FITCHBURG AND WORCESTER R. R. }
Fitchburg, June 2nd, 1852. }

Mr. JOHN LIGHTNER,

Dear Sir,—Your Patent Axle Box has been in use upon our Railroad during the last year and has given entire satisfaction. We find our Engines and Cars require much less power to move them, than others not furnished with this box, and the saving in oil is very great.

Our freight Cars run upon connecting roads, and are sometimes beyond our control; therefore as a matter of safety, we have the boxes examined once a month, and oiled if necessary, the quantity of oil required is small.

Our Passenger and Baggage Cars, which are in constant use, run nine hundred miles per week. We find it necessary to oil them only once in three months. In one or two instances, they have run more than sixteen thousand miles, without being oiled or sustaining any injury.

Yours Respectfully,
IVERS PHILLIPS, President.

The subscriber, begs leave to suggest to all Railroad Corporations (new or old) the importance of an EARLY application of this valuable improvement, to their NEW CARS, WHILE IN PROCESS OF CONSTRUCTION; as thereby much detention of cars, and great expense will be avoided.

Models and Testimony of the above Boxes, may be examined, and arrangements may be made for the Right to use the same, with the subscriber.

WM. SHERBURNE,

PRINCIPAL AGENT,
Office, No. 167 Broadway, New York.

March 20, 1853.

HAMMERED CAR.

AND

LOCOMOTIVE AXLES, FROM THE PENCOYD IRON WORKS.

THE Subscribers are prepared to manufacture the above of the very BEST materials and with promptness.

Address A. & P. ROBERTS,
Office, No. 80 1-2 Walnut St., Philadelphia.

March 26, 1853.

FOR SALE.

TWO Sixty Horse Power Steam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia, (where they may now be seen.)
Apply to A. & J. ROBERTS,
No. 80½ Walnut Street, Philadelphia.

Notice to Contractors.

OFFICE N. O., OPELOUSAS & GREAT
WESTERN RAILROAD CO.,
New Orleans, March 5th, 1853.

SEALED PROPOSALS will be received at this office, until the 10th of May next, for the construction of that portion of the road between Bayou Lafourche and Berwick's Bay, a distance of 31 miles; also from Berwick's Bay to Washington, 92 miles, including a branch road of 18 miles. Proposals will be made for the entire completion of the road, (except furnishing iron.)

References of ability, and security, will be required.

Plans and specifications of the work to be seen at this office, after the 10th of April.

JAMES G. GIBBES, Chief Engineer.

Locomotive Engines.

DANFORTH, COOK & CO., PATTERSON, N. J.,

HAVING erected an extensive Shop, with the most approved Machinery and Tools, are prepared to execute orders for the various classes of Freight and Passenger Locomotive Engines and Tenders, in the best manner and on the most favorable terms.

Also, Stationary Engines, and the various Tools suitable for furnishing Repair Shops.

The business of Machine making, heretofore carried on by Charles Danforth & Co., is continued by the present firm, and all orders will receive prompt attention.

1749

BOWLING TIRE BARS.

40 Best Flange Bars	5 1-2x2 inches,	11 feet long.
40 " " "	5 1-2x2 " "	7 feet 8 in. long.
40 " " "	6x2 " "	11 feet long.
40 " " "	6x2 " "	7 feet 8 in. long.

Now in store and for sale by

RAYMOND & FULLERTON,
45 Cliff street.

Iron, Steel and Hardware.

H. & J. HOPKINS,

93 & 95 Barclay St.,

NEW YORK,

IMPORTERS OF ENGLISH and REFINED IRON of the BEST BRANDS, suitable for LOCOMOTIVE and CAR BUILDERS' use.

Also, Cast, Spring and German Steel, of all sizes—together with a full assortment of Hardware—Contractors and Blacksmiths' Tools, Chains, etc., which we offer at the lowest rates.

March 9, 1853.

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1853.

Alton, Mt. Carmel and New Albany Railroad.

NOTICE is hereby given, that there are no Bonds of this company in circulation, as the books of this company will testify that no bonds have ever been issued or authorized.

And, as all the stock formerly subscribed on the books of this company was, on the 4th and 18th of December, 1852, sold by the sheriff, under executions issuing from the Circuit Court of Edwards county, Illinois, and was by the purchasers at such sales, or by their assignees, surrendered to the present board of directors, on the 29th of January, 1853: All Certificates of Stock bearing date previous to that time are worthless.

It having been reported, that bonds and certificates of stock of this company have been offered for sale or pledge by parties formerly connected with this company, the board have thought it right thus to put the public on their guard.

F. B. THOMPSON,

Pres't. M. C. & N. A. R. R. Co.

SAMUEL THOMPSON, M. D.,

Sec'y to the Board,

March 7th, 1853.

1m12

A. Whitney & Son,

PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31tf

RAILROAD CAR AND COACH TRIMMINGS.

Doremus & Nixon,

No. 21 PARK PLACE,

AND

18 MURRAY STREET.

IMPORTERS

OF PLAIN AND FIGURED MOHAIR PLUSH;

Printed and Unent do. do. entirely new designs;

ALSO GERMAN OIL CLOTHS FOR HEAD LININGS,

Enameled with Gold and Silver and Velvet Printed.

These Headings are the most beautiful ever shown, having been made expressly for American Cars. D. & N. are sole Agents.

ALSO, PATENT PARIS COTTON FELT.

This is a patented article, makes a better and more desirable cushion than hair; retains its elasticity longer, and is free from vermin.

It is being extensively used by Car and Omnibus builders, and is sold at about half the price of curled hair.

ALSO, BROCADELLES and MOQUETTES.

ALSO, CURLED HAIR.

N. B.—We have the Plush and Linings in bond for exportation.

DOREMUS & NIXON.

November, 1852

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

7 per ct.—Buffalo, Corning and New York	Payable in
R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana	" 1862
7 per ct.—Catawissa, Williamsport and Erie	" 1867
8 per ct.—Peoria and Ottawa	" 1863
6 per ct.—Maysville and Lexington	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co. . . .	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg	" 1873
7 per ct.—Buffalo and New York City	" 1866
7 per ct.—Mansfield and Sandusky	" 1860
7 per ct.—Toledo, Norwalk and Cleveland	" 1861
7 per ct.—Vermont Valley	" 1861
7 per ct.—New Jersey Central	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington	" Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston	" 1864
7 per ct.—Muscooge Railroad	" Savannah, 1862
7 per ct.—Huron and Oxford	" New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co. . . .	" 1855-57
7 per ct.—Township of Portland, Ohio	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by	

Mad River R. R.

10 per ct.—City of Keokuk, Iowa

7 per ct.—Town of Huron, Erie county, Ohio

7 per ct.—Town of Newark, O.

7 per ct.—City of Sandusky, convertible into

Junction R. R. Stock

7 per ct.—State of California

7 per ct.—Mortgage bonds of the Atlantic

Steamship Co.

12 per ct.—Improvement Scrip of the State of

Wisconsin for improvement of

Fox River

Rutland and Whitehall Stock, with guarantee of 7 per cent.

dividend by Saratoga and Washington Railroad.

Stock in the Western Vermont R. R. Co.

Stock in the Mad River R. R. Co.

Stock in the Buffalo, Corning and New York R. R. Co.

Stock in the Mansfield and Sandusky R. R. Co.

Stock in the New York and Virginia Mail Steamship

Company, paying 20 per cent. dividends.

GLENDON REFINED IRON.

BAR, RODS, BAND IRON, etc., for sale by
GEORGE GARDNER & CO.,
March 9, 1853. Boston, Mass.

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer.

Address "H. W." this office.

3*12

To Railroad Companies, Car Builders, Machinists, etc.

SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc.

1617*

The Cold Spring Iron Works

INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to
John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder,

Address HENRY MELLUS, Agent,
Boston, Mass.
or, GEO. W. PRESCOTT, Sup't,
Otis, Mass.

November 12, 1852.

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

Leave Toledo at 9 A. M. and 10 P. M.

Leave Cleveland at 9.20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Railroad, for Chicago and the West.

At Bellevue with trains of Mad River and Lake Erie Road, for Sandusky City, Dayton, Indianapolis, Cincinnati, etc.

At Monroeville with Mansfield and Sandusky City Road, for Sandusky City, Shelby Junction, Columbus, Newark and Zanesville.

At Grafton with Cleveland, Columbus and Cincinnati Road, for Shelby Junction, Columbus and Cincinnati.

At Cleveland with Lake Shore Road, via Dunkirk, for New York and Boston, via Buffalo, for New York and Albany and for Western Road and Boston, with Cleveland and Pittsburgh Road for Pittsburg, Wheeling, Philadelphia, Baltimore, & Washington City.

E. B. PHILLIPS, Sup't.

Office T. N. & C. R. R.,
Norwalk, O., Feb. 2 1853.

Iron for Machinists.

THE SUBSCRIBERS,

IMPORTERS AND DEALERS IN
IRON AND STEEL,

HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE and CAR BUILDERS, AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,

Feb. 16, 1853.

90 Beekman st., N. Y.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by

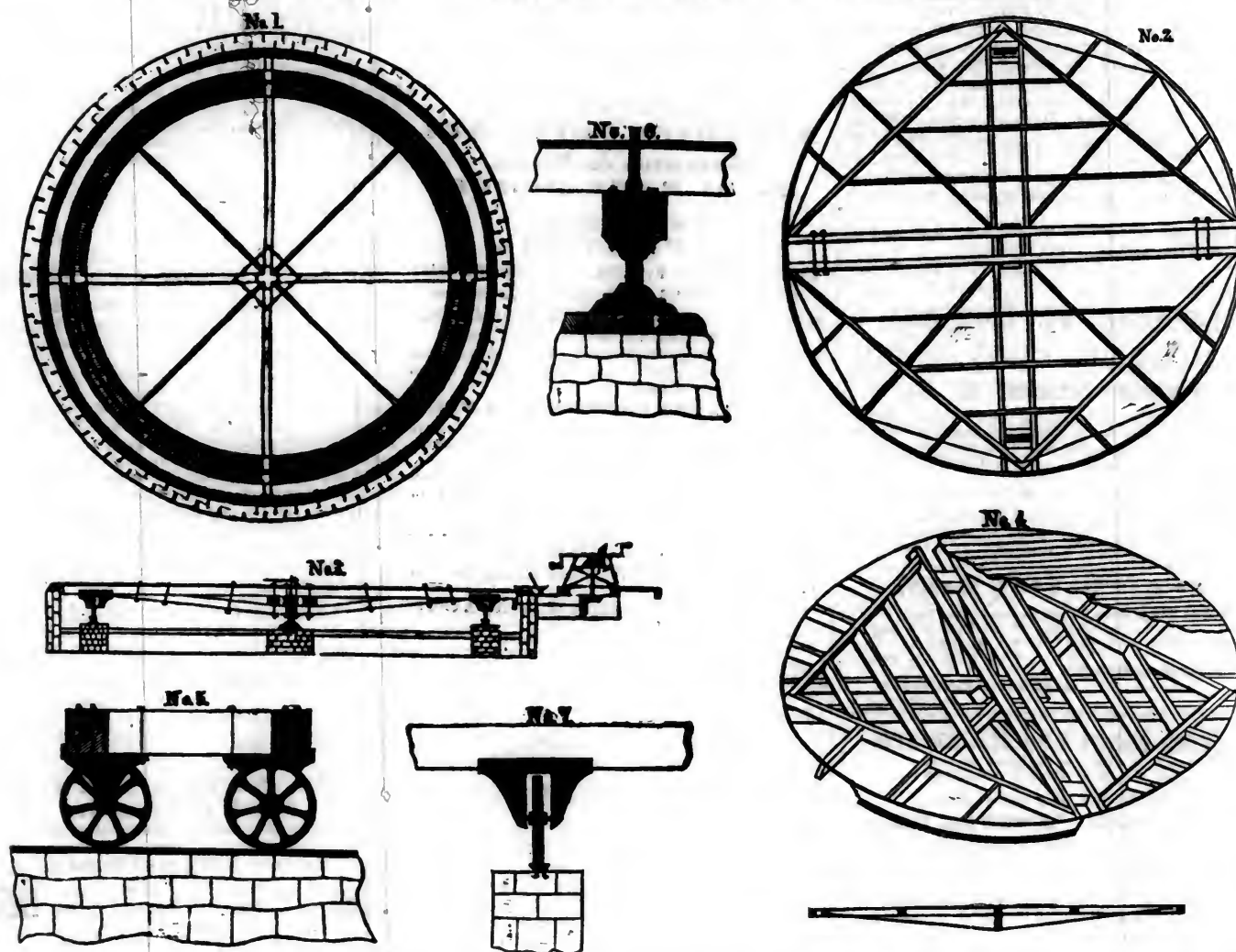
G. O. ROBERTSON,

135 Water street, corner of Pine,

November 19, 1852.

New York.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in 25 SECONDS.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.
Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address
D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent- WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.
E. DEWOLF, Jr.
Oct. 2, 1852. 17*

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.
JAS. PRENTICE,
Feb 9 1853. 315 Broadway, N. Y.

Railroad Iron.

THE undersigned Agent for the manufacture, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales, or at this port.
For terms, apply to
JOHN H. HICKS,
90 Beaver st.

March 24, 1853.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf.

Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,
Sole Agents, 28 Platt st., New York.
New York, Feb. 7, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

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American Railroad Journal.

Saturday, April 23, 1853.

Cincinnati, Logansport and Chicago Railroad.

The object of this road is to connect, by the shortest practicable route, the cities of Chicago and Cincinnati, and to supply the very extensive territory lying between the two, with railroad accommodations. We purpose in our present number to examine some of the claims of this road upon the public consideration, and to notice a few of the elements of traffic that exist upon its line, and its prospective business as a *through* route between the Ohio and the great lakes.

The distance between the cities of Cincinnati and Chicago, will be 278 miles. From Cincinnati to Richmond, a distance of 69 miles, a railroad is already in progress, belonging to a different organization. From Richmond to Logansport, on the Wabash, the distance is 107 miles. This portion of the line traverses a region not surpassed by the best portions of the west, in wealth, in fertility of soil, extent of production, nor in capacity for future growth and development. It is this portion of the line that is now in active progress, although measures are in progress for placing the upper division from Logansport to Chicago, a distance of 102 miles immediately under contract,

To the territory immediately traversed by it, this road will supply its appropriate commercial avenue. The directness of its line precludes the possibility of its being superceded by another. A road to possess equal advantages must follow the identical route.

We have no reason to believe that the road can for years, if ever, have a rival for its *appropriate* business. There will be other roads between the termini, of greater length, which will always command more or less travel, but this travel will be driven off the line, by considerations of another nature than directness of route, and speed of conveyance.

Of the roads having the same general direction, the nearest are some thirty or forty miles distant. We believe no other road is proposed, running through eastern Indiana toward Chicago, between Fort Wayne on the one hand, and Indianapolis on the other. The above road does not run more than thirty-five miles to Indianapolis, and is about twice that distance from Fort Wayne. For the territory between the two the C. L. & C., will form the principal outlet in both directions.

The country traversed is capable of supplying an amount of traffic to railroads equal to that furnished by the same extent of country in almost any part of the west. A greater part of this traffic will go directly either to Cincinnati or Chicago. From these cities also will be obtained by far the greater part of the merchandise and such manufactured articles as are consumed upon the line of the road.

Although New York is the principal market for the *exportable* products of the west, only a very small portion of those products are sent to the seaboard. The city of Cincinnati, for instance, now requires a very large amount of agricultural products, for daily consumption. It numbers at least 160,000 inhabitants. It is the point where an immense amount of manufacturing is done, and it will supply a large portion of the surrounding country with all the coarser articles of manufacture, such as furniture of all kinds, castings, machinery, rails, hardware, etc., etc. As great as the trade is between the east and the west only a very small portion of the various articles that enter into consumption in the west, are exported.

But for imported merchandise, the people of the west are fast getting into the habit of depending

upon their own large town, instead of coming directly to New York. Cincinnati, St. Louis, and Chicago, are beginning to bear similar relations to the country contiguous to them, that New York does to such cities. A trader vending in the interior of Indiana finds it much better for him to buy his goods in Cincinnati, and to transact what business he may have with New York through a commercial house in the former city, than to come directly here with what he has to sell, and make his purchases himself. Nearly all of the western products have to be prepared for market, before they are saleable. Take the great staple of Indiana, pork. It is found to be the better economy to send the live hogs to Cincinnati to be slaughtered than for the farmer to attempt to do this business. At that city every part of the hog, no matter what, has a regular market value, and the increased sum realized from this fact, is much greater than the cost of transportation. This illustration will serve for most of the western products. They are seldom forwarded directly from the places of their growth to the eastern markets, but are first collected at the leading points of trade in the west, which thus become points *in transitu* to the final markets.

The same extent of country that forwards Cincinnati, for instance, its products, draws from her all that the farmers require for consumption that their farms do not produce. In other words, the trade is *reciprocal*. The farmer carries his produce to Cincinnati because he can get a better price for it there, and he makes his purchases at the same place for a similar reason. In this way is the business of the west rapidly centering in the large western cities, and it is through them that the trade with New York is carried on. These cities are strengthening their hold upon this trade in proportion to the rapidity of their own growth. If these can offer a good market for its products, they are certain to draw to themselves the trade of the surrounding country. It is well known that a number of our most valuable agricultural products will not bear a transportation over ordinary roads, of over twenty miles, no more than one hundred over a railroad.

We make these remarks for the purpose of disabusing the public mind of a very common idea that, as the *surplus* of western produce comes to New

York: the best roads of necessity must have a general direction toward it. This is a great mistake. It is only what may be called the *through* trade that comes here. We presume that on the average of our roads the local, is to the *through* trade, as 15 to 1. The *through* tonnage on the Erie road the past year was only 46,000 tons, while the entire movement was 460,000 tons. The farther we go west from the great points of consumption, the greater this disproportion becomes. But in the west even, the *through* movement is not direct to the sea coast, but to the depot of trade there; so that the direction toward New York may have nothing to do with the excellence of a line of railroad.

The section of country south of the Wabash river has since its settlement, had its chief trade with Cincinnati. The construction of the above road will only tend to facilitate the movement of this trade on the convenient route it has always pursued. The extent of this trade, measured by the extent of country dependent upon the road, cannot be second to that of any other in Indiana.

There is already a very large travel between Cincinnati and Chicago. The former is the great city of the Ohio; the latter of the lakes. Between two such cities so widely separated as to become the depot of widely different products, a large trade must always exist. Through Cincinnati, Chicago will receive a portion of the groceries and merchandise that are taken up the Mississippi and Ohio river, such as sugar, cotton, tobacco, etc., etc. Through the same channel will Chicago forward to southern markets, wheat, lumber, animals, etc., etc. In each city will the manufacturing interests take particular directions, and the interchange of articles which these produce will give rise to a large trade between the two. The positive extent of this trade we can hardly estimate. That at the present time it would give, with the necessary local business, ample support to a railroad, we have not a doubt.

Growth of California.

We are indebted to the kindness of LUDLOW THOMAS, Esq., 52 Wall street, for the perusal of an interesting document transmitted by Gov. BIGLER to the Legislature of California, relative to the late census of that State—the census of 1852. It is composed of abstracts of the census returns, and the explanatory reports of the Secretary of State. The rapid growth of this youthful State, in population, commerce and wealth, is unparalleled in the annals of history, and the influence which it is enabled to exert upon the monetary and commercial affairs of the rest of the world, through its mineral productions; and the fact that almost every town, city and neighborhood in the old States, or those States lying east of the Rocky Ridge, is represented there, render the prosperity and advancement of California an object of universal interest. This being the case, a few extracts from the returns, exhibiting the number of inhabitants and taxable property, with the several counties of the State in 1852, and a comparison with the returns of 1850, may not prove void of profit to the readers of the *Journal*.

In his message accompanying the report, Gov. BIGLER remarks as follows:

"The great difficulty encountered heretofore in the practicable management of the business of the State, is found to be the want of sufficient informa-

tion respecting its resources, present and prospective, an insight into which is afforded, to some extent, by the exhibits herewith submitted.

The rapid increase of our population—the manifest improvement in our agricultural, as well as all other pursuits, afford a sure indication of permanent and future prosperity; which cannot be defeated except by the most positive mismanagement. In the brief period of two years, the population of the State has increased 80 per cent annually. This rate of increase will, of course, diminish, but we may reasonably calculate that in ten years we will have at least quadrupled our present population; while it is considered that the commerce, agricultural and mechanical arts, manufactures, &c., of the State, in all of which we possess the germs of immense resources, will advance in ratable proportion with our increase of population. It cannot be for a moment doubted, that the future standing and influence of this, compared with the other States of the Union, must be that of distinguished prominence."

The returns give the following exhibit of the population of each of the several counties in 1850 and in 1852:

Counties.	Pop. 1850.	Pop. 1852.
Butte.....		8,572
Calaveras.....	16,894	20,192
Colusi.....	115	620
Contra Costa.....		2,745
El Dorado, [estimated]....		40,000
Klamath.....		530
Los Angeles.....		7,831
Marin.....	323	1,036
Mariposa.....		8,969
Mendocino.....	55	416
Monterey.....	1,872	2,728
Chassa.....	405	2,116
Nevada.....		21,865
Placer.....		10,784
Sacramento.....		12,589
San Diego.....		2,932
San Joaquin.....		5,029
San Francisco.....		36,161
San Louis Obispo.....	1,521	984
Santa Clara.....		6,664
Santa Cruz.....	643	1,219
Santa Barbara.....		2,131
Shasta.....	378	4,060
Sierra.....		4,855
Siskiyon.....		2,240
Solano.....	589	2,835
Sonoma.....	560	2,337
Sutter.....	3,466	1,207
Trinity.....	659	1,764
Tuolumne.....		17,657
Tulare.....		8,575
Yolo.....	1,124	1,307
Yuba.....		22,005
		264,435

PRODUCTIONS AND CAPITAL.

The following figures exhibit the character and quantity of the principal productions and capital of the state:

Horses, No.....	64,773	Barley, bush..	2,973,734
Mules, ".....	16,578	Oats, ".....	100,497
Cows, ".....	104,339	Wheat ".....	271,763
B'f cat'le".....	315,392	Pota'es ".....	1393,170
Work Ox".....	29,065	Corn, ".....	62,532
Acres of land under cultivation.....			110,748
Quartz Mills.....			108

CAPITAL INVESTED IN

Quartz mining.....	\$5,871,405
Placer mining.....	4,174,419
Other mining operations.....	8,851,628
For other purposes.....	41,061,933
Total.....	54,959,380

The county of El Dorado had not been returned, and the figures in the foregoing table are estimates of the population of that county. The estimates are based upon the number of votes cast at the last election, as compared with the votes of the

counties in which a correct census has been procured; and if the ratio of voters to the number of inhabitants in all counties be the same, this estimate must be very nearly correct.

The secretary of state, Mr. W. Van Voorhies, thinks, if he may judge from the assertions of the census agents, that not more than five-sixths of the whole population of the state have been taken. Adding one-sixth to the total sum of the above table, the result is 308,507, which is believed to be about correct. As corroborative evidence of the probability of the truth of the last estimate it is further stated that the entire population of the state at the late general election was 76,890 which multiplied by four—a number below the usual ratio obtaining in California, and considerably below that obtaining in other states of the Union—would place the total population of the state at 307,560.

"This exhibit," says Mr. Van Voorhies, "shows an increase in the course of two years, taking the actual returns of the census, of ninety-nine thousand four hundred and thirty-five,—an annual increase of forty-nine thousand seven hundred and seventeen, and an increase of 30 per cent. per annum; of the increase per cent per annum the U. States, according to the late census, was three and a half, showing a difference of increase between the state of California and other states of the Union, of twenty-six and a half per cent. per annum. Taking, however, the estimated and more probable census of the state, namely three hundred and eight thousand five hundred and seven, and it gives an annual positive increase of seventy-one thousand seven hundred and fifty-three, an increase of forty-three, and a difference of increase per cent., between California and other states of thirty-nine and a half."

This may all be very correct, nevertheless, we observe the entire population of California, in 1850, is set down in some of the census compilations at 214,000.

If 214,000 was the actual enumeration in 1850, the increase in two years seems to have been, by the returns of 1852, about 50,000. It is probable, however, that the census of 1850 was made of estimates to a great extent, or at least that the amount set down in the earlier compilations of census returns was a mere approximation. There can be little doubt that the census of 1852 has been taken with great care, and it is probably the best approximation to correctness that can be made, notwithstanding the apparent discrepancy between it and the census of 1850. In the above table we have placed all the returns of the census of 1850 which we could find, but they are meagre and unsatisfactory:

The population of 1852 was divided as follows: (except the county of El Dorado, which is estimated.)

	Over 21 years of age.	Male.	Female.	Total.
Whites.....	105,344	171,115	39,741	210,856
Negroes.....	1,259	1,787	303	2,090
Mulattoes.....	407	420	100	527
Indians, (domesticated) 16,000	20,375	18,164		33,539
Foreign (residents).....	40,444	59,631	5,860	59,991

The number of Chinese is believed to be about 25,000. In Nevada, Placer and Yuba, the only counties making special returns of the number of Chinese, there were found 9,809.

tistics of that part of the Ohio and Mississippi valleys in which the trunk of the Ohio and Mississippi Railroad lies, I shall now apply these data to the determination of its probable business. One observation may be made in advance, applicable to all western railways—that any estimate of business, made from existing elements of calculation, must, in the nature of things, fall short of what that business will be in a few years hence; because the whole mass of population, agriculture, commerce and manufactures is advancing at a more rapid rate than has been known in any previous period of civilization. For example, the commerce of Cincinnati, in all its leading articles, doubled in five years. The whole population of the valley is advancing at the rate of 5 per cent per annum.—The very increase of the country would, in a very few years, provide ample business for any railway.

Another remark should be made in advance, that between Indianapolis (Indiana) and Nashville, (Tennessee) a distance of more than 200 miles, no east or west line of railway, extending as far as Cincinnati or St. Louis, is proposed, nor probably will be, for none could possibly be so direct as this. This line, therefore, commands, and probably will command for many years, the entire railway traffic which can be derived from the immediate valley of the Ohio. In estimating the number of passengers on this particular railway, there is one very large class which will be almost peculiar to this road; this is what I call *lateral passengers*, those departing neither from the extremities of the line nor from any way points as such; but coming directly from lateral railways, intersecting this almost at right angles. Of these there are already six different lines, and probably will be others, a large portion of whose passengers are seeking the cities of the east or those of the west, and must pass over some of this road to reach their destination. I therefore distinguish the passengers on this line into *through, lateral and way*.

Through passengers must be derived chiefly from those which now pass over the New York railways to Cincinnati, or down the Ohio river in steamboats, or up the Ohio river to Cincinnati, or up the Mississippi river to St. Louis and then to Cincinnati. The railways and the steamboats furnish us the elements to estimate that number.

In the United States Steam Marine report the movement of passengers in the valley of the Mississippi is accurately given. From that it appears that the whole number of passengers moving in steamboats employed respectively in the trade of St. Louis, Cincinnati and Pittsburgh is as follows:—

In boats belonging to St. Louis.....	318,718
" " " Cincinnati.....	270,796
" " " Pittsburgh.....	428,745

More than a million of passengers move to or from these ports to various other ports and places in the valleys of the Ohio and Mississippi. To determine how many of these may go on a railroad between Cincinnati and St. Louis, we have the arrivals and departures from each of these places to each other, and to and from places on the Mississippi to these.

By examining the details of passengers carried between these ports, we find that they were

Between Pittsburgh and Cincinnati..	89,828 pas.
" Pittsburgh, St. Louis, Nashville, &c.....	110,323 "
" Cincinnati and St. Louis.....	45,900 "
" Cincinnati and New Orleans..	40,862 "
" Pittsburgh and New Orleans.	9,000 "
" Wheeling and other places on the Upper Ohio, and St. Louis and the Mississippi.....	20,000 "

Total..... 315,913

Of the passengers which arrive at Cincinnati from Pittsburgh, more than half are destined to St. Louis or some point on the Upper Mississippi for distribution. This will make one-fourth of those between Pittsburgh and Cincinnati.

Of those between Pittsburgh, St. Louis, Nashville, &c., one-half will take the railway.

Between Cincinnati and St. Louis the whole will probably go this way.

Of those between Cincinnati and New Orleans, and between Pittsburgh, Wheeling, &c., and New Orleans it may be safely assumed for the sake of change, larger boats, and quicker speed, one-half will take the railway.

If to the number thus furnished we add one-fourth as many more for the increase created by the completion of the Eastern lines of railway, we shall still be within a minimum of the through passengers to be moved on the Ohio and Mississippi railway. The following table is constructed on the above principles:

11. TABLE OF PASSENGERS DERIVED FROM THE RIVER OHIO.

From and to	Whole No.	Pro-portion	Through Rail-way Pas-sengers.
Pittsburgh and Cin'ti.	89,828	one-fourth	22,457
Pittsb'gh & St. Louis &c.	210,323	one-half	55,161
Cin'ti & St. Louis.....	45,900	the whole	45,900
Cincinnati and New Orleans.....	40,862	one-half	20,431
Pittsburgh and New Orleans.....	9,000	one-half	4,500
Wheeling and below...	20,000	one-fourth	5,000
	315,913		153,449

If we add one-fourth only of this as the increase which must necessarily ensue, on the completion of the eastern railway connections, we have a total of 191,811 through passengers. I make no distinction between first and second class passengers, because such an arrangement must depend upon the future policy of the company, and because if it be made the number of passengers will be largely increased.

8. ESTIMATE OF LATERAL PASSENGERS.

NOTE.—The following table is formed by assuming ten per cent of the whole number of way passengers on Lateral Railways, ascertained from the density of population.

Ten lines.	Lines of road	Length, 1,187 mls.	Surface drained, 36,610 s. m.	Pop'n of pop. contrib.	Dens. Est. of pas. contrib.
	a Illinois Central and Ohio and Mobile	1,187	36,610	694,300	17 43,651
	b Evansville and Terre Haute.....	107	3,080	90,300	30 8,879
	c New Albany, Salem and Michigan...	272	8,160	244,800	30 10,444
	d Madison and Indianapolis.....	30	2,700	80,000	30 3,466
	e Jeffersonville.....	70	3,100	63,000	30 2,688
	f Lawrenceburgh and Indianapolis.....	90 3/4	2,722 1/2	81,675	40
	g Covington, Lexington, and Danville.....	130	3,900	105,300	27 6,092
	h Cincinnati, Dayton, Troy and Toledo	245	7,350	387,600	50 9,408
	i Cincinnati and Sandusky.....	132	3,960	198,000	50 6,068
	j Cincinnati and Cleveland.....	254	7,620	380,000	50 9,758
		2,577 3/4	77,162 1/2	2,205,875	29 93,325

12. TABLE OF LATERAL RAILWAYS which intersect the Ohio and Mississippi Railroad, and will contribute passengers to the Central line between Cincinnati and St. Louis.

a. The Mobile and Ohio railroad is 517 miles in length, extending from Mobile, on the Gulf of Mexico, to Cairo, at the mouth of the Ohio. A part is finished, a large part under contract, and a sufficient amount of capital is secured to secure its completion.

b The Evansville and Terre Haute Railroad is about half finished, and the whole is secured.—From Henderson, in Kentucky, a continuation of this route is to be made to Nashville.

c The New Albany and Salem Railroad is finished to Orleans, and is secured to Lafayette, and thence to Michigan city.

d The Cincinnati and Dayton part of this line has been finished a year and a half; the continuation to Troy is nearly finished. The residue of this line to Toledo, it is believed, will be finished at an early period.

e The Sandusky line has been in operation several years, and with the Little Miami and Dayton lines, makes a continuous route to Cincinnati.

It will be observed that none of the Southern lines are put in the table beyond their present termination, at Danville, Ky., or at Louisville, Ky.—Had they been inverted, as in a few years they will actually exist, the list of lateral railways really contributing to this line, would have been doubled in length, extending from the Lakes to the Southern Atlantic. Only those have been used as data, whose early completion is morally certain, and whose contributions may certainly be relied on. As an example of the mode in which they will affect the Ohio and Mississippi Railroad, I may state that a merchant in southern Illinois, Western Kentucky or Tennessee, Southern Alabama, or in Arkansas, can find (when these railways are completed) no route to St. Louis, Cincinnati, Baltimore, Philadelphia and New York, so direct, quick or cheap as that by the line of the Mobile and Ohio, the Illinois Central and the Ohio and Mississippi railroads. If he take either the river, the Lake, or any railroad north of this, he will be longer on the way, both in time and distance. Nor is there yet any southern railway planned which will be more direct to the great body of people in the Ohio Valley. The results in the above table must be regarded as a minimum, especially so when it is considered that the whole number of passengers carried on these lateral roads will probably exceed two millions, while their estimated contributions to this great transverse line is scarcely five per cent on the aggregate.

9. ESTIMATE OF WAY PASSENGERS.

The question of way passengers is really the most important one, in an estimation of the permanent value of railway stock; as they are derived only from that belt of country, and that population which is solely within the influence and control of each specific company. It is a law of human nature, as well as of interest, for any individual taking railway passage, to go to the nearest convenient station. Way passengers, on any specified road, are those who find the stations on the road the nearest and most convenient to their hands. Again, the grain crops in a particular section of country, from which a large portion of freight depends, may entirely fail in some years; but way passengers, where journeys are caused by the domestic convenience and exigencies of life, are not materially diminished by such events. They make up the uniform and permanent staple of railway traffic. In determining the number of way passengers on any given road, we have certainly fixed data furnished, by railroad experience and by the statistics of the country. We know the number of way passengers actually furnished on each lineal mile of the great lines of the United States. We also know the density of population on each square mile, and consequently, assuming a certain breadth or belt of country on each side of the road, we know the ratio which exists between the density of population and the number of way passengers. It is true, that this will vary very much according to the greater or less proportion of civic or town population, but as that also is known, these elements afford us the means of making a very near approximation to the actual number

which will be supplied to any given road. Below is a table of these elements, drawn from the most important lines in America, and embracing two thousand five hundred miles of railway.

13. TABLE OF WAY PASSENGERS TO THE LINEAL AND SQUARE MILE, AND THE RATIO TO POPULATION ON THE LEADING RAILWAY LINES OF THE UNITED STATES.

Railways.	Miles.	Local pass. per lin. mile.	Sq. miles drained.	Pop. of belt drained.	Density per sq. m.	Pass. per sq. m.
Albany and Buffalo line.....	328	2,000	9,840	764,067	77	0.85
Hudson River (to Poughkeepsie).....	75	6,789	2,260	646,980	287	0.78
Pennsylvania Central.....	173	1,450	5,180	6,400	42	1.14
Baltimore and Ohio.....	180	892	6,400	356,641	66	0.45
Little Miami (Ohio).....	84	1,285	2,630	254,881	100	0.48
Cincinnati and Dayton (Ohio).....	60	2,500	1,800	250,744	140	0.60
Cincinnati and Indianapolis (to Columbus).....	45	900	1,350	68,260	47	0.64
Massachusetts railways.....	1,100	6,000	7,500	994,499	132	0.66
Connecticut railways.....	450	3,550	4,764	370,791	76	0.80
General averages.....	2,495	4,020	40,614	3,912,113	96	2.60

Two remarks must be made on the above table: first, that the city populations at the extremity of the lines is included; because it is most obvious, as in the case of the lines leading out of N. York and Boston, that it is the city population which furnishes the largest part of the way passengers to the several points within fifty or sixty miles of the city. Secondly, in the case of the Massachusetts and Connecticut railways, I have included all the passengers who did not go to the extremity of the state lines, and that is four-fifths of the whole number. This is obviously just, however, as those states are so small in surface, that the length of any one is short, as compared with that between Cincinnati and St. Louis. But in a calculation of the way passengers on the Ohio and Mississippi railroad, I shall exclude those states, and assume data from those lines, which bear an obvious analogy to this. Such are the Pennsylvania Central, the Baltimore and Ohio and the Little Miami. The average elements of those three lines, as furnished in the above table, are these, viz:

1. Aggregate length of line..... (miles)	437
2. Average number of way passengers per lineal mile.....	1,209
3. Number of square miles of surface drained.....	13,110
4. Population on the surface drained.....	831,832
5. Density of population per square mile.....	63
6. Number of way passengers per square mile.....	40
7. Ratio of way passengers per square mile to density.....	0.63

Taking these elements as data, we have enough known to determine the number of way passengers, which will be furnished to the railway between Cincinnati and St. Louis.

Assuming, as before, that the surface drained by this railway, between Cincinnati and St. Louis, is, in regard to way passengers, a belt equal to the length or the whole line, and in breadth 15 miles on each side of it, then that surface will be equal in round numbers to ten thousand square miles. The present population (1852) is calculated from the census of 1850, by adding the current increment of two years. We have then the following elements.

1. Aggregate length of line..... (miles)	340
2. Square miles of surface drained.....	10,200
3. Population of surface drained, including Cincinnati and St. Louis.....	512,626
4. Density of population per square mile.....	50
5. Ratio—as ascertained above—of way passengers to density.....	0.63
6. Way passengers, deduced from that ratio.....	31
7. Aggregate way passengers thus deduced.....	316,200

This is the minimum amount produced by any mode of calculation, which experience has furnished. Thus we have above the average number of way passengers per lineal mile, in the Pennsylvania Central, the Baltimore and Ohio, and the Little Miami, which is 1,209. This multiplied by the aggregate miles of the Cincinnati and St. Louis line, gives 411,060, or a hundred thousand more than the other. So also the average ratio of way passengers to the density of population, as ascertained in the general table above, is four fold that drawn from three specific roads we have assumed as the basis of calculation. It is, therefore, quite certain that the above result is a minimum even for the existing population and business.

It should be farther observed, that the actual surface of territory from which way passengers will be drawn is much larger than a belt of fifteen miles on each side of the road above allowed for. That, however, being the average territory assumed for other roads in the preceding table, is also assumed here, in order to finish a parallel of comparison.

10. ESTIMATE OF FREIGHTS.

On pages 10, 12 (inclusive) preceding, we have tables of the surpluses furnished by the state in which the road lies, and of the shipments from St. Louis, Cincinnati and Vincennes. It is only necessary to ascertain what proportions of these fairly belong to this line, in order to estimate the receipts from freight. The surface of Indiana fairly within the control of this road, as the means of carrying off its products, is one-fourth of the state. The surface of Illinois within its control is one-sixth. These fix the proportions of surpluses in those states to be counted as tonnage. St. Louis being the main, and almost the only great emporium of the produce trade of Missouri, we have a right to count on one-tenth of the surplus of Missouri, and when we consider the tendency of all our grain products to the eastern markets, it will probably furnish more than I have allowed. Of groceries, merchandise, and manufactures, since the great mass of these distributed from Cincinnati and St. Louis goes into the interior of Indiana, Illinois and Missouri, we may assume at least one half for this road. Even this amount will, in consequence of the rapid increase of that trade, soon fall short of the actual quantity.

Of coal iron, timber and stone to be transported from the mineral depositories east and west of this line, I here say nothing; because we have at present no mode of estimating the extent of that development of mineral resources which in all countries must follow the opening of new lines of transportation. We know this element of traffic must hereafter be large; but I am contented to leave it merely to the future. The table of tonnage traffic constructed on the principles above stated, is as follows,

14. TABLE OF TONNAGE IN GRAIN, ANIMALS, GROCERIES, MERCHANDISE MANUFACTURES, AND OTHER ARTICLES, TO BE CARRIED ON THE OHIO & MISSISSIPPI RAILROAD, ESTIMATED IN TONS.

	Indiana.	Illinois.	Missouri.	
Grain.....	128,700	123,360	36,450	208,510 tons.
Cattle....	7,000	5,333	2,200	14,533 "
Hogs.....	7,500	5,833	2,000	15,333 "
Cheese....	150	66	....	216 "
Tobacco....	150	36	450	636 "
Butter....	250	166	....	416 "
Seeds.....	15	....	....	15 "
Coffee....	....	....	....	4,146 "
Sugar....	....	....	....	10,090 "
Molasses....	....	....	....	6,322 "
Merchandise....	....	....	....	22,362 "
Manufactures....	....	....	....	12,500 "
Totals.....	143,765	134,798	41,100	374,678 tons.

It will be observed that no part of the surplus of Ohio is put down in the above aggregate, partly because very little domestic produce goes directly west, and partly that whatever does go may serve to make up for errors, if there should be any in the estimate for Indiana and Illinois.

It must also be remarked, that what is estimated above as tonnage in grain is not necessarily carried from the country in the form of grain. It is consumed partly by other animals, such as horses and sheep, transported to markets or manufactured into meal, whisky, etc. In some form, however the surplus of grain is carried from the country. In the table of exports from Cincinnati and St. Louis (pages 11 and 12,) it will be seen that no less than 50,000 tons of whisky were exported! So also 180,000 tons of grain, besides thousands of tons of smaller articles. The estimated export of grain I think quite low enough.

11. FINAL ESTIMATE OF PROFITS.

In the foregoing details and tabular results, I have aimed to place the conclusions on an incontrovertible basis; the known resources, statistics, and railway experience of the country; neither of these are doubtful points. We know the resources of the Ohio Valley; we have accurate statistics; and we have a railway experience now springing from a business extending over ten thousand miles, and employing three hundred millions of capital. This is a fullness of knowledge, and an extent of experience, which the world has not heretofore had, in estimating the results and profits of railways. In estimating them now, therefore we are not depending on speculation, and cannot with impunity exaggerate. We consign these results to the most careful investigation and the most skeptical scrutiny.

In calculating the receipts from this estimate of passengers and tonnage, I count a through passage from Cincinnati to St. Louis at six dollars, which is less than two cents per mile. This is much less than the average charges of railways in the United States, but is not less than what experience teaches may be profitable to the proprietors.

Lateral passengers may be equated at two-thirds, or \$4. Way passengers cannot safely be estimated at more than one-third, or \$2, a large portion of these going but short distances.

Freight charges may be assumed at the rate of charges on the Western Massachusetts railway, which is about \$5 per ton, between Cincinnati and St. Louis. Tonnage, however, which consists chiefly of the produce of the country, and the distribution of merchandise, can only be equated at half distance, or \$2.50 per ton.

15. THE FOLLOWING TABLE GIVES THE COMPLETE RESULT OF THE ABOVE ESTIMATES, AND THE NET PROFITS OF THE OHIO & MISS. RAILWAY TO ITS PROPRIETORS.

Through passengers.....	153,449	No.	\$6 00 each	\$920,694
Lateral passengers....	96,875	"	4 00 "	387,500
Way passengers.....	816,220	"	2 00 "	682,440

Domestic produce.....	319,649 tons	2 50 p. ton	799,124
Groceries.....	20,568 "	" "	51,395
Merchandise.....	22,362 "	" "	55,909
Manufactures.....	12,500 "	" "	31,250

Total..... 2,873,312

The average proportion of expenses in American railways is 45 per ct. of the gross receipts. The contract to finish this road is for nine millions, and it is supposed the incidental expenses will exceed another million, making the gross cost ten million dollars. We have then the ultimate result:

Gross receipts.....\$2,873,312
Expenses 45 per cent..... 1,294,699

Net proceeds.....\$1,583,613
Cost of construction.....\$10,000,000
Net profits per annum.....\$15,83 p. cent.

This will admit of a steady dividend of twelve per cent., and the annual appropriation of \$383,613 to a surplus fund. Should the road, by excess of business, require an additional amount of capital for stock, tracks, stations, etc., this would not impair the power of annually making a net profit equal to the above amount; for the additional business will undoubtedly produce enlarged receipts fully equal to the interest on the capital required.

That the above is really a minimum I am convinced from a test derived from railway experience, and may be applied by any one. It is this: How does the gross receipts in this estimate compare per mile with the gross receipts of other long railways in actual operation? The three great lines from Boston to Troy, from Albany to Buffalo, and from New York to Erie, in all about 980 miles, receive in round numbers eight thousand dollars per mile. The above table gives to the Ohio and Mississippi railroad \$8,700 per mile, but a slight difference, and which bears no proportion to the far greater natural resources of the country in which this road lies, and the far greater advantages of its position, in reference to the great cities and the great valleys of the continent.

It must be further remarked in considering the above results, that they have been brought out by calculating the local, direct and positive trade of this road, and not by including extraneous influences, or even the rapid increase of commerce. The aid of lateral railways, in furnishing passengers, has indeed been estimated: but no calculation has been made of that immense business which must be brought on the line between Cincinnati and St. Louis, from the centralization of railways in those cities; nor from that flowing stream of commerce vast in magnitude and results, arising necessarily out of the great center of commerce and population, thus connected from the Hudson and the Delaware to the Missouri and the Platte. In fine, there is more danger that the axial line will not be able to transact business upon it, than that it will fall short of what its most sanguine projectors have anticipated.

What then will be the value of its stock? Experience has proved that *permanent six per cent. stock* maintains about a *par value*. If, as I have demonstrated, the Ohio and Mississippi railroad can make uniform dividends of 12 per cent annually, reserving a surplus fund sufficient for all contingencies, then the *ultimate* value of the stock will be 200, or double the original subscription. I am aware that the highest mark reached by American railway stock is 135; but the railways where stock have obtained that, cost double what this will. Western railways have, in some instances, reached 120 before they were finished, and that given by the most intelligent capitalists, who have not failed to look into the most important facts which characterize the growth, commerce, population, and resources of the central west. I, therefore, conclude that this enterprise, so difficult to commence, so filled with arduous labors in its accomplishment, and so important in its influences on the internal commerce of the country, will amply repay its proprietors; in remunerative profits on their stock, and in the reputation of a great and noble work.

Accidents on Railroads and their causes.

We give below an article copied from the London Times in reference to the causes of accidents on railroads, which is pregnant with instructions for companies in this country, as well as in England. There can be no doubt that by far the greater number of accidents that occur on railroads, are directly attributable to, and might be prevented by, an observance of proper precautions on the part of those having them in charge. An *unavoidable* accident may be placed almost beyond the bounds of possibility, although we admit that the entire safety will cost something to a company. In the end, however, there can be no doubt that vigilance and care will be found to be the true economy:

"Our recent surmises respecting a possible source of railway accidents have received a substantial confirmation from the evidence given by distinguished engineers at the Clifton inquest. In reference to the catastrophes reported as 'unaccountable,' we expressed a suspicion that these results might be traceable to the general state of the line or the condition of the working gear, which without being conspicuously bad, might be so far impaired or deteriorated by use as to be unfit for extraordinary service. On Friday last Mr. James Nasmyth was examined upon the condition of the engine attached to the train at the time of the Manchester accident, and, in reply to the questions of the Court, he stated that the engine was 'not so tidy as he could have wished.' Being further interrogated, he said that 'considering its age, it was not open to any very serious objection;' but, when asked explicitly if it was 'fit to run an express train at 30 miles an hour,' he replied that it was *not*, that it would be dangerous, and that upon this point he 'had no doubt.' Here, then, is an engine apparently in decent repair, and not absolutely condemned even upon the rigorous scrutiny of a professed inspector, which is nevertheless dangerous when attached to a quick train.

"Mr. Nasmyth was followed by Mr. Fairbank, who, with some difference of view, admitted the same principle. He thought the axle of the locomotive must have broken before it got off the rails. This axle, he said, was properly enough constructed, of good average material, and well proportioned to the power of the engine; and yet he unhesitatingly put a limit to the rate at which it might be driven with safety. 'I think,' he said, 'it was a safe engine to run at 30 miles an hour, but not at 45 or 50. I should think it safe up to 40.' Subsequently he applied the same principle to the capacity of the rails themselves, and expressed himself still more unreservedly. 'It is entirely he observed, a question of time,' (i. e., of speed). 'I should say the rails would be safe for 50 miles an hour. I think I could venture to run over, with the rails as they now exist, at that pace.' So that a rate of velocity certainly not above that attained twice or three times a day on most trunk lines is sufficient, not only to make a tolerable good engine dangerous, but to render the very rails unsafe.

"After Mr. Fairbank's testimony came that of Capt. Wynn, the Government Inspector of Railways, which we reported in our impression of yesterday. Captain Wynn did not concur exactly with either Mr. Fairbank or Mr. Nasmyth in their respective views; but he, too, attributed positive danger to certain rates of speed, combined with certain conditions of the line. 'I think,' said he, 'the line is dangerous for trains at high speed. I don't think trains should pass over it at 30 miles an hour.' * * *

* * * I think the part of the line I was describing unfit for 25 miles an hour. I think 20 miles an hour might be safe.' The full importance of this discrimination will be best appreciated from what presently followed. 'I wish,' said Captain Wynn 'to make one observation. I do not think this is an extremely bad line, as an exceptional case. I regret to say that there are a great many lines in the kingdom, where very high speeds are maintained, of which this line is only a type.'—

According, therefore, to this evidence, the evidence of a competent and impartial witness, a great number of railways must be every day running trains under conditions utterly incompatible with the probable safety of the passengers. No wonder accidents are on the increase.

"The fact is that the capacity of all railway gear are estimated positively, when they ought to be calculated relatively. A good engine on a good line will travel 60, or even seventy miles an hour, and therefore 60 or 70 miles an hour is set down as a rate of velocity safely attainable in railway travelling, whereas not one line out of ten, perhaps, or one engine out of twenty, is fit for such service. All great velocities are of course attended with their own peculiar risks, for an accident means a sudden stoppage, and the shock of a sudden stoppage is proportioned to the velocity of a train. But velocity with incompetent engines and on unfit lines brings a danger not its own, that is to say, it makes those instruments of locomotion unsafe, which were safe enough at low rates of speed. What increases this difficulty, too, is that the distinction between safe and unsafe engines may be difficult to draw, and even a periodical classification of them according to their capacities might not always be accurate. Still more embarrassing is the condition of the line; for, whereas engines may be selected and adapted to the velocities of particular trains, the line must remain the same for all trains, and the conclusion will be that no express trains can be safely run upon any line unless the rails are always in the best possible condition throughout.

The verdict of the jury sufficiently indicates the impression left by the evidence in this particular case. They found that the driver (who lost his own life) was guilty of manslaughter in driving at excessive speed; that the engine was not a proper one; and that the permanent way was defective and unsafe. Now, these are all conclusions bearing strongly upon the management of the railway, and yet in many instances they would have been slurred over or denied by managers, and the accident would be set down as one for which 'it was impossible to account.' Railway authorities have been accustomed to think nothing proved against themselves unless some gross and palpable misdeed has been established as the cause of accident. Yet a train may start at the right time, be driven by steady and sober servants, and keep within the allowable rate of velocity, while the journey, nevertheless, may be rendered entirely unsafe by a badly-constructed or ill-repaired line, and an engine past its work.

"We can discern no suggestion for the removal of these liabilities in the reports hitherto made by the 'sitting committee,' whose attention, indeed, appears to have been exclusively turned to the constitutional question of railway amalgamation. It is obvious that the companies have a direct interest in maintaining their lines at as small an expense as possible, in running an engine as long as it will hang together, and staving off the costly job of repairing their permanent way. The interest of the public, on the other hand, is directly opposite, for it is now clear that a certain condition of either rails or engine, or of both in conjunction, may, although short of visible imperfection, lead as immediately to disaster as a drunken stoker or a code of vicious regulations. A correspondent remarked the other day with much reason, that the visits of Government inspectors are usually paid at those very periods when, in some respects, they were least needed; that is to say, when the line was quiet new and every thing made neat and trim for the occasion; whereas an inspection two or three years afterwards, combined with a searching inquiry into the magnitude and velocity of the trains, might be instituted with greater prospect of utility. From what transpired at the Clifton inquest, it seems that the condition of the line was so manifestly faulty as to be open to instant detection, and yet, for want of some safeguard, the traffic was taken over it, as usual, without the least scruple, until the catastrophe actually occurred.—We now ask what is to prevent similar catastrophes

on those numerous other lines which are working, as the Government Inspector declares, under precisely similar conditions, and may therefore be daily expected to furnish the same results?"

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DAMAGE FROM LOCOMOTIVES.

It seems from the late English case of *Higham, vs. the East Lancashire railway company*, that the art of preventing mischief from the sparks of locomotives has not there been fully attained. The plaintiff was in possession of a tract of moss-land adjacent to the said railway. The moss having become exceedingly dry at one period during the last Autumn, it was several times in one day ignited from the sparks of defendants' locomotive, and the fire so occasioned was only extinguished with much difficulty. It was urged in defence, at the trial in this case, that the sparks could not have issued from the locomotives, as the blast pipe was pushed so far into the funnel as to prevent such an accident. It was also urged that the fire had probably been caused from sparks blown from other moss-land near that in question, as the practice prevails of burning the moss for manure. The defence however, proved unavailing, and the jury awarded to the plaintiff the amount of damage sustained, viz: £37.

DISREGARD OF TIME TABLE.

In *Barlow vs. the Yorkshire and Lancashire railway company*, the plaintiff was a young lady who had obtained a situation as Governess at £40 a year. She had purchased a ticket for the first class cars, for the purpose of proceeding to her place of destination beyond Liverpool. The trains proved to be exceedingly crowded, and she could only obtain entrance into a 2nd class car. The train in which she went was also three quarters of an hour behind time, in consequence of which a collision occurred. The plaintiff was badly bruised and severely, if not permanently lamed. She, with difficulty, after the accident, found her way to the house of a relative, a surgeon, but was compelled to abandon all thoughts of fulfilling her engagement as Governess, which she accordingly lost.

The Jury awarded to her £375 as damages.

Another late English case, however, tends to show that courts are not disposed to be oppressive in respect to contracts with railroad companies. In the case last referred to, the plaintiff was subjected to delay in consequence of a train being behind time several hours; but the railway company proved that their default had been occasioned by a very extraordinary pressure of travel, and that they had as soon as practicable prepared a special train for the purpose of expediting the progress of the plaintiff, and consequently the Judge discharged the company from liability.

LIABILITY OF RAILWAY DIRECTORS.

On the 8th of October last, occurred a disastrous collision upon the North British railway line in Scotland. The parties immediately concerned in occasioning the accident were prosecuted, but a distinct assurance was given by the court that upon the taking place of a similar accident the utmost rigor of the penal law of Scotland will be executed to punish those who will be deemed principally responsible in the case. The purport of the language used by the Lord Chief Justice Clerk, is as follows:

"After what has been disclosed by the evidence

in this case, it would be idle to think of preventing the occurrence of such disasters without holding the directors and managers of roads to the strictest responsibility. It seems that the same state of things in respect to the road has been suffered to exist since as existed before the accident. This is of course permitted at the peril of the directors, and if another collision occurs, the directors will probably be involved in a criminal prosecution."

THE VALIDITY OF A RAILWAY CONTRACT QUESTIONED.

In the case of *Johnson and others, vs. the Shrewsbury and Birmingham railway company*, which has lately been discussed, upon a motion for an injunction, in the English court of Chancery, the complainants had contracted with defendants to take charge of and manage their rolling stock, engines, carriages, and way for seven years; but the defendants reserved the right, under certain circumstances, to terminate their contract, and to resume possession and control of their property.

It seems that at the time of the application for an injunction, the company had taken the initiatory steps necessary for terminating the contract, and the complainant prayed the court to enjoin them against proceeding further.

This however, the Chancellor refused to do, and in giving his opinion upon the application in question, he commented with force upon the following singular clause contrived in the contract under examination, in every line of which a lawyers hand is visible.

"Provided, also; that the contractors shall not be liable for any loss, damage, or compensation or other payment recovered, or recoverable, from the railway company in respect of, or any damage or injury to, any passenger or live stock or goods conveyed in such trains as are hereinafter mentioned, except when caused by the neglect of the contractors or their servants; but in such case the liability of the contractors shall not in any one case exceed £200, for all the deaths, damages and losses resulting from such accidents."

The Chancellor suggested that such a stipulation might be considered as contrary to public policy. It was in fact a license to kill as many people as they chose on paying £200 in each case. The stipulation virtually deprived the public of the guaranty which their safety required.

This point however, will be more fully examined hereafter, upon the final argument of the case.

THE LIABILITY OF A RAILWAY COMPANY TO A SERVANT.

The Court of Appeals, last week, decided the appealed case of *Keegan, vs. the Western railroad company*.

This was a case in which the plaintiff, a fireman, engaged by defendants, was injured by a defective boiler, whose bad condition had been reported to the company by their engineer, as was shown by their books.

The court held the company to be liable, and distinguished the case in question from that class of cases in which an agent or servant complains of an injury occasioned by the negligence of another servant or agent engaged in the same general business. In the class of cases last mentioned, the New York courts have held that the party injured by the act of a fellow servant or fellow agent may claim damages of such fellow servant or fellow agent, but not of their employers. But in the case above mentioned the railway company were deemed liable as actual wrong doers, both in respect to

the public and their employees, for continuing to use a boiler which they knew to be defective.

But in this connexion it may be observed that the Supreme court of Ohio holds that a principal is liable for an injury sustained by an employee through the carelessness of another employee to whom the injured party is subordinate.

Peru and Indianapolis Railroad.

The president of this company has effected an arrangement with Messrs. A. DeGraff & Co., their contractors, which secures the completion of the road to Kokomo by the first day of August next, and to Peru by the first day of September. At Kokomo it will connect with a line to Logansport, which is also expected to be completed by that period.

A new route will thus be opened for northern trade and travel, and the present business of the road warrants the belief that a very large amount of business will be done over the road as soon as it is completed. It must be, beyond all question the cheapest route for the heavy produce going north from Central Indiana, and for all heavy goods imported from New York; a change in the present course of trade is inevitable. Within the past year goods have been transported down the Wabash and Erie canal 150 miles below Peru, to Terre Haute, and thence by railroad to this city, (Indianapolis,) at a lower rate than by any other route.

The passenger cars made the trip to Cicero on Monday, a point six miles above Noblesville, and will continue regularly hereafter. It is in contemplation to reach Tipton by the 1st of May.—*Ind. State Journal*.

Ohio and Pennsylvania Railroad.

It is with feelings of unalloyed gratification that we are permitted to announce the cheering fact, that the Ohio and Pennsylvania railroad is completed from its eastern terminus at Pittsburg to its western terminus at Crestline. To-day the trains will commence their regular trips between the two points.

The consummation of a work so important to this place, is an event of no small moment to us, and will be hailed with joy by all our citizens.—Some six years ago, we commenced, in the *Gazette*, an earnest and persevering advocacy of a western railroad, and although we were met at first with but little encouragement and sympathy, our faith in its final success was too strong to permit our exertions to flag, and the result has proved the correctness of our positions, and verified every assertion we made. We mention these things not in a spirit of boasting, but to show the ground of the gratification we feel at an event so interesting to every friend of this great enterprise.

To the president, directors and officers of the company, too much praise cannot be given. Never has a company been better managed. Its president and chief engineer, especially, have devoted to it ripe experience and unflagging energies from the first commencement to the present moment; and to them are the people of Pittsburg in a great measure indebted for the gratifying consummation of their hopes.

This city now has one railroad, peculiarly its own, nearly two hundred miles long, connecting us with the great net of railroads ramifying thro' every part of the states of Ohio, Indiana and Illinois—a railroad which will, through all time, pour the riches of the west into our lap, and promote the prosperity of this city—and a railroad, too, which will richly reward its stockholders, paying handsome dividends, and proving itself to be among the very safest securities in the land.

But this enterprise has not been barren of other fruits. It has already given birth to several important railroad projects, all of which will prove of immense value to this city. The Bellefontaine and Indiana railroad, the Ohio and Indiana railroad, the Fort Wayne and Chicago railroad, and the Springfield and Mount Vernon railroad, and some two or three others, are all the legitimate results

of the Ohio and Pennsylvania railroad. They were all undertaken to connect with our road, and as a part of its great system of connections.—They will be all feeders to it, and help to swell its golden profits. Truly its conception was a happy thought for Pittsburg, and its completion is a bright era in her history.—*Correspondence of the Pittsburg Gazette.*

American Railroad Journal.

Saturday, April 23, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

Louisville and Nashville Railroad under Contract.

We learn from the Louisville Journal that the entire line of this road has been placed under contract to Messrs. Seymour & Co. We also understand that the mission to London, of the Chief Engineer of the company, L. L. Robinson, Esq., for the purpose of disposing of the securities of the company, was entirely successful. The work of construction will be commenced at once, and the company will be in possession of ample means for its vigorous prosecution.

The early completion of this road is a matter of the utmost importance, not only to the parties immediately upon its line, but more so, if possible, to the connecting roads, to the travelling public, and to the interest of commerce throughout the country. The cities of Nashville and Louisville are the focal points of extensive systems of railroads: the latter being the point of convergence of roads in progress for the cities of Charleston and Savannah on the Atlantic coast, Mobile and New Orleans on the Gulf, and Vicksburg and Memphis on the Mississippi river. From Louisville, numerous railroads are in progress, radiating in northwesterly, northerly, and northeasterly directions. The importance of connecting these two systems of railroads, as well as the above cities, which are now the seats of an extensive commerce, will be at once appreciated. Before the completion of this road, the Lake and Gulf States will be brought within easy distance of each other, and an appropriate channel opened for the interchange of their widely different products. In this country the natural routes of commerce are at right angles to the parallels of latitude. The line of the above road corresponds to the natural direction of trade, and it must derive a very large income as one of the great carriers between the north and the south. It would be difficult to point out a route, where a road is more needed, or one that promises a better return. It traverses an exceedingly fertile and well settled country, for which it opens outlets to markets, in convenient directions.

The contractors are well known as able and efficient men, who thoroughly understand their business, and we can assure the public, that the road will be completed at the earliest period possible, taking into consideration the magnitude of the undertaking.

The project has the entire confidence, and the warm support of those most interested in its construction. The city of Louisville has subscribed \$1,000,000 to its stock, in addition to individual subscriptions. The city of Nashville has just subscribed \$500,000. The counties upon its line have been equally liberal. The company commence operations with an amount of stock upon their books, which will enable them to obtain money, either in this, or a foreign market, upon the most liberal terms.

Philadelphia, Wilmington and Baltimore Railroad.

It will be cause for rejoicing to those who are frequent travellers over this road to know that the bill authorising the construction of a bridge across the Susquehanna, at Havre de Grace, by the above company, has become a law. It is to be hoped the erection of the bridge will be pushed forward with all possible despatch. The completion of this structure will shorten the time from Philadelphia to Baltimore about half an hour. So far, so good. Now, if the legislatures of New Jersey and Maryland would just continue "their labors for the encouragement of travel" through those states, by abrogating the Washington line of roads from *per capita* taxes, so that rates of fare could be made comparatively reasonable, they would have performed an office entitling them to the gratitude of the people of several states. And why should they not? If trade and commerce shall pass free and unrestricted from state to state in this confederacy, why should not people have the same constitutional privileges? And if a state desires that her people should become commercial as well as agricultural, in their character, and great, and powerful, and wealthy on sea and on land, is it good policy for such state to impose taxes which tend to keep traders and capitalists from coming into, or passing through her territory? If they may not come, nor pass through, how can they buy or sell, or barter, or trade, or get rich by traffic? Perhaps there is no other one thing; setting aside natural situation, which tends so greatly to retard the commercial growth of Baltimore and Philadelphia as those odious railway restrictions and taxes, by which companies are hampered in the first instance, and which they afterwards use to prevent the chartering of new and competing lines. The fact is, people will not travel over poor roads at a slow rate and expensive fares, when they can go quicker and cheaper by a route which in actual measurement is longer. But distance is no longer measured by miles, but by hours. Time is now money with the business man, most emphatically, and in point of time New York is nearer the great west than either of her southern sister cities; so also in point of cost. How then can those cities expect to thrive in commerce, while they encourage systems of railways, which tax every man who comes to trade with them? Such treatment says virtually to the customer, "you are a nuisance, a bore, and you shall not trade with us or pass our borders on railways, without paying us for the privilege. We do not want your trade and will not

have it, unless you will pay us a bonus for the permission to buy our goods and sell us your produce."

The passage of the above bill however, gives room for a little hope, and who knows what might be accomplished another session, by the united influence and exertions of the three great cities of New York, Philadelphia, and Baltimore.

Brightening prospects of the Hudson River Railroad.

We had supposed that the through business was the chief dependence of this road, and, as no passenger trade at one cent a mile can be fairly remunerating, we had concluded against this road ever being profitable to its owners; but, we are happy to learn, from a reliable source, that five-sevenths of the income from fares during the past year were received from way passengers; and that there was a twenty-five per cent increase of the way business during the year.

The way fares, taking the average of winter and summer, are about one and two-thirds of one cent per mile. This is a remunerating rate, if the business shall become as large as the capacity of the road; and an increase of twenty-five per cent, in one year, is a strong encouragement. The population along the river cannot have increased at so high a rate, and this proves that the people are giving the preference to the road at the present fare.

The experiment of making this road in competition with the river, was dangerously bold; but it certainly gives present indication of creating for itself a successful result. And we are the more disposed to cherish this hope from the fact that its daily number of passengers has been steadily increasing since the opening of river navigation.

The intimation of a third track along the whole length of the Island of New York, especially for city trains, is of great interest to the people of the city, and is likely to incline the Common Council and the citizens at large to give the company every advantage for delivering its passengers and freight, in the easiest way, at the heart of the city. Horses, as well as men, grow familiar with the locomotive, and welcome the nearer approach of the power which gathers the wealth of the world at the great seats of commerce.

The facts, that this road has never cost the life of a passenger, that it is the only road in America which maintains a signal guard, and that it works at lower rates and higher speed than any other road, entitles it to every possible facility for working out the problem of ultimate success. *

Peoria and Oquawka Railroad.

The Burlington (Iowa) *Telegraph*, of the 22nd., notes the return of Judge Mason and Mr. GRIMES, Burlington Directors in the above road, from a regular meeting of the Directors at Knoxville.—Their report is favorable to the early completion of the road, not only to Peoria, but of its extension to Logansport, Ind., from which connections are soon to be formed with the eastern cities, and with Cincinnati &c. The work is rapidly progressing between this point and Peoria, and the only drawback is the difficulty in procuring an adequate number of laborers—a difficulty which will doubtless soon be remedied. About three-fourths of the grading between this place and Monmouth is already completed, and the whole of it will be ready for the rails about the 1st. of July next.

Penn. Gauge Law.

The recent gauge law of this state, requiring all roads to adopt the five feet eight and a half inch gauge has been unconditionally repealed. If the state will take one step in the right direction, and adopt the general railroad gauge of New York, she will do more for the development of her resources, and the promotion of her real prosperity, than all she has done for twenty years past. As it is, she is now cursed with a monopoly which, like the dog in the manger, will neither accommodate a trade pressing toward Philadelphia, nor allow others to do so. The Philadelphians contend, that that city should, by virtue of her inherent strength, become the commercial centre of the country. If this be the fact, they ought to encourage the construction of roads in every direction, instead of endeavoring to check their progress, as they now do. The true policy, as far as their own state is concerned, is to make the privilege of building railroads a right common to citizenship, instead of conferring it upon a few, who use their privileges more with an eye to their own advantage, than to the public good.

St. Louis and Iron Mountain Railroad.

We learn from St. Louis papers that the engineer, Mr. MORLEY, having charge of the surveys for this road, has just reported the result of his operations to the board of directors, who will take action upon it in a few days.

The estimates of cost and distances form three or four different combinations all entirely practicable, with maximum grades of forty-five feet. More than half the road is less than 25 feet to the mile.

The distance from the foot of Hazel street, in St. Louis, and then within three miles of Potosi to Iron Mountain, is 82 8-100 miles.

Estimated cost of construction p. mile. \$29,337 23
Total cost of construction..... 1,408,000 00

From the foot of Hazel street and seven miles east of Potosi to Iron Mountain, 79 11-100 miles.
Cost per mile..... \$30,689 49
Total cost of construction..... 2,428,000 00

From the junction with the Pacific road near Rock Spring, through Carondelet to Iron Mountain 79 05-100 miles.

Cost per mile..... \$28,319 73
Total cost of construction..... 2,278,200 00

The cost per mile is about the same as the branch road. The distance between St. Louis and Iron Mountain is about twenty miles. It is understood that further surveys will be made.

Hannibal and St. Joseph Railroad.

This road is advertised for contract, and ample means are provided for the construction of the whole line. It will connect the Mississippi and Missouri by a route through northern Missouri, and as it can be built with great expedition, it will be the first railroad that will reach the Missouri river. In this manner is our whole railroad system moving with a giant's pace, under the impulse of private enterprise, to the shores of the Pacific.

New York and St. Louis within 75 hours of each other.

The Chicago and Rock Island Railroad Co. are now advertising trains to leave Chicago on the arrival of the express train of the Northern Indiana, Michigan Southern and Michigan Central Railroads.—This road is open to La Salle and Peru—100 miles. By this route the time from St. Louis to New York is 75 hours.

Louisville and Covington Railroad.

The locating engineers having completed the survey, are engaged in making maps and profiles. These will be laid before the Directory at an early day, when the route will be adopted, and proposals invited for the work.

We are assured the route is more favorable than was anticipated. Sixty-five miles, or more than two-thirds of the entire distance, is over bottom land.

The location determined, no difficulty is apprehended in the way of an early commencement and vigorous prosecution of the work.

From New York in two Hours and Fifty Minutes.

The Albany Journal of Monday says that the express train which left New York at 6 o'clock this morning, came through in 171 minutes of running time. If the stops had not been made Albany would have been reached before 9 o'clock. The following is the time between them:—From 31st street to Peekskill, 44 minutes; from Peekskill to Poughkeepsie, 40 do.; from Poughkeepsie to Hudson, 52 do.; from Hudson to Albany, 35 do. Total, 171.

Norfolk and Petersburg Railroad.

Dr. Francis, was on the 6th inst., elected president of the Norfolk and Petersburg railroad company.

At another meeting on the 11th, the company adopted by-laws and regulations for their government. They fixed the salary of the president at \$1,500.

Stock and Money Market.

Money continues in about the same demand as when last noticed, with a fair supply for all legitimate purposes. The state loan of \$467,000, in 5 per cent bonds, has been awarded at an average premium of about 8 per cent. The demand for good railway bonds is unabated, both in this country and in Europe. The accounts by the Arabia, confirm the negotiation of the loan for the Cincinnati and St. Louis railroad, by Prof. Mitchell, to the amount of \$2,050,000. The takers were Messrs. Geo. Peabody & Co., at 92½ for seven per cent first mortgage bonds, who disposed of the whole amount in two days.

By glancing at the annexed returns, it will be seen that all the prominent enterprises are doing a good business, and very generally show a flattering increase upon the earnings of corresponding periods in 1852. The fancy stock market has maintained a good degree of steadiness during the week, and fluctuated but little. There has, however, been an active business transacted, without much change in prices.

The York and Cumberland Railroad makes the following exhibit of its business in March last as compared with March, 1852:

	Passengers.	Freight.	Mails.	Total.
1853, March, 3,018 14	3,746 31	433 34	7,197 79	
1852, March, 2,031 84	2,278 74	216 66	4,527 24	

Increase, \$986 30 \$1,467 57 \$216 68 \$2,870 55

The receipts of the Norwich and Worcester road for March, shows a larger advance than we stated a few days since. The figures are:

March, 1853.....	\$25,436 12
March, 1852.....	22,829 72

Increase 11 per cent.,..... \$2,606 40

The Hudson River Railroad for the first fifteen days in April, 1853, and the corresponding period in 1852, shows the following flattering statement:

First 15 days in April	1852.	1853.	Increase.
Number of passengers carried.....	36,489	54,866	17,817
Earnings from passengers.....	\$21,756	35,124	13,868
Earnings from freight....	3,394	7,993	4,599
Total Earnings....	\$25,150	43,117	17,907
Through passengers.....	2,981	7,963	4,982
Way passengers.....	31,011	41,965	10,954

The Charlotte and South Carolina Railroad Co. make the following returns of their earnings in the month of February:

Freights.....	\$13,977 03
Passengers.....	4,182 84
Mails.....	418 00

\$18,577 87

There have been conveyed on this road since November, 38,645 bales of cotton. A portion of each train is loaded with Flour, Corn, Oats and other agricultural products.

The receipts of the Southern Michigan and N. Indiana railroad for March, have been received, and show an excess of about \$12,000 on the estimate. The figures are—

Passengers and mails.....	\$66,697 50
Freight.....	20,169 00

Total.....\$86,866 50

The receipts for March 1852, when the road was not open to Chicago, were \$27,516. The aggregate receipts for January, February and March have been—

Passengers and mails.....	\$142,934 50
Freight.....	52,566 00

Total.....\$195,500 00

against about \$71,000 in the same months of 1852.

The Little Miami railroad company receipts for week ending April 3, 1853.....\$11,311 30
Receipts for week ending April 3, 52.. 9,183 07

Increase 23 per ct., or..... \$2,128 23

The following statement gives the earnings of the Erie and North East railroad company.

In Jan. 1853,—passengers..	\$6,462 46
Freight.....	9,144 33
Express, mail etc.....	745 89—16,352 65
In Feb. 1853,—Passengers..	\$7,398 82
Freight.....	10,156 54
Express, mail, etc.....	807 56—18,357 92

Increase over January.....\$2,005 27

March, for passengers.....\$12,274 97

Increase over February.....\$4,881 15 on passengers.

Freight, etc., probably about the same as Feb., exact amount not yet ascertained.

The earnings of the Michigan Central railroad for March were:

	Passengers.	Freight.	Mis's.	Total.
1853.....	26,332 78	22,012 77	11,123 50	59,469 05
1852.....	53,311 29	14,133 89	....	28,395 26

Increase 12,071 41 7,878 88 11,123 50 31,073 79

The earnings of the first four months of the fiscal year of the company were:

1853...86,186 25	100,117 14	15,148 50	201,433 29
1852...53,311 29	49,667 21	296 25	113,274 75

Inc'se. 32,856 96 40,449 93 14,342 25 88,159 14
Showing a gain in earnings over last year of 78 per cent.

Consolidation of the Albany and Buffalo Lines of Railroads.

Below we give the Act of the Legislature, authorizing the consolidation of the above roads:

AN ACT TO AUTHORIZE THE CONSOLIDATION OF CERTAIN RAILROAD COMPANIES.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. The Albany and Schenectady, Schenectady and Troy, Utica and Schenectady, Syracuse and Utica, Rochester and Syracuse, the Buffalo and Lockport, the Mohawk Valley and the Syracuse and Utica direct, Buffalo and Rochester, Lockport and Niagara Falls Railroad Companies, or any two or more of them are hereby authorized at any time to consolidate such companies into a single corporation in the manner following:

§ 2. The Directors of any two or more of such corporations may enter into an agreement under their respective corporate seals, for the consolidation of the said corporations, prescribing the terms and conditions thereof; the mode of carrying the same into effect; the name of the corporation; the number of Directors thereof, which shall not be less than thirteen nor more than twenty-three; the time and place of holding the first election of Directors; the day for the annual election of Directors; the amount of capital and number of shares of the stock of the new corporation, which shall not be larger in amount than the aggregate amount of capital of the several companies thus consolidated, and shall not be increased except in accordance with the provisions of the act passed April 2, 1850; the manner as to converting the shares of capital stock in each of said corporation into the shares in such new corporations; the manner of paying any shareholder that may decline taking shares in the new corporation, with such other details as they may deem necessary to embrace in such agreement, not inconsistent with the provisions of the Act entitled, "An act to authorize the formation of Railroad Corporations and to regulate the same, passed April 2d, 1850."

§ 3. Such agreement of the Directors shall not be deemed to be the full agreement of the said corporations so proposing to consolidate, until after it has been submitted to the stockholders of each of the said corporations respectively, separately at a meeting thereof, to be called upon a notice of at least thirty days, specifying the time and place of such meeting and the object thereof, to be addressed to each of said stockholders when their place of residence is known to the Secretary, and deposited in the Post Office, and published at least for three successive weeks in the State Paper, and in one of the newspapers in each of the counties through, or into, which the railroad of said corporation shall extend, and has been sanctioned and approved by such stockholders by the vote of, at least two-thirds in amount of the stockholders present at such meetings, respectively voting by ballot in regard to such agreement, either in person or by proxy—each share of such capital stock being entitled to one vote, and when such agreement of the Directors shall have been sanctioned and approved by each of the meetings of the respective stockholders separately, after being submitted to such meetings in the manner above mentioned, then such agreement of the Directors shall be deemed to be the agreement of the said several companies, and a sworn copy of the proceedings of such meetings made by the Secretaries thereof respectively, and attached to the said agreement, shall be evidence of the holding and of the action of such meeting in the premises.

§ 4. Upon the making of said agreement mentioned in the preceding section in the manner required therein, and filing a duplicate or counterpart thereof, in the office of the Secretary of State, and immediately upon, and after the first election of Directors of said corporations, shall be merged into the new corporation provided for in the said agreement, to be known by the corporate name therein mentioned, and the details of such agreement shall be carried into effect as provided therein, only such new corporation shall not have any larger powers than are granted by the Act entitled,

"An Act to authorize the formation of Railroad Companies, and to regulate the same," passed April 2d, 1850, or be exempt from the performance of any duty which the said several corporations may be liable to perform, except as herein provided.

§ 5. Such new corporation shall possess the general powers, and be subject to the general liabilities and restrictions, expressed in the third title of the thirteenth chapter of the Revised Statutes. It shall also have the general powers and privileges, and be subject to the general liabilities, restrictions, duties and provisions expressed and contained in the said Act, entitled, "An Act to authorize the formation of Railroad Corporations, and to regulate the same," passed April 2d, 1850, and the Acts amending the same, so far as the same are applicable to a Railroad Corporation—where a Railroad is constructed and put in operation.

§ 6. Upon the election of the first board of Directors of the said new corporation, created by the agreement of the several companies all and singular, the rights franchises and interests of the said several corporations so consolidated, in and to every species of property, real, personal and mixed, and things in action thereunto belonging, shall be deemed to be transferred to, and vested in such new corporation, without any other deed or transfer, and such new corporation shall hold and enjoy the same together with the rights of every and all other rights of property, franchises and interest in the same manner, and to the same extent as if the said several corporations so consolidated should have continued to retain the title, and transact the business of such corporations, and the title and real estate required by either of the said corporations, shall not be deemed to revert or be impaired by means of such act of consolidation, or any thing relating thereto.

§ 7. The right of creditors of any corporation that shall be consolidated, shall not in any manner be impaired by an act of consolidation, nor shall any liability or obligation for the payment of any money now due, or hereafter to become due to this State or any individual, or any claim or demand for damages for any act done, or neglect suffered by any such corporation, be in any manner released or impaired, but such new corporation is declared to succeed to such obligations and liabilities, and to be held liable to pay and discharge all the debts and liabilities of each of the corporations that shall be consolidated, whether on contract or for misconduct or neglect, either to this state or to individuals; and it shall be liable to have an action brought against it to enforce the payment of any money or damages, or the performance of any duty which any corporation consolidated into such new corporation was liable to pay or perform in the same manner as if such corporation had itself incurred the obligation or liability to pay such money or damages, or perform such duty. And no suit, action, or other proceeding now pending before any Court or tribunal in which any railroad company that may be consolidated, is a party, shall be deemed to have abated or discontinued by reason of any such agreement or consolidation, but the same may be prosecuted to final judgment in the same manner as if the said corporation had not entered into such agreement or consolidation, or the said new corporation may be substituted as a party in the place of any corporation of which it shall be composed by order of the Court in which such action, suit or proceeding may be pending.

§ 8. If any stockholder shall, at said meeting of stockholders, or within twenty days thereafter, object to any such consolidation, and demand payment for his stock, such stockholder or said new company, may, if said consolidation take effect, at any time thereafter apply to the Supreme Court, at any special term thereof, held in any county through which part of the said railroad may pass, for the appointment of three persons to appraise the value of such stock. If the Court shall be satisfied that reasonable notice has been given of such application, it shall thereupon appoint three persons to appraise the value of such stock, and shall

designate the time and meeting of said appraisers, and give such directions in regard to the proceedings in said appraisement as shall be deemed proper, and shall also direct the manner in which payment for such stock shall be made to the stockholder. The Court may fill any vacancy in the board of Appraisers, occurring by refusal or neglect to serve, or otherwise. The appraisers shall meet at the time and place designated, and they, or any two of them, after being duly sworn honestly and faithfully to discharge their duties, shall estimate and certify the value of such stock, at the time of such dissent as aforesaid, and deliver one copy of their appraisal to said company, and another to the said stockholder. If demanded, the charges and expenses of said appraisers shall be paid by the company. When the corporation shall have paid the amount of the appraisal, as directed by the Court, such stockholder shall cease to have any interest in the said stock, and in the corporate property of said stock, and in the corporate property of said corporation, and the said stock may be held or disposed of by the said corporation.

§ 9. When any two or more of the railroad companies named in this act are so consolidated, said consolidated company shall carry way passengers on their road at a rate not to exceed two cents per mile.

§ 10. This Act shall take effect immediately. For the purpose of availing themselves of the provisions of the above Act, a convention of delegates was held, representing the Alb'y and Sch'tady, Troy and Schenectady, Utica and Schenectady, Syracuse and Utica, Rochester and Syracuse, Buffalo and Rochester, and Rochester, Lockport and Niagara Falls. After organization and interchange of views, a committee of one from each company represented was appointed to report a plan for consolidation, which was unanimously adopted. It provides that the stock of the consolidated company shall be equal to the aggregate of the stock of the several companies, which now amount to \$22,000,000. For the premiums that these stocks now command in the market, the holders are to receive the six per cent bonds of the new company, having thirty or forty years to run. The following, we understand, is the agreed value of the stocks of the several roads,

Albany and Schenectady.....	117
Utica and Schenectady.....	155
Mohawk Valley.....	155
Syracuse and Utica.....	160
Rochester and Syracuse.....	130
Buffalo and Rochester.....	140
Rochester, Lockport and Niagara Falls.....	125

The entire funded debts of the whole line amount to about \$1,750,000, which are adopted by the new company. The bonds to be issued for the above premiums will amount to about nine millions of dollars, and a portion of them will be sterling bonds. The various roads will divide among themselves what surplus they possess before entering under the new arrangement, and will pay all their floating debts. After the adoption of the committee's report, a sub committee was appointed of one from each road, with power to adopt and carry out all the details of the consolidation necessary under the act. This committee consists of Messrs E. C. McIntosh, Erastus Corning, J. V. L. Pruyn; J. Wilkinson, — Stebbins, H. B. Gibson, — Field and A. Brady. This committee ordered that on and after the 1st. of May prox., the various roads in the line should be run for the benefit of the new company, although they will be under the management of the local officers until about the 1st. of July. This committee was empowered to arrange on liberal terms to bring in the Troy

and Schenectady and Buffalo and Lockport roads. Each company will soon appoint a meeting of its stockholders, as required by the act, to confirm the action of the Directors. For this two-thirds of the stock is required to be favorable. The President of the new company will be Mr. Erastus Corning, of Albany, and the Vice President, Mr. Dean Richmond, of Buffalo. The Board of Directors will consist of twenty-three persons.

This is the first consolidation of railroads on a large scale that has ever been effected in this country. Should the future results of this act prove as advantageous, to the stockholders at least, as have been those already secured, there can be no doubt but that the example set will be extensively copied. In the present case we have no doubt that consolidation was decidedly for the interest of all the parties. All the parties to it were only links in one route, and the business of each was shared to a very considerable extent by all the other roads. One company could of course do the business much more profitably than a half-a-dozen. The economy of the thing was the first argument for consolidation, the objection to it, the monopoly it would have a tendency to create.—We do not see any danger of excessive charges, nor in fact of a management of which the public will have a right to complain, by a company, a greater portion of whose business is competed for by the Erie canal, the immediate route of which it follows, and by a half a dozen lines of railroads, and likely to be by many more. The rivalry to which it will be subjected, will, we have no doubt, always secure a management acceptable to the public.

The lines that have made up the Albany and Buffalo, have on the whole been the most successful and profitable roads in the country; with only one exception they have paid 10 per cent dividends for a series of years, and one of them, the Utica and Schenectady, has the reputation of having doubled its capital stock since its construction from net earnings, and at the same time paid the rate of dividend already stated, and now the stockholders come in and again increase the profits 55 per cent over the net earnings! Alladdin's lamp could hardly beat this. Certainly nothing in the railroad line in this country can. We have no doubt, however, that the stock of the company is well worth its selling price, and the profits of this as well as the other consolidated companies, is as much due to the civil management which has always characterized them, as to the excellence of the route they occupy.

St. Joseph and Hannibal Railroad.

We find in the *St. Joseph Gazette* and *Weston Reporter*, statements of some of the particulars connected with the above named road:

The line agreed upon by the Directors is what is known as the Southern and Utica Divide route, leaving St. Joseph and passing up Whitehead's branch, and running near the residence of Judge Leonard. This line misses every village between St. Joseph and Hannibal, running three miles south of Boyer's old place—4 miles south of Evansville—12 miles south of Plattsburg—5 miles north of Kingston—1½ miles south of Utica—1½ miles south of Chillicothe—six miles south of Linneus—3 miles south of Bloomington, and 4 miles south of Shelbyville to Palmyra, which is made a point in the charter. The road as located is 202 miles in length, so that the company will be entitled under the grant to 1,204 sections, or 760,560 acres of land. The returns from the different offices show about 780,000 acres in even, and over 700,

000 acres in odd sections, of vacant land within the limits allowed to the company within which to make selections. The total length is eighteen miles longer than any air line and is located principally in the tier of townships No. 57. It is under contract at \$28,000 per mile. Including most of the rolling stock it will consequently cost \$4,715,000.

Alexander W. Rush and Thornton S. Talbott were appointed to select the lands to which the company is entitled, and are to proceed to the performance of that duty as soon as they can be commissioned.

E. M. Moffat and T. R. Selmes, two of the Directors residing at Hannibal, sent in their resignations, Mr. Moffat is treasurer of the company and assigns that as the reason of resigning as Director. The vacancies thus occasioned will be filled at the next regular meeting of the board, to be held at Hannibal on the first Monday in May next.

The report of Major Brocklin, the Chief Engineer, is very lengthy, and will be published in pamphlet form, and will contain much information of general interest. The coal region through which the road passes is fully exhibited, and is shown to be of boundless extent. Major B. is now in St. Louis making the necessary arrangements for publishing his report, which will contain a map of the entire route.

Mr. John Duff, one of the contractors of the road, was present at the meeting of the Board.—Twenty-five miles at each end are to be prepared immediately, and the work commenced, which will be about the 1st of May. The contract requires the road to be finished and fully equipped in four years.

Suspension Bridge at Falmouth.

A correspondent of the *Frankfort Commonwealth* furnishes the following particulars of the wire suspension bridge lately erected over Licking river, at Falmouth:

CAPACITY OF THE BRIDGE.

Span of Bridge.....	323 feet.
Width.....	16 "
Height of towers.....	30 "
No. of suspending cables.....	8 "
Length.....	432 "
Aggregate strength of cables...	704 4.10 tons.
Number of stay cables.....	8
Aggregate strength of stay cables.....	180 tons.
Do do of suspenders.....	1,765 "
Do do of anchor chains.....	1,440 "
Amount of anchorage masonry..	436 perches.
The greatest weight the towers (wood) will bear with safety..	1,420 tons.
The force of hurricanes upon the bridge.....	13
Number of persons that may collect upon the bridge.....	1,653
Number of oxen.....	198
Number of 6 horse teams.....	12
Maximum weight of superstructure.....	43½ tons.
Do do of transitory load.....	60 "
Do do of tension...	190½ "

Cincinnati, New Castle and Michigan Railroad.

A company was organized at Muncietown, Delaware county, Indiana, on the 8th inst., with the above title, to construct a road from New Castle, Henry county, Indiana, passing through Muncietown, Delaware county, Marion, in Grant county, Wabash town, in Wabash county, Warsaw, in Kosciusko county, and Goshen, in Elkhart county, to the state line between Indiana and Michigan, in the direction of Grand Haven, at the mouth of Grand river, on the eastern side of lake Michigan. It is designed to connect this road at the state line with a road in Michigan, to terminate at Grand Haven.

The following named gentlemen were elected a board of directors, to wit: Caleb B. Smith, David

A Powell, and Richard M. Corwine, of Cincinnati; Solomon Meredith, Thos. Tyne, and Pleasant Johnson, of Wayne county, Indiana; Martin L. Bundy and Geo. B. Rogers, of Henry county; Walter Marco, and John Jack, of Delaware county; Jas. Sweetzer, and Samuel Jay, of Grand county, and Hugh Hanna, of Wabash county. The officers were elected as follows

Caleb B. Smith, president.
Solomon Meredith, vice president.
Volney Wilson, secretary.
Thos. J. Sample, treasurer.

Fort Wayne and Chicago Railroad.

It is announced by advertisement in our columns to day, that the Fort Wayne and Chicago railroad is to be let to contractors the whole length, 150 miles from Fort Wayne to Chicago. A little over six months ago, we attended the convention in the interior of Indiana, at which the company was organized. Since that time the route has been surveyed, and located, funds procured, right of way obtained, and now contractors are invited to present their proposals preparatory to letting. By the close of the next year the cars will be running and the direct line from Pittsburg to Chicago will be completed.

The distance from Pittsburg to Chicago by this route will be 467 miles, as follows:

From Pittsburg to Crestline.....	186 miles.
From Crestline to Ft. Wayne.....	131 "
From Ft. Wayne to Chicago.....	150 "

Total.....467

This is the shortest line that can be constructed between this city and the thriving metropolis of the north-west. It is a line of easy grades and large curvatures, and will have a first class railroad the whole distance, and when finished, can be run in from 16 to 18 hours. Being under the control of three companies of congenial interests, and harmonizing together, it will be worked to the greatest advantage, and must be the most popular route between the east and Chicago and Galena.

We congratulate our friends in that region on the brilliant prospects of the Fort Wayne and Chicago railroad, and commend the work to the attention of contractors.—*Pittsburg Gazette*.

Railroad Election.

On Saturday last the citizens of Davidson county, Tenn., voted upon the proposition to subscribe stock in four projected railroads, as follows:

North Western railroad to be paid in county bonds.....	\$300,000
Tenn. and Alabama railroad to be paid in county bonds.....	200,000
Louisville and Nashville railroad to be paid in county bonds.....	300,000
Edgeville and Kentucky railroad to be paid in county bonds.....	300,000
	\$1,000,000

The entire proposition was carried by a handsome majority.

Railroads in Maine.

In Maine there are 1,079 miles of railroad authorized, 412 of which are built. The 412 miles in operation have cost over twelve millions of dollars, and when fully completed will carry the aggregate of expenditures as high as \$30,000 per mile. Ten millions of this expenditure have been made within the last five years—or a sum equal to two millions per annum has in that time been applied to the building of railroads in Maine.

Pennsylvania Railway Gauge.

The bill repealing the Railway Gauge Law in Pennsylvania, was passed in the House by a majority of 54, on April first. The same bill passed the senate a few days previously. This repeal leaves the question of gauge with the various companies.

A consolidation of the Logansport & Pacific and Peoria and Oquawka railroad companies has been consummated. The contract has been signed, sealed and delivered. A meeting of the directory of the Peoria road was held last week. Messrs. Williamson Wright, Wm. Chase, and B. Reynolds were present and made their arrangements. We believe the Illinois company makes the road to the State line, where it will be met by the Indiana stockholders. The prospects of this enterprise are certainly as bright as those of any other proposed in this vicinity.—*Logansport Journal*.

O. A. NORRIS,

American Railway Agency,

FOR THE PURCHASE, ON COMMISSION, OF
ALL ARTICLES REQUIRED BY
RAILROAD COMPANIES.

Office, 12 Farquhar Buildings,
Philadelphia.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,

April 1, 1853.

90 Beaver st.

Engineering.

THE undersigned is prepared to furnish Specifications, Estimates and Plans, in general or detail, of Steamships, Steamboats, Propellers, High and Low Pressure Engines, Boilers, Mill Work, etc., etc. Particular attention given to the procuring and superintending of Locomotives, Tenders, Cars, and Railway Machinery of every description.

General Agent Ashcroft's Steam Gauge, Allen & Noye's Metallic Self-adjusting Conical Packing, Dudgeon's Hydraulic Jack, Sewall's Salinometers, etc., etc.

Acts as Agent for the purchase or sale of, and has always on hand, Steamers, Locomotives, Engines, Boilers, Machinery, etc.

CHAS. W. COPELAND,
Consulting Engineer,
64 Broadway, N. Y.

1y17

Charles W. Copeland,
STEAM MARINE AND RAILWAY ENGINEER.
64 Broadway, New York.

Notice to Contractors.

PROPOSALS will be received at the Office of the Fort Wayne and Chicago Railroad Company in FORT WAYNE, until noon on Friday, the 20th of May next, for the Bridging, Grading, and delivering of Cross-ties for said Road.

PLANS, PROFILES AND SPECIFICATIONS will be exhibited at the Office three weeks prior to the day of letting.

This line, One Hundred and Fifty miles long, embraces much heavy work, is well suited for prosecution in winter, and is divided into sections of from one to six miles in length, and may be bid for singly, or for the entire work.

J. R. STRAUGHAN,
Chief Engineer.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Blake & Parkin, MEADOW STEEL WORKS, SHEFFIELD,

INVENTORS OF

CORE-ANNEALED CAST STEEL,

A most Important Improvement in CAST STEEL, originating with B. & P., for SCREW TAPS, PISTON RODS, ENGRAVERS to CALICO PRINTERS, SILVER and GOLD ROLLERS, etc., etc., warranted to harden by ordinary process without breaking, being soft in the centre to any required diameter, and hard to any specified depth from the outside.

HARD CENTRE CAST STEEL,
For DIES, LATHE CENTRES, MINT PURPOSES, etc., etc., warranted to harden the inside without breaking, (the outside remaining soft.)

HARD AND SOFT SURFACE CAST STEEL,
In Bars and Sheets, hard on one or both sides, and soft in the centre; or soft on one or both sides, and hard in the centre, and adapted for a variety of purposes, as MACHINE KNIVES, SLIDE BARS, PLOW KNIVES, PLANING KNIVES, ROLLER BARS for Beating Engines for Paper Makers, etc.

This peculiar Steel is quite SOLID, and it is quite malleable, and draws down under the Hammer, still retaining the difference of hardness. When hardened, the hard part is left very hard, while the soft is left just harder than common iron.

THE REPORT OF THE JURY OF THE "EXHIBITION OF ALL NATIONS."

Class 21, Page 486:

"The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE & PARKIN, of SHEFFIELD, consisting of the union of Two qualities of Cast Steel, hard and soft, in the same article; manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors."

A PRIZE MEDAL WAS

AWARDED TO

MESSRS. BLAKE & PARKIN.

N. B.—The Inventors mark all their Goods with their CORPORATE MARK—X. L. ENT.

Also, Cast Steel, German and Spring Steel, warranted Cast Steel Files, Saws, etc.

GEO. SANDERSON,
248 Pearl st., N. Y.

February 9, 1853.

Wilkinson's EXPLOSIVE RAILWAY SIGNAL,

For sale by

BRIDGES & BROTHER,
64 COURTLANDT STREET.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

THIS WILL BE FOUND ONE MORE PREVENTIVE OF COLLISION. It is often the case that during a fog or snow storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January, 20, 1853.

Superior Cast Iron Gas and Water Pipes.

THE Subscriber is prepared to contract for the supply of CAST IRON PIPES required by Gas or Water Companies, Corporations, etc., delivered in any Seaport in the Union, on reasonable terms. These Pipes are cast on the most approved principle by the best Founders in Scotland, from a superior quality of Pig Iron remelted, are guaranteed to resist a pressure of 300 lbs. to the square inch, or greater if necessary, and to be soft enough to drill easily and freely. Full information regarding price, and references to parties in the United States now using the Pipes, can be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Renfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st., New York,

1y60

\$300,000 PERU and INDIANAPOLIS RAILROAD FIRST MORTGAGE CONVERTIBLE SEVEN PER CENT BONDS.

We offer for sale, at reasonable rates, \$300,000 of the 7 per cent 1st Mortgage Convertible Bonds of the Peru and Indianapolis Railroad Company.

Forty miles of this road, lying between Indianapolis and Tipton, is now completed and in operation. The Madison Road operates the same. The residue of the line to Peru, 32 miles, will be completed and in operation by the 1st of November next.

The entire Road will cost, when completed and equipped, about \$1,200,000.

The available stock subscription is 829,000. The mortgage debt is but \$600,000 in all, the above being a part thereof. The Road owes no other debt.

This Road is advantageously located, connecting at Indianapolis with the Madison road (of which it is a direct extension northwardly) and the other roads there centering.

At Peru it connects or intersects with the Wabash and Erie Canal, and it will shortly be extended to the Fort Wayne and Chicago Road at Warsaw.

It traverses a region of great fertility and productivity, having no other outlet to a market. Its local business alone, will, it is thought, yield a handsome support.

Pamphlet exhibits, with maps of the work, and any other more detailed information desired, will be furnished on application to the subscribers.—New York, April 7, 1853.

WINSLOW, LANIER & Co., No. 52 Wall-st.

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer.

Address "H. W.," this office.

3*12

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,

HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE AND CAR BUILDERS, AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,
90 Beekman st., N. Y.

Feb. 16, 1853.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

4t 12

WM. BAILEY LANG.

Notice to Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Cleveland and Pittsburgh Railroad Company, in Millsville, from the first to the tenth of May next, for the gradation and masonry of thirty-nine miles of the Wheeling extension of the Cleveland and Pittsburgh Railroad, from the mouth of Yellow Brick to Bridgeport, opposite Wheeling.

Plans, profiles and specifications will be exhibited and all requisite information given at the office of the Company, in Millsville.

By order of the Board of Directors.

C. PRENTISS, President.

J. LINTON, Chief Engineer.

Office of the C. & P. R. R.,

Cleveland, April 8th., 1853.

To Contractors.

PROPOSALS WILL be received to the 23d of April inclusive, at the Engineer offices of the Northwestern Virginia Railroad in Parkersburg, West Union and Clarksburg, for the GRADUATION and MASONRY of about 60 sections, averaging 1 mile each, of the road. The work will be mostly of the lighter kind, but embracing many sections of good size and some bridge masonry and tunnelling. There are 103 sections upon the road, of which upwards of 40 are under contract. The route to and along the line is easy—the Baltimore and Ohio Railroad, the Ohio River, and the Northwestern Turnpike, rendering it very accessible at all points.

Specifications will be distributed from the offices named, and also from Fetterman on the Baltimore and Ohio Railroad, near the east end of the line, on and after the 11th of April. Bidders must be well recommended, and will state what other work they may have in hand.

By order of the President and Directors.

BENJ. H. LATROBE,
Chief Engineer.

Baltimore, March 9th, 1853.

Notice to Contractors.

Mississippi and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUEN, President.
S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

Notice to Contractors.

SEALED PROPOSALS will be received at the office of the Clinton line railroad company, in Hudson, Ohio, until the 20th day of May next, for the grading, masonry, bridging and superstructure of their entire road, from Hudson to the Pennsylvania state line.

Plans, profiles, and specifications will be exhibited, and all requisite information given, at the office of the company, in Hudson, on and after the 10th day of May next.

By order of the board of directors.

H. N. DAY, president.

W. B. BRINSMADE, engineer.

Hudson, March 29, 1853.

**Hoole, Staniforth & Co.,
MINERVA WORKS,
SHEFFIELD.**

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.
An assortment of Steel from the above Works constantly on hand by

RICHARD MAKIN,
Agent for the Manufacturers,

43

24 Broadway.

**Pease & Murphy,
FULTON IRON WORKS,
FOOT of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B. — Engines and Boilers repaired. 6tf****Notice.**

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

Apl 1m 50 South Third street.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidity, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

**To Railroad Companies, Car
Builders, Machinists, etc.
SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.**

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc.

1517*

**Fulton Car Manufactory,
CINCINNATI, OHIO.**

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

3 So. Manufacturers, 41

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States. The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1849.

1y

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,**

And for the Purchase and Inspection of
**Railroad Iron, Chairs, or
any kind of Machinery.**

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co, London.

" Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

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**Virginia Locomotive and Car
Works.**

Wolfe Street and River Potomac, Alexandria, Va
SMITH & PERKINS, Proprietors.

MANUFACTURE

Locomotive Engines and Tenders,
Marine and Stationary Engines and Boilers.
Chilled Car Wheels and Axles
Patent Chilled and Wrought Slip-tire.
Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

La 110 of the Alexandria Iron Works.

THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.

July 22 1851

CAUTION.**India-rubber Car Springs.**

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA—Awarded by the American Institute to F. M. RAY, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed,

JAMES TALLMADGE,
President.

N. MEIGS, Recording Sec'y.

ADONIRAM CHANDLER, Cor'g. Sec'y.

New York, Oct., 1851.

New England Car Spring Co., No. 104 Broadway
New York. 7tf.

PATENT Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of **ENGLISH and AMERICAN**, Refined, BAR, BOLT, SHEET and SHAFTEING IRON, especially manufactured for **LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS**; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the **B. O. LOWMOOR**, and other approved makes, imported to order on the most favorable terms.
February 14, 1853.

Notice to Contractors.

HANNIBAL AND ST. JOSEPH RAILROAD.
SEALED PROPOSALS will be received at the office of the undersigned, in the city of Hannibal, Missouri, until the twentieth day of April, for the graduation, masonry and bridging of 25 miles of said road, extending west from Hannibal.

Proposals will also be received at our office, in the city of St. Joseph, Missouri, until the tenth day of May, for the graduation, masonry and bridging of 25 miles additional, extending east from St. Joseph. The remainder of the line, extending a distance of over 150 miles, will be placed under contract as soon as the same can be prepared by the engineers.

This line embraces some very heavy excavations and embankments, and several large bridges.

Plans, profiles and specifications will be ready at each place one week previous to the letting.

DUFF & LEARNED,
Contractors H. and St. J. RR.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

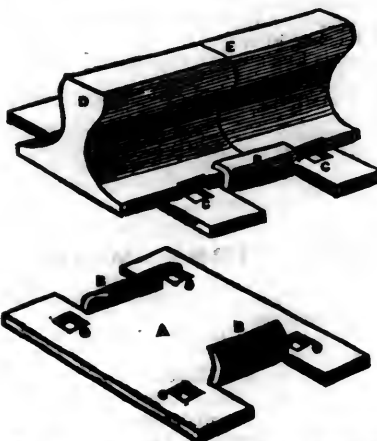
J. B. WESTBROOK, Chief Engineer.
Portland, April 9, 1853.

A. Whitney & Son,
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31tf

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK,

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make **WROUGHT IRON RAIL ROAD CHAIRS**, of various sizes, at short notice.

By use of the **WROUGHT IRON CHAIR**, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of **CAST IRON CHAIRS**.

Our Chairs are made from **Uster Iron**, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:
Syracuse and Utica, Chester Valley, Penn.,
Buffalo and Rochester, Tioga,
Northern, Norwich and Worcester,
Montreal and New York, Kings Mountain, S. C.,
Kenneb and Portland, Columbia and Granville,
Plattsburg and Montreal, Buffalo, Bayou Brazos and
Chicago and Rock Island, Colorado, Texas,
Milwaukee and Miss., Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

RAILROAD IRON.

THE undersigned, from their long engagements with the Manufacturers of **G. I. Iron**, feeling themselves eminently qualified to assist Railway Companies in America, and Gentlemen proceeding to England for the purpose of purchasing Railroad or other Iron, tender their services free of any charge, and invite communications either personal or by letter.

Address **JOHN E. AUSTIN & CO.,**
2 Ingram Court, Fenchurch Street,
LONDON.

March 9, 1853.

R. GROVES & SONS, SHEFFIELD, ENGLAND, Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Blister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVILLE, Agent,
58 Maiden-lane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

Railroad Iron.

5000 TONS Best Staffordshire Rails for sale on early delivery in Liverpool
by **NAYLOR & CO.,**
12tf 99 John street.

SIMEON DRAPER, No. 46 Pine-st. offers for sale, a variety of **RAILROAD BONDS and STOCKS**; also **CITY, TOWN and COUNTY BONDS**, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1837
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Peoria and Oquawka.	" 1863
6 per ct.—Maysville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1867
7 per ct.—Troy and Bennington.	Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Muscoogee Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford.	" 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock.	" 1866

7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.	" 1862

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.

Stock in the Western Vermont R. R. Co.

Stock in the Mad River R. R. Co.

Stock in the Buffalo, Corning and New York R. R. Co.

Stock in the Mansfield and Sandusky R. R. Co.

Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

The Cold Spring Iron Works INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures **CAR AXLES**, and all kinds of **WROUGHT IRON** used in the manufacture of **LOCOMOTIVES and CARS**; also, **BAR IRON** of all descriptions. Particular attention is paid to the manufacture of **CAR AXLES**, and the Works being situated in a region of **WOOD and CHARCOAL**, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of **RAILROAD CORPORATIONS and CAR BUILDERS**, and promise they shall be promptly attended to; and executed on terms as advantageous as can be had elsewhere.

They refer to—

John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.

E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder,

Address **HENRY MELLUS**, Agent,
Boston, Mass.

or, **GEO. W. PRESCOTT**, Supt.,
Otis, Mass.

November 12, 1852.

Anthracite and Charcoal Pig Iron.

800 Tons No. 1 Glenden Anthracite Pig Iron.	
1000 " No. 2 " " "	
1000 " Forge " " "	
200 " No. 1 Stockbridge Charcoal " "	
100 " No. 2 " " "	
500 " Forge Katahdin " "	

For sale by

GEORGE W. A. WILLIAMS,
5 Liberty Square, Boston.
3m

December 11, 1852.

FOR SALE.

TWO Sixty Horse Power Beam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia, (where they may now be seen.)

Apply to **A. & P. ROBERTS**,
No. 80½ Walnut Street, Philadelphia.

Notice to Contractors.

OFFICE N. O., OPELOUSAS & GREAT
WESTERN RAILROAD CO.,
New Orleans, March 5th, 1853.

SEALED PROPOSALS will be received at this office, until the 10th of May next, for the construction of that portion of the road between Bayou Lafourche and Berwick's Bay, a distance of 31 miles; also from Berwick's Bay to Washington, 92 miles, including a branch road of 18 miles. Proposals will be made for the entire completion of the road, (except furnishing iron.) References of ability, and security, will be required.

Plans and specifications of the work to be seen at this office, after the 10th of April.

JAMES G. GIBBES, Chief Engineer.

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7, 1853, Passenger Trains will run daily (Sundays excepted) as follows:
Leave Toledo at 9 A. M. and 10 P. M.
Leave Cleveland at 9.20 A. M. and 9 P. M.

CONNECTING

At Toledo with trains of Michigan Southern Railroad, for Chicago and the West.
At Bellevue with trains of Mad River and Lake Erie Road, for Sandusky City, Dayton, Indianapolis, Cincinnati, etc.
At Monroeville with Mansfield and Sandusky City Road, for Sandusky City, Shelby Junction, Columbus, Newark and Zanesville.
At Grafton with Cleveland, Columbus and Cincinnati Road, for Shelby Junction, Columbus and Cincinnati.
At Cleveland with Lake Shore Road, via Dunkirk, for New York and Boston, via Buffalo, for New York and Albany and for Western Road and Boston, with Cleveland and Pittsburgh Road for Pittsburg, Wheeling, Philadelphia, Baltimore, & Washington City.

E. B. PHILLIPS, Sup't.

Office T., N. & C. R. R.,
Norwalk, O., Feb. 2 1853.

Alton, Mt. Carmel and New Albany Railroad.

NOTICE is hereby given, that there are no Bonds of this company in circulation, as the books of this company will testify that no bonds have ever been issued or authorized.

And, as all the stock formerly subscribed on the books of this company was, on the 4th and 18th of December, 1852, sold by the sheriff, under executions issuing from the Circuit Court of Edwards county, Illinois, and was by the purchasers at such sales, or by their assignees, surrendered to the present board of directors, on the 29th of January, 1853: All Certificates of Stock bearing date previous to that time are worthless.

It having been reported, that bonds and certificates of stock of this company have been offered for sale or pledge by parties formerly connected with this company, the board have thought it right thus to put the public on their guard.

F. B. THOMPSON,

Pres't. Mt. C. & N. A. R. R. Co.

SAMUEL THOMPSON, M. D.,
Sec'y to the Board.

March 7th, 1853.

1m12

To Contractors.

LA CROSSE AND MILWAUKEE RAILROAD.
—Proposals will be received at the office of the Engineer of this road, in the city of Milwaukee, upon the 20th day of May next, for the Grading, Bridging, Superstructure, Station House, Water Stations and equipments of the first division of the La Crosse and Milwaukee Railroad, extending from the city of Milwaukee to Portage City, on the Wisconsin River.

Propositions will also be considered for the grading in sections, and for the superstructure and buildings, separately.

By order of the Board,

J. L. BEAN, President.

Milwaukee, April 6th, 1853.

CAR, LOCOMOTIVE, AND TENDER SPRING MANUFACTORY.

PHILADELPHIA, March 1, 1852.

We beg leave to present the following Certificates to the consideration of **Railroad Companies and Car Builders**, for the quality of **CAR, LOCOMOTIVE, AND TENDER SPRINGS** manufactured by us.

At the same time we would inform Railroad Companies and Car Builders that we have executed our works, and will be happy to execute any orders for Steel Springs for Cars, Locomotives, or Tenders, of any design or pattern which they may see proper to intrust to us, at the lowest prices, and on terms which will prove satisfactory.

From our long experience as Spring manufacturers, we are enabled to supply Railroad Companies with **Spring Steel**, of superior quality, converted from **Swede Steel Iron**.

The iron being imported direct from Stockholm by ourselves, and Converted and Rolled under our supervision.

Yours respectfully,

JAMES JEFFRIES & SON,
REAR OF GIRARD HOUSE.

Philad'a, Feb. 27, 1852

Messrs. JAMES JEFFRIES & SON,
Gentlemen: In reply to your inquiries as to the character of the Springs furnished by you for Locomotive Engines and Tenders, I take pleasure in saying that I have found them, both in material and workmanship, superior to anything else of the kind that ever came under my notice. I have occasionally tried the Springs of other manufacturers, but in testing their elasticity and strength with the apparatus I have for that purpose, I have found none combining the requisites of a good spring, viz., lightness, elasticity, and durability, in so eminent a degree as yours.

I am using them exclusively under the Engines and Tenders of my make, and can safely recommend them to others.

Yours truly, M. W. BALDWIN.

Office, Penn's Rail Road Co.

Philad'a, Feb. 26, 1852.

This is to certify, that James Jeffries & Son manufactured nearly all of the Steel Springs used on the Georgia Rail Road while I had charge of that work, and have also furnished those that have been used on the Pennsylvania Rail Road. The character of their work has always given entire satisfaction, and I cheerfully recommend their Springs to the patronage of Rail Road Companies and Car Builders.

J. EDGAR THOMSON,
Chief Engineer and President Penn's Rail Road Co.

Office, Phil'a, Germantown & Norristown R. R. Co.

February 25, 1852.

This is to certify, that I have used the Steel Springs manufactured by Messrs. Jas. Jeffries and Son, for the Locomotives, Passenger, and Freight Cars of the above Road, during the last 12 years, and have always found them good and efficient Springs, giving general satisfaction.

R. FRENCH.

Philadelphia, Feb. 23, 1852.

This is to certify, that we have used Car Springs made by James Jeffries & Son, for the period of twelve years, and find them a very superior article, so much so, that we shall always continue to use them.

DUTILE, HUMPHREYS & CO.

Proprietors of Union Line of Trans. from Phila to Pittsburg

Philadelphia, Feb. 27, 1852.

Messrs. J. JEFFRIES & Son,
Gentlemen: We have been using your Steel Springs under our Cars for a number of years, they have given entire satisfaction, and have proved themselves superior to any other that we have used. Their good qualities should commend them to any who have need of an article so difficult to obtain perfect.

Yours truly, HARRIS & LEECH,

Proprietors of Leach's Trans. Line from Phila to Pittsburg.

Richmond, Jan. 6, 1852.

Messrs. JEFFRIES & Son: It affords me pleasure to say, that after some six or seven years' trial of your Springs, I find them superior to any other Springs we have used on our road, and are so well satisfied with their merits as to continue the use of them.

I am, very respectfully yours,

THOMAS SHARP,

Superintendent R. P. & P. R. R.

Office, R. & P. R. R. Co.

Richmond, Va., Jan. 8, 1852.

To Mr. THOMAS JEFFRIES,
Dear Sir: I take pleasure in stating that the Springs made by the firm of which you are a member, and which I have been using for the last eight years on Locomotives and Tenders, and also, on Passenger, Freight, and Coal Cars, have given the utmost satisfaction, and I consider them superior to any I have received from other establishments during the above period, and shall still continue to send you our orders for all we may want.

Very respectfully yours,

THOMAS DODAMEAD,

Superintendent R. & P. R. R.

Superintendent's Office, C. R. R.

Savannah, Ga., Jan. 21, 1852.

This will certify, that Car and Locomotive Springs made by Messrs. James Jeffries & Son, of Philadelphia, have been in use on this road for a number of years, and have given entire satisfaction.

W. M. WADLEY,

Superintendent.

Office, Paterson R. R. Co.

Paterson, Jan. 8, 1852.

The house of James Jeffries & Son, of Philadelphia, has made us a good many Car and Engine Springs, and I take great pleasure in stating that they have always turned out well, and I believe their work can not be surpassed by any in the country.

H. D. BIRD,

President.

Office, Sup't T. & M. Power, St. C. R. R. Co.

Charleston, Jan. 21, 1852.

This is to certify, that the South Carolina Rail Road Company have for a number of years been using the Steel Springs manufactured by Messrs. J. Jeffries & Son, of Philadelphia, for their Locomotive Engines, and for both Passenger and Freight Cars, and I take pleasure in stating that they have given entire satisfaction, and recommend them to the patronage of all Rail Road Companies requiring such articles.

J. D. FETCH,

Sup't Trans. & Motive Power St. C. R. R. Co.

Philadelphia, Feb. 27, 1852.

This is to certify, that I have used Springs made by James Jeffries & Son for the period of five years, and consider them equal, if not superior to any others that I have had in use.

JOSEPH S. LEWIS,

Pennsylvania & Ohio Line.

Georgia Rail Road,

Augusta, Ga., Jan. 1, 1852.

To whom it may concern.—We have used Springs manufactured by Messrs. James Jeffries and Son, for the Locomotives and Cars of our road for the last ten years, and have no hesitation in recommending them as having given general satisfaction.

R. C. ARMS,

General Superintendent.

Macon & Western Rail Road,

Macon, Ga., Jan. 25, 1852.

Messrs. J. JEFFRIES & Son,
Gentlemen: This Company has for several years purchased and used, under Cars and Engines, Steel Springs manufactured by you. We have also purchased from other manufacturers and made Springs ourselves.

You have given entire satisfaction, and have proved themselves equal, if not superior to any we have used. Their excellent qualities should commend them to all who have need of an article so difficult to obtain in perfection.

Yours, very respectfully, EMERSON FOOTE,

Superintendent.

Macon, Ga., January 24, 1852.

Messrs. JAMES JEFFRIES & SON,
Gentlemen: In reply to your inquiries in reference to Steel Springs, I take pleasure in saying that I have been in the way of observing Springs in use on Cars and Locomotives, on various Rail Roads, for seventeen years past, more particularly on the Central Rail Road of Georgia for eight years past, and during said seventeen years have been practically acquainted with your make of Springs, and I have no hesitation in saying, that your Springs with open work are the best Steel Springs I have ever used or seen in use.

Yours, respectfully, GEO. W. ADAMS,

Superintendent S. W. R. R. of Georgia.

Transp. Office, W. & A. R. R.

Atlantic, Jan. 31, 1852.

Messrs. JAMES JEFFRIES & SON,
Gentlemen: This road has used the Springs made by your firm since its first opening, under both Engine and Cars, and they have given entire satisfaction to all.

Very respectfully, WM. D. FULTON,

Superintendent.

Montgomery & West Point R. R. Co.

Montgomery, Ala., Feb. 23, 1852.

This may certify, that this Company have been for years using, both under their Engines and Cars, Springs from the manufactory of James Jeffries & Son, of Philadelphia, and are so well satisfied of their superiority that we can confidently recommend them to all companies in need of Springs.

SAMUEL G. JONES,

Engineer and Superintendent.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 18.]

SATURDAY, APRIL 20, 1853.

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American Railroad Journal.

Saturday, April 30, 1853.

Railways in British North America.

The readers of the *Journal* will recollect that we gave in the No. for 24th July last, a brief sketch of the political and commercial history of Canada, with an allusion to the measures then in progress to invite British capital into the construction of her railways. The remarks then made were suggested in consequence of information of the arrangement between the Hon. Francis Hincks, on behalf of the government of Canada, on the one side, and of the Hon. Wm. Jackson, M.P., for himself and Associates, on the other, by which the latter party became obligated on certain terms to construct the Grand Trunk Line of Canada.

It was clearly foreseen by us, at that time, that the introduction into Canada by Mr. Hincks, of the eminent English Contractors associated with Mr. Jackson would lead to the adoption of those magnificent projects which have been already entered upon by these parties.

Mr. Jackson came to America to consummate contracts, previously agreed upon in England, for building a line of railway in Canada, extending from Montreal to Toronto, and for the construction of the European and North American railway in New Brunswick. Before entering into absolute engagements, Mr. Jackson traversed the whole

country, from Detroit to Halifax, by way of the River De Loup and St. John (entirely through British territory) and made himself master of its topographical and geographical features, and of its commercial capacities and relations. He at once entered into the scheme of a grand system of railways, including in its outline the State of Maine and British North America, securing an uninterrupted line of uniform gauge from Detroit to Montreal, and thence on the most direct route to Halifax, across the State of Maine, irrespective of political divisions, with a branch to Quebec; this branch, to be extended as far as practicable, along the southern shore of the St. Lawrence below Quebec, in case the Home Government should see fit to complete the connection, by extending a line from Miramichi.

In order to give this vast system of railroads, and this immense outlay of capital, its highest capacity for business, it became apparent that the same company must control the outlet of its western trade, by owning the line from Montreal to Portland.

With a view to this result, the charter for the Grand Trunk Line of Canada, contained ample authority to constitute under its charter other lines in Canada, with the right to purchase or lease the Portland road.

It became necessary, therefore, to obtain the needful authority from the Legislature of Maine, to consummate such a contract, and the adoption of a plan by which all the various interests to be affected could be fully secured.

All these matters have been finally arranged and the lines from Detroit to Portland, with the Quebec Branch, are now consolidated into a single company; or, its connections so subjected, as to form a common interest from Detroit to Portland, with a branch line from Port Sarnia to Toronto, making in all about 1,113 miles, as follows:

Detroit to Hamilton.....	220	miles.
Hamilton to Toronto.....	33	“
Toronto to Kingston.....	168	“
Kingston to Montreal.....	162	“
Montreal to Island Pond Junction....	140	“
Island Pond Junction to Portland....	150	“
Quebec to Richmond Junction.....	100	“
Port Sarnia to Toronto Junction.....	140	“

Total..... 1113 miles.

As a part of this grand scheme, a bridge is to be built across the St. Lawrence, at Montreal similar to the Union Bridge, at an estimated cost of £1,200,000 sterling, or about \$6,000,000.

It is also understood that the same parties propose to build the European and North American railway, extending their line to Halifax, a distance of some 550 miles, from the point of embranchment of the Portland and Montreal road at Bethel, or at the Danville Junction.

A. T. Galt, Esq., president of the St. Lawrence and Atlantic railroad in Canada, has been in London since December last, clothed with ample power to consummate the necessary contracts for the carrying out of this vast, but most promising work.

No enterprise has yet been suggested on either continent so important to the commerce and the business of the world, as this grand system of railways, by which the United States and the British Provinces are to be indivisibly connected. We have not space in this issue for any further remarks upon this scheme, which will of course attract to itself at once the attention of the business men of Great Britain, the United States, and British North America.

Railways in Maine.

The following notice of the several leading railway projects of Maine, we extract from the report of ISRAEL D. ANDREWS, Esq., Consul of the United States for Canada and New Brunswick; to Hon. THOS. CORWIN, late Secretary of the Treasury.—This report, it will be remembered, was made in obedience to a resolution of the Senate of the United States, passed March 8th, 1851.

Part IV of the report is devoted exclusively to a review of the Railways and Canals of the United States, which embraces special notices of works in all the States, and of each of the leading lines of every State, being by far the most full and complete history of railways in this country which has ever been offered to the public. Emanating, as it does, from a department of the federal government, the statements made in it, whether statistical or of a geographical or topographical nature, we think may be implicitly relied upon for general accuracy. We shall doubtless continue extracts from this work hereafter, relative to improvements in other states.

Population in 1830, 399,455; in 1840, 501,798; in 1850, 583,169. Area in square miles, 30,000; inhabitants to square mile, 19.44.

With the exception of the States of Maine and Connecticut, the railroad system of New England rests upon Boston as a common centre; by the capital of which it has been mainly constructed. The roads of Maine belong to an independent system, toward which the city of Portland bears the same relation as does Boston to the works already described.

The leading road in Maine forms a part of the line connecting Montreal and Portland, made up of the Atlantic and St. Lawrence in the United States, and the St. Lawrence and Atlantic in Canada. This great work was first proposed to the people of Portland as a means of recovering the position they had lost from the overshadowing influence of their great rival, Boston, and of securing to themselves a portion of the trade of the west, which is now exerting such marked influence in the progress of all our great commercial towns.

Portland possesses some advantages over any other city east of New York, in being nearer to Montreal, the emporium of the Canadas; and in possessing a much more favorable route for a railroad from the Atlantic coast to the St. Lawrence basin, than any other east of the Green Mountain range. The city of Montreal, being accessible from all the great lakes by the largest craft navigating these waters, is the convenient depot for the produce collected upon them. When once on shipboard, this produce may be taken to Montreal at slightly increased rates over those charged to Buffalo, Oswego, or Ogdensburg; but the want of a winter outlet from Montreal to tide water has seriously retarded the growth and prosperity of that city, and prevented her from reaping all the advantages from her connection, by her magnificent canals, with the trade of the west, which she would have secured by a convenient winter outlet. Formerly large amounts of western produce was usually collected there during the autumnal months, and warehoused till spring, and then shipped to England. Shipments by this route involved the necessity of holding produce received late in the season some four or five months. The inconveniences and losses arising from these causes, aided by the repeal of the English corn laws, were among the prominent reasons which led to the commercial arrangements by which colonial produce and merchandise are allowed to pass, in bond, through the territories of the United States. This arrangement had tendency to divert a large trade from Montreal, and threatened the most disastrous consequences to its trade and prosperity. In view of this state of things, its citizens espoused and prosecuted the railroad to Portland with great energy and zeal. The whole work is far advanced toward completion on both sides of the line. The portion within the United States will be finished during the present year, and the Canadian portion by the 1st of July, 1853. It occupies the shortest practicable route between the St. Lawrence river and the Atlantic coast. Its grades are favorable, nowhere exceeding fifty feet to the mile in the direction of the heavy traffic, or sixty feet on the opposite course. The gauge of the whole road is to be five and a-half feet. As no transshipment will be necessary upon this road, and as its operations can be placed substantially under one management, it is believed that produce can be transported over it at much lower rates than ordinary charges upon railroads.

As before stated, the plan of a railroad from Portland to the St. Lawrence originated in the idea of the possibility of making that city the Atlantic terminus of a portion of the trade of the St. Lawrence and the great Lakes. The city of New York had so long been in the exclusive possession of this trade, as to create the idea that she held it by a sort of natural and unalienable right. When the idea was proposed of turning this trade through a new channel, and of bringing it to the Atlantic coast at a point some four hundred miles northward, the boldness of such a proposition was enough to stagger the credulity of every one who did not feel himself immediately interested in the

result. As soon, however as the prospect was fully unfolded to the people of Portland, its apparent practicability, and the advantages which it promised to secure, took complete possession of the public mind, and the city resolved, single-handed to undertake the construction of a work running, for a considerable portion of its distance, through comparatively unexplored forests: traversing for one hundred miles, at least, the most mountainous and apparently most difficult portion of the eastern States for railroad enterprises; and involving a cost, for the American portion alone, of over five millions of dollars. Repeated attempts had been made to construct a short road, for the accommodation of local traffic, upon the very route since selected for the great line, but without success. The inducements held out were not regarded sufficient to warrant the necessary outlay. It was only by assuming that the people of Portland held within their grasp the trade of one of the most important channels of commerce in the whole country, that they could be induced to make the efforts necessary to success. These efforts and sacrifices have been made. The project is on the eve of realization, and the wisdom in which the scheme was conceived, and the skill and ability displayed in its execution, give the most satisfactory assurance of complete success.

The length of this line, the construction of which devolved upon the people of Portland, is about 160 miles, costing about \$35,000 per mile, or an aggregate of nearly \$6,000,000. The first step in the process of construction was a stock subscription of over \$1,000,000 by the citizens of Portland, aided by some small contributions from towns on the route—for the project was regarded by all others as a mere chimera. This was expended in construction, and was sufficient to open the first division, which, running through an excellent country, at once entered into a lucrative traffic. The city of Portland then obtained, by two several acts of the legislature, permission to pledge its credit to the road to the amount of \$2,000,000.—These sums, with some further additions to its stock, furnished a cash capital of over \$3,000,000 to the work. The necessary balance has been raised upon stock subscriptions by contractors and company bonds. In this manner has a city of 20,000 inhabitants secured the construction of a first class railroad, connecting it with the St. Lawrence by the shortest route practicable for a railroad from any of our seaports. The amount actually paid in to the project by the people of Portland will exceed \$50 in cash to each individual, in addition to \$100 to each, represented by the credits that have been extended. It is believed that no better monument exists in this country of the energy and enterprise of our people, and the successful co-operation of one community in the execution of a great enterprise by which all are, relatively speaking, to be equally benefitted. It is an example which cannot be studied and imitated without profit.

Prior to the construction of the Atlantic and St. Lawrence railroad, the only railroad of importance in the State was the Portland Saco and Portsmouth road, which connected its commercial metropolis with the railroad system of Massachusetts. This road was constructed by persons interested in the connecting lines, as a necessary extension of their own. When the city of Portland was reached, their objects were regarded as secured.—Any further extension of railroads in Maine was looked upon as of doubtful utility to the interests of the city of Boston, the great centre of the New England system. It was felt that the construction of railroads north and east from Portland, into the interior, might concentrate in that city the trade of the State, which had been almost exclusively enjoyed by the former. This trade was already secured and sufficiently accommodated, as far as Boston was concerned, by the extensive commercial marine of the two States; and the construction of railroads, it was felt, might lessen instead of strengthening the grasp by which she held it.—While every other portion of the country was embarking in railroads, the conviction grew up that Maine was not the proper theatre for such enterprises, or, if it were, the people felt their means

unequal to their construction, and it was known that no foreign aid would be had. All such projects, therefore, came to be regarded with comparative indifference. In this condition of the public mind the Atlantic and St. Lawrence scheme was proposed, and with it a system of railroads independent of the rest of the New England States, which should concentrate within her own territory her capital and energies, and which should not only place her in a commanding position in reference to the trade of the west, but, at the same time, place her *en route* of the great line of travel between the Old and New Worlds—a position combining all the advantages of the most favorable connections with the domestic trade of the country and with foreign commerce and travel. These propositions constitute an era in the history of the State. A new life was infused into the public mind, and objects of the highest value held out as the reward of new efforts. The effect upon the policy and the public sentiment of the State has been magical. The whole people felt and saw that they have rights and interests to maintain and vindicate, and that Maine, instead of being a remote and isolated State, removed from participation in projects and schemes which are effecting changes so marvellous upon the face of society, could be brought by her own efforts into the very focus of the great modern movement. A new destiny was opened before her. To this call she has nobly responded, and the State is alive with projects that promise, in a few years, to secure to every portion of it all necessary railroad accommodations, with the results which always follows in their train.

Next in importance to the Atlantic and St. Lawrence railroad is the European and North American project, which is designed to become a part of the great route of travel between the Old World and the New. Under the above title is embraced the line extending from Bangor, Maine, to Halifax, Nova Scotia, taking St. John, New Brunswick, in its route. From Bangor west, the line is to be made up of the Penobscot and Kennebec road, now in progress; the Androscoggin and Kennebec road, with a portion of the Atlantic and St. Lawrence, now in operation. When the whole line shall be completed, it is claimed that the transatlantic travel will pass over this road to and from Halifax, and that through Maine will be the great avenue of travel between Europe and America.—Without expressing any opinions as to the soundness of such claims, their correctness is at present assumed, and is made the basis of action on the part of the State, and, to a certain extent, gives character and direction to their railroad enterprises.

Of this great line, that portion extending from Portland to Waterville, a distance of 82 miles, is already provided for by a portion of the Atlantic and St. Lawrence and the Androscoggin and Kennebec railroads. The portion from Waterville to Bangor, something over 50 miles, is in progress.—From Bangor to the boundary line of New Brunswick, no definite plan has been agreed upon; although the subject is receiving the careful consideration of the parties having it in charge, and no doubt is expressed that such measures will be taken as shall secure complete and early success to the measure. The New Brunswick portion of it is already provided for by a contract with a company of eminent English contractors, who, it is believed, will also undertake the Nova Scotia division. Of the realization of this scheme at the earliest day, there can be no doubt. The plan meets with as hearty approval in the provinces and in Great Britain as it does in Maine; and on both sides of the water are the results claimed fully acceded. Such being the fact, foreign capital will be certain to supply, and is, indeed, now supplying whatever may be lacking in this country.

Another leading road in Maine, is the Kennebec and Portland, extending from Portland to Augusta, upon the Kennebec river, a distance of over sixty miles. This road it is proposed to extend, to form a junction with the Penobscot and Kennebec, by which it will become a convenient link from Portland east, in the the great European and North American line already referred to.

An important line of road is also in progress to extend from Portland to South Berwick, there to form a junction with the Boston and Maine road—thus forming two independent lines of railroads between Portland and Boston. A portion of this line is in operation, and the whole under contract, to be completed at an early day.

A project of considerable importance is also at the present time engrossing the attention of the people of Bangor—that of a railroad following the Penobscot River up to Lincoln, a distance of about 50 miles. As the route is remarkably favorable, and easily within the means of the city of Bangor, its speedy construction may be set down as certain. It is much needed to accommodate the important lumbering interest on that river. From Bangor to Oldtown—a distance of 12 miles—a railroad already exists, which will form a part of the above line.

The projects enumerated embrace a view of all the proposed works in Maine, of especial public interest.

Coal.

We copy the following interesting article from the recently published Patent Office report, relative to coals on exhibition at the World's Fair, last year:

Pit coal, which is now raised in England to the annual amount of more than 35,000,000 tons, and the applications of which are daily becoming more extended, was but little known in England as an article of commerce, prior to the commencement of the thirteenth century. In the year 1238 the first researches for this mineral were commenced on the high ground in the neighborhood of Newcastle-upon-Tyne. These were followed in the year 1330 at the coal field at Colliery, near Lancaster; in 1343 at Merrington and Ferry Hill; and in 1500 the several collieries at Gateshead Whickham and Tynemouth were first opened. At this period the principal demand was for the use of blacksmiths and lime burners, who appear to have been in the habit of employing this fuel long before it came into anything like general use for household purposes. The mechanical resources of the miner were of a very limited nature, and the principal part of the coal extracted was consequently raised from such situations as afforded considerable facilities for the removal of the water which naturally drains into all subterranean excavations. In the earliest periods of coal mining, this was drawn off through the level or gallery, by which the fuel itself was carried to the surface: but as the demand for the latter became more extensive, the mines were gradually worked at greater depths. This was effected either by extracting the water by an endless chain carrying a series of properly arranged buckets, or by a system of pumps worked by a water wheel. The aid of horses was also frequently called in; but these were only employed in situations where water power could not be obtained; and they were subsequently superseded by wind-mills, which either raised the water by an endless chain, passing over pulleys, or by pumps worked by a due arrangement of cranks. The discovery of the steam engine has however, produced by far the most important revolution in this branch of industry; for, by means of this machine, the working of the mines is not only in a most remarkable degree facilitated, but from the immense demand thus created for fossil fuel, the extraction of coal has become a most important branch of national industry in all those countries which have the good fortune to possess large deposits of this invaluable production.

England and Belgium are, in proportion to their extent, the richest with regard to the coal-fields they contain. In the former country, the coal deposits are estimated at 1-20 of the total superficies of the Kingdom, while in Belgium they are supposed to occupy about 1-24 of the entire surface of the country. In France all the known deposits scarcely occupy 1-200 part of the soil; and all other European states are much poorer still in this respect. Sweden, Norway, Russia, Italy and Greece are almost entirely without these forma-

tions. Bohemia, is in this particular, the richest part of Germany, although its annual productions are far from being considerable. Spain, Portugal, Austria and Poland have likewise their beds of coal; and the mineral is also more or less abundant in India, China, Madagascar, Van Dieman's Land, Borneo and other East India islands, New Holland, and at Conception Bay in Chili.

In Great Britain there are several extensive coal districts, among the most important of which may be named those of Newcastle Lancashire, Derbyshire, and Scotland. The veins are worked by means of shafts and galleries, in the same way that the metallic minerals are extracted from the lodes in which they are found; but as the seams of coal are generally much more extensive than the metallic deposits, and as much larger masses are removed from the interior of the mines, the greatest care is required not only to prevent the crushing together of the workings, but also to introduce a current of air into every part of the colliery, so as to supply the workmen with fresh air for the purpose of respiration, and to prevent the accumulation of the explosive gases which frequently issue from the beds of coal. The very numerous varieties of coal have given rise to distinctions, founded partly on its age and appearance, and partly on its quality.—In all kinds the structure of the wood from which they are supposed to have been formed is obliterated, although partial impressions of plants, indicating their origin, frequently occur. The coals form a more or less compact mass of dark brown or black color, sometimes dull, but more frequently possessing a vitreous lustre, which often exhibits a decided iridescence. Their specific gravity is considerably above that of wood, and their structure decidedly granular. They are always distinctly stratified, and have generally a cleavage at right angles to the plane of deposition. The different laminae of which they are made up are usually in close contact with each other, but are sometimes separated by thin layers of other minerals—such as iron pyrites, carbonate and sulphate of lime, galena, sulphate barites, the soda salts, and still more frequently, by a double carbonate of lime and iron. The fracture of the shining kinds of coal is conchoidal; that of the duller varieties is hackly. Common coal, and ticularly that from the newer formations, is frequently observed to be made up of layers of different appearance—the one kind which is black and shining, with a conchoidal fracture, is rich in carbon; whilst the duller varieties are of a brown color.

The composition of the ashes of coal is in a great measure determined by the nature of the rock in the vicinity of the seam from which it is extracted; for, besides containing the inorganic elements originally forming parts of the plants by the decomposition of which the coal has been produced, they will also, to a certain degree, consist of earthly particles, deposited in the pores of the coal by the infiltration of water from the over-lying strata. The chemical composition of coals varies according to their different geological ages, and the localities from which they are obtained; but although they differ considerably in the different amount of their relative constituents, the nature of their ultimate elements is invariably found to be the same. All kinds of coal are essentially composed of carbon, hydrogen and oxygen; but besides yielding a certain portion silicious and earthy residue and of sulphur, they usually afford traces of nitrogen, arising from the multitude of organic bodies, of which they contain the remains.

Among the specimens of coal exhibited, there was anthracite from Tenby, South Wales; from the county of Tipperary, Ireland; and from the western side of the Vale of Neath, near Swansea. This substance is the oldest of all kinds of fossil fuel, and is chiefly found in the transition formation; its structure is perfectly homogeneous; its fracture conchoidal, and its color of a jet black, with a vitreous lustre, which frequently shows a powerful play of colors. This coal contains an extremely large proportion of carbon, with but a small amount of volatile constituents, and is con-

sequently totally unfit for the manufacture of gas, although well adapted for many purposes requiring intensity of heat and durability in the furnace.—From the composition of this fossil being more nearly allied to that of coke than to that of ordinary coal, it is frequently employed in lieu of the former, and is extensively used in iron furnaces, where the hot blast has been adopted.

The per centage composition of two of the above mentioned specimens, as stated by Sir H. T. De la Beche, and Dr. Lyon Playfair, in their first report on coals suited to the steam navy is as follows:—anthracite from the Vale of Neath: carbon 91.69; hydrogen 0.79; and ash 1.50. Anthracite from Tipperary, Ireland: carbon 80.18; hydrogen 2.21; oxygen, traces nitrogen, 0.23; sulphur 6.76, and ash 10.71. The specific gravity of the former specimen was found to be 1.357, and that of the latter 1.590.

Among the specimens from the Welsh coal fields will be observed the Powell's Duffryn, the Aberdare company's Methyr Nixon's, Methyr and Risca black vein, together with coal from the Llangenneck company, whose mines are situated a short distance from the port of Llanelly.—The coals from the above districts are usually characterised by an irregular brilliant fracture, and many portions will be observed to possess a peculiar radiated appearance, seldom noticed in coals coming from other parts of the country. When used under a steam boiler, they are found to light easily, and to blow off steam readily, with the production of but little smoke or soot. This variety of coal which has also a very high evaporating value, is well adapted for the generation of steam, and is largely employed for this purpose in the navy, where its smokeless properties are evidently most useful.

The specific gravity of this class of coals usually varies from 1.29 to 1.35. In order to afford a general idea of the chemical constitution of coals from this part of South Wales, we will select as an example, from the report already quoted, the analysis of the Birch Grove Graigau, which, although one of the best varieties belonging to this class, very fairly represents the average per centage composition of good Welsh coals. The results obtained by the analysis of a fair sample of this product are as follows:—Carbon 90.94, hydrogen 4.28, oxygen 0.94, nitrogen 1.25, sulphur 1.18, and ash 1.41.

From the Lancashire districts there were coal, cannel coal, and coke, the produce of the different seams worked by the Moss Hall coal company, at Ince, near Wigan. The coals from this part of England are of good quality, but are harder, and possess a more cubical fracture than those from the South Wales coal fields: they likewise contain a larger proportion of ash, and give off considerable quantities of smoke when first lighted. The per centage of hydrogen is moreover greater in these coals than in the Welsh varieties, and they are therefore used more frequently in the manufacture of gas. Cannel coal is a smooth almost vitreous substance, with a conchoidal fracture, and brown, black color, and is chiefly employed for gas making, for which its composition eminently adapts it. The cannel coal raised from the above mines is of good quality, and produces an extremely pure and highly illuminating gas. The composition of an average sample of cannel coal is as follows:—Carbon 80.21; hydrogen 6.30; oxygen, sulphur and nitrogen, 8.54, and ash 4.95.

One ton of coal having the above composition, will, on being carefully heated in proper retorts, yield 11,000 cubic feet of gas, capable of affording during its combustion, an amount of light equal to that obtained from 1,150 best spermaceti candles. Coal of this description would be still more largely employed in our gas houses, if the coke obtained from it were of good quality; but this is of such a crumbling nature, and possesses such little durability, as to be of no value except for the burning of lime or similar purposes. The coal from the Derbyshire are distinguished by a peculiar hackly structure, and a tendency to split into long, prismatic fragments. They likewise contain a rather large per centage of ash, and frequently iron py-

rites and white shale.—Among the specimens exhibited from this district are samples from the Butterly Iron Works, near Alfreton, which very fairly represent the fossil fuel of neighborhood, and of which the composition is, according to the official report as follows:—Butterly company's Portland coal—carbon 80.41; hydrogen 4.65; nitrogen 1.59; oxygen 11.26; sulphur 0.36, and ash 1.23. This coal has a specific gravity of 1.301, and affords 60.90 per cent of friable coke.

The coals of Yorkshire have in general a more schistose appearance than those of the last mentioned county, but they are nearly similar in point of composition and evaporative value. From the Staffordshire district some immense pieces were sent to the Exhibition. This variety affords, from the nature of its structure, great facilities for removal in large masses, as was seen from the Denbigh Hall Colliery, near Tipton, and was found at the western entrance of the building.

In this department of the exhibition were also found coals from the Scotch coal fields, and particularly from those in the neighborhood of Edinburgh. Among these were samples from the Dalkeith Colliery, worked on the Midlothian coal seams. This coal is of the variety called "splint" and burns with a long flame and much smoke. It is also good for the purpose of gas making, as may be inferred from the following analysis: Dalkeith coronation seam—carbon 76.94, hydrogen 5.20, nitrogen trace of sulphur, 0.32, oxygen 14.37, ash 3.10.

Extract from the Report of the Board of Trade on Railways, for the year 1851.

ACCIDENTS, THEIR CAUSES AND MEANS OF PREVENTION.

On the subject of accidents, it is to be observed that 36 passengers have been returned as killed, and 375 as injured, during the year 1851; these numbers showing a very great increase as compared with the preceding year, when only thirty-two passengers were killed and one hundred and eighty-three injured.

It must not be assumed however, that all of these accidents to passengers were accidents arising from causes beyond their own control, and are therefore to be attributed to the dangers of railway travelling; for upon examining the returns, it appears that during the year 1851 no less than 17 passengers were killed and twenty injured owing to their own misconduct or want of caution, leaving 19 killed and 355 injured as the total number of sufferers from causes beyond their own control.

With respect to the 37 passengers either killed or injured by their own misconduct or want of caution, it appears that no fewer than 24 of these accidents (9 killed, 15 injured) arose from passengers attempting either to get into or out of trains whilst in motion.

On this subject it may be worthy of observation that during the same period (the year 1851) eight servants of railway companies, persons therefore, it may be presumed, in the habit of moving about more or less upon engines and trains, were killed and seven injured from the same cause. Such a statement ought to operate as a caution to passengers not to leave their seats or to attempt to get into carriages while the trains are in motion; for if experienced officials constantly employed upon railways, meet with such frequent disasters from this cause, it is naturally to be expected that inexperienced people, in making similar attempts to get either upon or off trains in motion, will be much more subject to accidents of this character.

Proper caution on the part of the public in this respect would produce a very material diminution in the list of casualties; and it may deserve consideration whether it might not conduce to this notion if notices were posted conspicuously in stations and carriages, warning passengers of the danger to be apprehended from this improper practice.

After deducting the number of those killed or wounded by their own misconduct or want of caution, it would appear that during the year 19 per-

sons were killed, and 355 injured from causes beyond their own control.

This result, giving a total of 374 sufferers, when viewed with reference to the number of passengers conveyed during the year, which amounted to 85,391,095, appears not unsatisfactory, being about 4 in 1,000,000; but when compared with the returns for the preceding year (1850), it appears that the traffic has not been conducted nearly with the same degree of safety in 1851 as in 1850; for while the number of passengers has increased in the ratio of about 17 per cent, the number of passengers injured by causes beyond their own control, which may be considered as a measure of the relative safety upon railways during different periods, has more than doubled, the ratio of increase being 104 per cent.

It will be found also upon reference to the last annual report of the commissioners of railways, that the casualties in 1850 more than doubled those that occurred in 1849, so that relatively the risk of danger in travelling upon railways seems to have considerably increased.

It is a matter of observation that this increase of accidents has taken place concurrently with the extension of the system of excursion trains, which has been principally developed within the last two years; and it is also to be observed that the number of persons employed upon each mile of railway open for traffic has decreased, as shown by the returns presented to parliament, which are made up for the 30th of June in each year, at which date it may be presumed that the excursion traffic is in full operation.

The average number of persons employed upon all the railways in the United Kingdom open for traffic were, on the

30th June, 1849.....	10.27 per mile.
29th June, 1850.....	9.56 "
30th June, 1851.....	9.49 "

It is, however, right to observe that this reduction in the average number of persons employed may be in some degree attributed to improvement in the management of railways, and to the consideration that the railways which have been opened in late years, have travelled less populous districts than the railways first constructed, and have therefore required fewer persons to conduct the traffic upon them.

It has been thought desirable, with a view to ascertain the causes of these accidents, and to the consideration of the question whether any remedial measures might not be adopted either by parliament or by the companies themselves, to analyze the reports that have been made by the inspecting officers appointed either by the commissioners of railways or by your lordships to inquire into such of these accidents as seemed to call for investigation.

These reports will be found in the appendix, and have reference to 41 accidents, comprising the whole of the 19 passengers before stated to have been killed during the year by causes beyond their own control, and 319 of the 355 before stated, as the whole number of persons injured during the year from like causes.

In addition to these casualties to passengers, 9 servants of railway companies were killed and 4 injured by the same accidents; so that it will appear that the 41 reports which are analyzed in the following observations, embrace all the more important accidents which have occurred during the year upon the railways of the United Kingdom.

These accidents may be classified under two heads.

1. Those which arise from accidental failure of machinery, or from defect in the roadway or works.

2. Those which arise from defects in the establishment and management of the railways.

This head may be further subdivided into—

A. Inherent defects in the system upon which the traffic is conducted.

B. Defects in regulations.

C. Inattention to regulations, or inexperience of servants.

D. Want of punctuality.

Of the 41 accidents that have been reported upon, two only appear to have been exclusively to the first class, while 25 belong to the second class, and in 14 are involved circumstances falling under both classes.

It is to be observed that accidents very seldom occur upon railways from any one cause, but generally are brought about by a combination of circumstances, each contributing to produce the result.

In 16 of the above 41 accidents were involved circumstances affecting the machinery or works of the railway, and which come therefore under the first head. Two of these only, so far as they could be traced, appear to have been purely accidental, and to fall exclusively under that head; in the other 14 are involved circumstances affecting the establishment and management of railways.

In five of these latter were involved mistakes, either from carelessness or inexperience at what are commonly termed meeting or facing points at junctions or sidings, showing the importance of reducing as far as practicable the number of these useful but otherwise objectionable contrivances. As at present generally constructed, these points are self-acting; that is when not held otherwise by hand, they are always in one position, being retained in it by weight, and the trains then pass over them always in one direction; after being used to turn trains in another direction, they resume their original position by the action of the weights.

It is to be observed that if these points act properly there ought to be but little risk in trains passing over them: but if a stone or any other hard substance should chance to get between the movable points and the fixed rail, the points remain partly open; or if the points from the jerk of a passing train or from any other cause, shift their position, there is great reason to fear that the train may pass partly along one line and partly along the other. This actually happened to three of the cases referred to, producing most dangerous accidents. It is worthy of consideration whether some means should not be provided by which all meeting or facing points which are passed over constantly by passenger trains shall be fixed at all times, the means provided being such that the fastening could not be applied before the points are completely closed. It is believed that means for this purpose might be provided of a very simple and inexpensive nature.

In four of the cases under the first head it appeared that the locomotive stock was deficient, chiefly in consequence of the engines being overtasked; in two of them that the permanent way was out of repair; in one case a bridge had been partly taken down for alteration, without proper precautions having been taken to warn the drivers of coming engines; and in one case the station accommodation was inadequate for the requirements of the traffic which had developed itself upon the railway.

Under the division of what has above been termed the establishment of the railways, including its management and staff of servants, it appears that in 27 cases are involved circumstances which come under the class A., in 18 cases are involved circumstances which come under the class B., in 23 are involved circumstances which come under the class C. Out of the cases 27 involved circumstances which come under the class D. Out of the 27 cases in class A., in which are involved defects that are inherent to the system upon which the traffic is conducted upon railways, it appears that in two cases the luggage placed upon the roof of the carriages had taken fire; in 24 collisions between trains had occurred, and of these nineteen were cases in which trains conveying passengers had come into collision with trains conveying goods; 4 were cases in which passenger trains had come in contact with passenger trains; in one case a goods train with a goods train; and in one case a passenger train with a return engine unaccompanied by a train.

The necessity that exists for trains to traverse railways at different speeds, adapted to the parti-

cular descriptions of traffic conveyed by them, whether passengers, goods or minerals, produces a liability to accident from collision which is inherent in the system upon which the traffic of railways is at present conducted, and from which it must be difficult, if not impossible to free it.

The facts as stated above appear, however, to point to the principal defect of the system, viz: that merchandise and minerals are conveyed over the same lines of rails that are used for the conveyance of passengers.

One remedy for this principal defect of the system, would be the addition to existing railways of lines to be used exclusively for the heavy traffic of goods and minerals. This would mitigate the evil and much reduce the chances of accident of this nature, but would be generally inapplicable on account of the vast expenditure that would be requisite to carry it into effect, and after all it would only partly remove the chances of collision, which would remain to a certain extent, so long as passenger trains traverse railways at different speeds.

Another remedy that suggests itself is, the separation of the two descriptions of traffic goods and passengers, and conducting them at different times. This practice has been adopted to a great extent on many railways, the goods being conveyed as much as possible by night, so as to interfere with the passenger trains to the least practicable extent.

The third remedy that suggests itself is, that all trains, whether goods or passengers, and all engines which traverse railways should be worked to well adjusted time tables, and that punctuality should be enforced. It will be seen upon examining the reports, that in 23 of the accidents as to which inquiries have been instituted, it has been ascertained that the trains have been irregular or unpunctual as to time. In 21 of the collisions it appears that irregularity of the trains was one of the concurrent causes which tended to produce them. Upon consideration of the reports it appears wonderful that more of these accidents do not occur; for it is recorded in some instances goods and mineral trains are sent along railways under the direction of engine drivers, whose only instructions are to proceed to the destination intended for their charge, dropping trucks at stations where necessary, and taking up others, without any instructions at all as to time, but with the necessary understanding that they are to get to their journey's end as best they can, so that they deliver the goods at the required places. This understanding or instruction is, however, subject in most cases to certain general regulations, such as that no train is to follow another within a given time, and that goods trains are to be shunted or moved off the main line when a passenger train is expected within a stated time. Experience, however, shows that these regulations are not sufficient. The interval between trains, as will hereafter be explained, depends upon a number of contingencies, and after all is only to be maintained by the numerous signalmen stationed along the line of the railway, whose responsibility is therefore divided and not by any of the persons employed on the train. The shunting of the trains depends upon the unoccupied siding accommodation being sufficient to contain the train at the place where the operation may be necessary, and which is often found not to be the case.

It would appear, then, that the principal guarantee or safety when the traffic is conducted on this system is the vigilance and superior intelligence of the drivers and persons to whom is entrusted the conduct of the trains.

In some districts where the goods traffic is of a very fluctuating nature, it may be difficult to arrange so that the hours of arrival and departure of all goods trains shall be advertised and known beforehand with the same exactitude as passenger trains; but it is considered, and is found on many railways, that a large portion of the traffic of this nature is as regular and capable of as much exactitude in respect of time as the ordinary passenger traffic. There can be no valid reason why goods traffic of this regular nature should not be conducted

on the same principle as the regular passenger traffic, with carefully adjusted time tables, and with punctuality. As to other traffic, which is in addition to the regular or ordinary traffic, and is of a more fluctuating nature, including goods and passengers conveyed by what are commonly termed excursion trains, or special goods trains, it may be well questioned whether a general instruction to an engine driver to proceed on his journey to his destination, taken in conjunction with the regulation above alluded to, is a sufficient security to the public that the traffic will be conducted with a due regard to the safety of the travellers conveyed by railway.—*Herapath;*

(To be continued.)

Baltimore and Ohio Railroad.

At the last regular monthly meeting of the board of Directors of this company, the late President, Thomas Swann, Esq., begged leave, contrary to the usual custom, to present to the board a statement of the affairs of the company, after the reading of which he formally tendered his resignation of the office which he had filled to the satisfaction of the stockholders, during the preceding four years and upward. In his letter of resignation, Mr. Swann informs the board that his evacuation of the office is in accordance with an announcement which he made to the board upon the acceptance of the high trust reposed in him, that his "services could not be extended beyond the period when an uninterrupted line of communication would be opened from the Chesapeake to the Ohio."

Mr. Swann has devoted his time and attention almost exclusively to the duties of his office, to the neglect of other and private interests. So long as there was anything wanting to complete the great enterprise in which the company was engaged,—an enterprise of nearly a quarter of a century in duration—he labored with the utmost diligence and with consummate ability in the performance of those arduous duties which have, at length resulted in the complete success of the project.

The board then accepted his resignation, and unanimously passed the following resolutions—

Resolved, That the Board have learned with deep regret, by the communication of the President just read, his determination to resign the Presidency of this company, but as they feel they have no right to require of him any further services, after the faithful manner in which he has already devoted himself to this company, when it is his desire to be relieved from the duties and labors of the office, they cannot refuse his request, and therefore respectfully accept his resignation.

Resolved, That a committee of three be appointed to communicate to Mr. Swann, in behalf of this Board, their deep-felt thanks for the able, faithful, energetic and devoted manner in which he has administered the affairs of this company for the last four years, and accomplished the great enterprise in which they have so long labored—and express to him the sentiments of high respect, regard and esteem entertained toward him by the members of this Board, and their sincere wishes for his continued prosperity and happiness.

The board then proceeded to the election of a President to supply the vacancy occasioned by the resignation of Mr. Swann, when William G. Harrison, Esq., was unanimously elected.

The committee appointed in conformity with the last of the above resolutions, replied to the President's letter of resignation in neat and appropriate language, expressive of the existence of the utmost confidence between the members of the Board and Mr. Swann, regretting that he found it necessary to break up those relations which had so long

and pleasantly existed between them officially, and hoping that prosperity might attend him in the prosecution of his private affairs.

The statement of the condition of the affairs of the company submitted by the President, is substantially as follows:

The total receipts from passengers, mails, and merchandize, for the six months ending on the 31st of March, have been \$814,584 81. The expenses of the road during the same period \$534,940 07.

The interest on the capital invested in the construction of the road west of Cumberland, has been charged to capital—the road not having been reported as in a state for active business until the opening of "Board Tree" Tunnel on the 1st of April.

The board have declared a dividend in stock of three per cent. in accordance with the plan heretofore detailed, payable on and after the 31st ult.

The earnings of the Washington Branch have been \$201,473 79, and the net revenues, deducting the State's Bonus (say \$32,981 55) for the half year, amount to \$117,723 49. A dividend of five per cent has been declared on the Washington Branch, and a surplus of \$54,128 49 carried to the account of the next half year.

The total expenses of the Branch have been \$50,858 75.

I cannot too strongly invite the attention of the Board the importance of urging upon the Legislature to make some relaxation in the heavy bonus charged on passengers, which would enable the company to reduce the fare on the Washington Branch. I am assured that every disposition exists and has always existed in the Board, to meet the public expectation in this particular. At present the whole odium of the high rates charged upon that road falls upon this company.

The road was opened to Wheeling, as the Board are aware, on the 10th of January last, under embarrassments which it may be unnecessary to refer to in this place. The Chief Engineer announced his readiness to receive the trains on that day, and the Board deemed it best to make the attempt at the earliest practicable moment. The primary object which they had in view was to prepare for the Spring trade, and it was evident that without some effort this could not be accomplished. A road requires to be worked for a few months before it can be brought into successful use; and if the opening had been delayed to the 1st of April, and no trains permitted to pass over it, the same contingencies with which we have been contending for two months past, and which are now in the main subdued, would have been still obstructing our path. These obstacles, however, including the "Board Tree" Tunnel, have not been greater, if indeed as great, as those of the Erie and Pennsylvania railroads, during the first months of their operations.—The Chief Engineer estimated that five hundred tons per day could be passed over the "Board Tree" Tunnel from the period of the opening; but the General Superintendent did not deem it expedient to transport freight at all, until some six weeks had elapsed after the passenger trains had been run through. Had the board awaited the opening of the tunnel before the laying down of the rails between that point and Wheeling, the road would have been still unfinished.

Great allowance is to be made for a new road, traversing such a country as that through which this road passes. The permanent adjustment of the track is a work of time. An increased force is indispensable to be kept constantly on hand to remove slips and clear the way for the daily passage of the trains. Those who may be disposed to cast censure upon the officers of the company for a failure to meet the public expectation in all particulars, must recollect that there is a limit to human power in these matters.

The preparations of the ground for the passenger and tonnage operations of the road, between Howard and Eutaw streets, has been attended with considerable expense. This, it is hoped,

will cease in the course of the present month, as it would not be advisable for the company to do any thing toward the new station on Camden st. until the receipts of the road justify a further expenditure. What has been done already, could not well have been dispensed with.

At the Wheeling station some expenditures are also being incurred.

While these outlays have been large, no more it is believed has been undertaken than was absolutely indispensable for the convenience of the road.—The track in Cecil alley has been a source of vexatious expenditure, owing to the impracticable spirit evinced by persons binding on said alley. The bed of Howard street, it was early discovered, would have failed to answer the purpose of the road, from liability to ice and inundations, and the necessity for more than one track to meet the pressing wants of the service.

Expenditures will have to be incurred, without delay, for temporary buildings at various points along the extended line of the road.

In the annual report of the chief engineer, the third revised estimate of the total cost of the road was stated by him in detail as \$8,075,277. Up to this time the expenditures chargeable to construction, as reported by the treasurer, have exceeded this last amount by \$239,303 00. The final report of this officer has been promised at an early day. My habit has been, as the annual reports will show, to invite the Chief Engineer to make his own statements of matters over which the Board can exercise but a partial control, and that only in checking wasteful expenditures, which it is believed are nowhere chargeable upon the line of this road.—Additional cost may have been sometimes incurred in giving to their bridge masonry and other structures a permanent and durable character; but the experience of the road east of Cumberland shows that the policy which has been adopted is one of true economy in the end. No road in this country has been more securely or substantially built.

The irregularities which prevailed for some time in the working departments of this road, owing to causes over which the President of this company could exercise no control, are now happily removed, and the trains are running with a regularity which may be said to compare favorably with any former period in the history of this work. A system has been adopted for running the engines daily, which will add greatly to the capacity of the road to accommodate the trade during the deficiency of power at present complained of.

It is much to be regretted that the effect of the late "strike" has been to suspend the contracts heretofore made for the supply of the machinery and cars for the increased demands of the road on the opening of the tunnel. On the 1st of April the deficiency of power was severely felt, and this must continue to be the case for some time to come. The Board found themselves in such a situation that they could do nothing to protect the company against these unlooked for delays; and they were compelled to await a recommencement of the work in the various shops having contracts to fill.

The pecuniary loss entailed upon the Company by the effect of the late "strike" has been more serious than the Board might be led to believe.—But for this a dividend of at least 3½ per cent might have been declared.

The machinery heretofore contracted for is now in a state of advancement. Large additions have been made since my estimate of October, to that already ordered. The road is now well supplied with cars, and, with the engines still to be delivered, will present a power as great, it is believed, as that of any other road in this country, and must be competent to do a large business.

The treasurer's exhibit, herewith annexed, after deducting pay rolls for the month of March, the July interest on the sterling bonds, payable in England, say \$100,400, and the dividend due on the Washington Branch, will leave a balance in the treasury of \$573,157 05.

The floating debt applicable to construction, falling due from the 1st of May to the 31st of Decem-

ber, for which the notes of the company have been given, is \$366,353 44. Of this amount \$221,311 28 was incurred for the purchase of iron for sidings, including the five miles near Ellicott's Mills, now being finished, renewal of old rails, &c., &c., much of which still remains upon the line of the road, to be laid down hereafter.

The cost of the iron which has been recently purchased for second track, three thousand tons of which are stipulated to be paid for in the coupon bonds of the company, as well as the cost of laying down the track, will be a tax upon the bonds authorized to be issued for that purpose.

The committee on "Construction and Repairs" have also contracted for seven hundred cars applicable to the coal trade, in addition to their present supply, two hundred of which will be appropriated to the Cumberland Coal and Iron Company under the agreement with them. Two hundred of these cars are to be paid for in cash on delivery, and the balance in November next—allowing full time for the negotiation of the bond.

The engines yet to be provided, with a view to the coal trade, say thirty of the first class, should be contracted for at an early day, now that the shops are again in operation. These it was intended to pay for in the Bonds of the Company.

The situation of the Company will stand thus:

Amount on hand after deducting July interest in sterling bonds, say	\$573,175 05
Bonds on hand applicable to construction, second track, and coal trade, now selling at a limit of 91 per cent.....	1,250,000 00

Total available funds.....\$1,823,175 05

The disposition to be made of the above is as follows:

Floating debt on construction account for which notes have been given, due from the 1st of May to the 31st Dec.....	366,353 44
Amount due on last purchase of iron payable monthly at the rate of about 500 tons, \$250,000 in bonds, and the balance in cash.....	400,000 00
Cost of laying second track, including cross ties, ballast, &c., &c.,.....	150,000 00
Seven hundred cars for coal trade, 200 to be paid for in cash on delivery and the balance in November.....	350,000 00
Additional engines not yet contracted for, applicable to coal trade, say thirty.....	300,000 00
	\$1,566,353 44

Deduct this amount from available funds, will leave a surplus of \$256,821 61.

The notes outstanding for engines and cars, falling due in one, two and three years from the 1st of January, 1853, may be funded as they severally mature, having been classed among the debts of the company, to be so disposed of, in case the revenues of the road should be inadequate to meet them.

During the progress of the road heretofore, I have endeavored to mature its financial plans, without too much dependence on receipts from revenue. If we are to be guided by the flattering exhibit of the past month, this caution may not be found to be necessary. All estimates based upon revenue must be more or less speculative; but having the past before us as a standard, it is now reasonable to presume that the aggregate receipts from the main stem cannot fall short of \$2,400,000; it is also more than probable that they will exceed \$3,000,000; but it is by no means extravagant to suppose that they will touch, if not go beyond, the limits assumed by the General Superintendent in his calculation of \$4,000,000.

With such a basis of credit, then, and the ordinary financial tact that must always be supposed to attach to the head of such a corporation as this, the power cannot be wanting, with the confidence which this road every where inspires, to accomplish all the aid which may be needed from time to time to supply the casual wants of the compa-

ny, and to place the road in the most advantageous position for the accommodation of the largest amount of trade. If the wants of the road should be great, as they no doubt will be, its revenues will also be correspondingly large, and the increase of capital from time to time should be met with a liberal hand, whenever it should be necessary to augment the capacity or extend the profits of the road. The increase of capital, however, while it should be sanctioned with a view to greater capacity and usefulness, should not be permitted, at any time, to interfere with or in any manner control the net revenues which may be earned, and which of right belongs to the stockholders.

STATEMENT

Of the affairs of the Baltimore and Ohio Railroad Company, April 12, 1853.

Cost of road west of Cumberland, exclusive of interest, machinery, &c., to the above date inclusive	\$6,969,620 71
Add for outstanding bills payable on account of contractors.....	\$71,883 00
Bridge superstructures..	14,919 17
Right of way.....	3,240 00
C. P. Manning, Div. Eng.	55,000 00
	\$145,042 17
	\$7,114,662 88
Due for coupon bonds of 1885.....	\$363,009 92
Due by cash on special deposit at interest.....	120,000 00
Due by Merchant's bank.....	138,077 49
Due by revenue in Wheeling, including outstanding debts there.....	49,620 09
Due by outstanding revenue due by Post Office department and individuals in Baltimore.....	59,467 55
	\$730,175 05
Deduct dividend on Washington Branch railroad \$56,600 00	
Due for interest to be remitted to England on Maryland sterling bonds. 100,400 00	157,00 00
	\$573,175 05

J. I. ATKINSON, Treasurer.

Office of the Baltimore and Ohio railroad company, April 12, 1853.

Agricultural Exports from Ohio in 1852.

Mr. Mansfield, in the last number of the Railroad Record, has taken pains to ascertain the amount of agricultural products, exported from Ohio in one year, and has given his readers a very interesting article on the subject, from which we gather what follows:

Ohio has in progress of construction the largest extent of railway, and also the largest amount of surplus produce to carry off. No other State compares with her in this respect. Take the following general fact in advance. In 1851 her wheat crop, in round numbers, (which was carried off in 1852) amounted to *thirty-five millions of bushels*. This was about one-fourth of the entire amount raised in the whole Union. The State contains two millions of people, and their consumption of breadstuffs was, therefore, twenty millions of bushels, and the surplus twenty-three millions. By the actual exports we reach the following results of the year's operations:

Wheat crop of 1851.....	35,000,000 bushels.
Export to 1st. October, 1852..	19,000,000 "
Consumption.....	12,000,000 "
Remaining on hand.....	3,400,000 "

About ten per cent of the crop of 1851 remained on hand for the next year. From Toledo considerable amounts of wheat and flour, produced in Indiana, are exported. Allow 1,600,000 bushels for this, and the actual export of Ohio, of the crop of 1851, was eighteen millions of bushels. The United States Treasury report shows that the entire export from the United States of wheat and flour to foreign ports was much less than the export of those articles from the State of Ohio! In other words,

Ohio supplies all the breadstuffs exported from the United States to all the world, and a portion of that consumed North and South besides. Nor is this all. *Ohio exports more agricultural products and manufactures from agricultural products, than is exported from the whole United States, with the exception only of cotton and tobacco!*

"It comes to this, then, that though other Western States send much produce to the Atlantic, yet, if the exports of Ohio were taken out, or destroyed, there would not be one bushel of breadstuffs or pound of meat to send abroad. This, then, settles one point, that Ohio stands alone, in regard to the Union, as the great producer of surplusses for foreign market." The Record gives tables to show the general result, which will be found nearer the exact truth than is usually found in such tables. We copy the Cincinnati table:

CINCINNATI EXPORTS.

Flour, bbls.....	408,211
Corn, sks.....	51,231
Cheese, boxes.....	150,689
Potatoes, bbls.....	23,844
Seeds, bushels.....	33,321
Oats, sks.....	2,718
Tobacco, hhds.....	15,200
Butter, lbs.....	1,639,000
Beef, bbls.....	33,026
Tallow, lbs.....	200,000
Pork, bbls.....	139,458
Pork, lbs.....	3,912,943
Lard, kegs.....	355,145
Lard Oil, bbls.....	241,830
Whiskey, bbls.....	276,124
Wool, lbs.....	684,783

There are, also, tables of exports from Sandusky, Toledo, Vermillion, Cleveland, Portsmouth, Har-mar, &c. These show nearly the total exports of agricultural products from Ohio, but do not include manufactures or minerals, the amount of which are large. In the tables variable measures and quantities of the same article are reduced to a common standard for convenience. The following is his

GRAND AGGREGATE.

Flour, bbls.....	2,055,607
Wheat, bush.....	9,392,236
Corn, bush.....	6,193,127
Beef, bbls.....	82,429
Cattle, number.....	67,791
Pork, bbls.....	233,871
Lard, kegs.....	575,493
Hogs, number.....	181,772
Lard Oil, bbls.....	28,126
Tallow, lbs.....	521,258
Tobacco, hhds.....	26,958
Seeds, bush.....	86,411
Butter, lbs.....	3,254,220
Cheese, lbs.....	3,569,355
Whiskey, bbls.....	401,660
Wool, lbs.....	5,914,908
Beans, bbls.....	5,000

Oats, potatoes and other small articles are not included in the above, nor are the manufactures of agricultural products, such as soap, candles, pot-ash, buckets, furniture, &c., the aggregate of which will make several millions in value. The aggregate values in the table, reduced to, and estimated at a medium price, presents the following results:

Flour and wheat.....	\$15,788,216
Corn.....	3,100,000
Beef and Cattle.....	2,394,750
Pork, Lard, Lard Oil and Hogs.....	7,994,290
Whiskey.....	2,850,000
Wool.....	2,100,900
Tobacco.....	1,617,480
Butter, Cheese and Tallow.....	750,000
Seeds.....	172,000
Miscellaneous.....	500,000
Manufactured articles from products of agriculture.....	3,000,000

Aggregate value.....\$40,216,786

This is supposed to be rather below than above the amount. This export is a surplus of our pro-

ductions, above the wants of the State, and therefore, in regard to the State, a clear profit. If we suppose the landed property in Ohio to be worth five hundred millions, which is not far from the value, the net profit on it, shown by this export of surplus, was eight per cent. In addition to this, the farmer and family receive their support, rents, &c., so that the actual profit on money invested in good farming land considerably exceeds eight per cent.

The following is the statement of agricultural exports from the United States for the year ending June 30, 1853:

Products of animals.....	\$7,399,655
Vegetable food.....	16,877,844
Manufactures of soap, candles, leather, boots, shoes and furniture.....	1,734,821

Total.....\$26,012,320

Railway Traffic in Great Britain in 1853.

It appears that the gross traffic receipts of railways in the United Kingdom for the year 1852 have amounted to 15,543,610*l.*, being at the rate of 2118*l.* per mile per annum. The returns published weekly show that 15,088,310*l.* was received on the railways during the past year on 6915 miles, including about 200 miles of canal, being an increase of 530,400*l.* in the receipts over the preceding year on 6537 miles of railway, and also an increase of 378 miles in operation. Independent of these railways there are about fifteen new lines in operation, of an aggregate length of 240 miles, the returns of which are not published weekly, but may be estimated at 181,000*l.* In addition to these there are ten other lines of an aggregate length of 183 miles, belonging to old railway companies who do not publish their traffic returns; but it appears from the half yearly reports that the gross receipts on these lines are about 274,300*l.*, making together 455,300*l.* This sum added to the published weekly receipts, shows that the gross traffic receipts on the above railways during the past year amounted to 15,543,610*l.*

With regard to the traffic returns published weekly, they show a progressive increase during the past eleven years. In the year 1842, they amounted to 4,341,781*l.*; in 1843 to 4,842,650*l.*; in 1844 to 5,610,980*l.*; in 1845 to 6,769,230*l.*; in 1846 to 7,689,870*l.*; in 1847 to 8,975,671*l.*; in 1848 to 10,039,000*l.*; in 1849 to 11,013,820*l.*; in 1850 to 12,757,985*l.*; in 1851 to 14,567,910*l.*; and in 1852 to 15,088,310*l.* From this it will appear that the annual increase in the past ten years, being on the average more than one million a year, or during the ten years, is 10,746,529*l.* This increase partly arises from the continual development of the traffic on the trunk lines, and partly from the additional receipts derived from the opening of new lines and branches. The increase of traffic in the year 1842 over that of the preceding year, amounted to 500,870*l.*; in the year 1844 to 768,337*l.*; in 1845 to 1,058,340*l.*; in 1846 to 1,020,650*l.*; in 1847 to 1,285,780*l.*; in 1848 to 1,083,335*l.*; in 1849 to 954,810*l.*; in 1850 to 1,744,168*l.*; in 1851 to 1,809,925*l.*; and in 1852 the increase over the preceding year amounted to 520,400*l.* The great increase of traffic in the year 1850 was due in a great measure to the encouragement given by railway companies to excursion traffic in that year, and the increase in 1851 chiefly to that cause in connexion with the great exhibition. The year 1852 shows a comparative falling off in the increase of traffic as compared to the average of ten preceding years to the amount of 554,252*l.* From this it would appear that the efforts made to force the traffic during the past two years above the ordinary increase had reacted on the traffic of 1852, and thus reduced the expected increase of traffic in that year.

At the end of the year 1842, 1510 miles of railway were open to the public; during the next year an additional length of 56 miles of new railway was opened for traffic; in 1844 a further length of 194 miles was opened; in 1845 263 miles; in 1846 593 miles; in 1847 839 miles; in 1847 975 miles; in 1849 834 miles; in 1850 1096 miles; in

1851 280 miles, and in 1852 the published returns show an additional mileage of 378 miles. So far as the traffic is concerned, it does not appear that there can be much to complain of in respect of the aggregate amount of it on railways since they have been established, and were it not for the adverse interests operating at railway boards, the errors of engineers as to the cost of works and laying out of lines, the letting of large contracts at exorbitant prices by private agreement, excessive payments for land, the continual litigation both in and out of parliament, and the consequent unwarrantable expenditure on capital account, the traffic receipts would have been ample to pay fair dividends on the outlay.

The average traffic receipts per mile show the effects of opening within a period of four or five years so many miles of branch and competing lines of railway: During the year 1842 the gross receipts averaged 3113*l.* per mile, in 1848 3088*l.* per mile, in 1844 3729*l.* per mile, in 1845 3469*l.* per mile, in 1846 3305*l.* per mile, in 1847 2870*l.* per mile, in 1848 2556*l.* per mile, in 1849 2302*l.* per mile, in 1850 2227*l.* per mile, in 1851 2281*l.* per mile, and in 1852 2238*l.* per mile. This shows a falling off in the traffic per mile of about 30 per cent.; but during the past three years the receipts per mile have not been much under those of 1849.

The reduction in the receipts per mile would not be of much consequence, provided the average cost of constructing the railways was reduced in the same proportion as the traffic per mile—say from 34,000*l.* per mile to 23,000*l.* per mile, and so on in like manner with every additional line to the system, but unfortunately it appears that this would not suit engineers, contractors and other parties, although some cheap railways have been constructed, the following will show that they have not had much effect on the average cost of the whole:—In 1842 the cost of railways then in operation, including working stock, etc., averaged 34,690*l.* per mile, in 1843 36,360*l.*, in 1844 35,670*l.*, in 1845 35,070*l.*, in 1846 31,860*l.*, in 1847 31,700*l.*, in 1848 34,234*l.*, in 1849 35,214*l.*, in 1850 35,229*l.*, in 1851 35,058*l.*, and in 1852, 34,630*l.* About 5000 miles of additional railways and branches have been added to the system since 1845, at which time the average cost per mile was 35,070*l.*, being only about 440*l.* per mile more than the average cost of 1852. The stationary position of the average cost per mile shows clearly that the continued additions to the capital accounts of old and completed lines of railway, far outweigh all the proffered advantages of constructing thousands of miles of new railways at less cost than the old trunk lines.

The capital expended on the railways of which the traffic is published weekly amounted in July, 1842 to 52,380,100*l.*, in 1843 to 57,635,000*l.*, in 1844 to 63,489,100*l.*, in 1845 to 71,647,000*l.*, in 1846 to 83,165,100*l.*, in 1847 to 109,528,000*l.*, in 1848 to 148,148,200*l.*, in 1849 to 181,000,000*l.*, in 1850 to 219,762,700*l.*, in 1851 to 229,175,230*l.*, and in 1852 to 239,967,453*l.* The expenditure on the new and old lines above mentioned the traffic returns of which are not published weekly, amounts to about 8,626,100*l.*, making with the 239,967,453*l.*, a total of 248,593,553*l.*, expended on 7838 miles of railway, being at the rate of 33,879*l.* per mile. Deducting 45 per cent. for working expenses from the gross receipts of 1852, will leave for interest and dividend 8,548,985*l.*, which on the capital expended would be at the rate of 3.44 per cent per annum. It is probable that the amount to be divided among the holders of railway shares, bonds and debentures after the next half yearly meetings in February, will not be less than 4,500,000*l.*—C. E. and Architects Journal.

Pern Railroad.

The stockholders of this road have definitely acted upon the proposition to subscribe to the capital stock of the Marietta, the Ohio and Indiana, and the Springfield and Mount Vernon railroad. Upon the question of subscribing to the Marietta road the vote (by stock) stood: for, 39,989;

against it \$883. For subscribing to the Ohio and Indiana railroad company 46,040; against it 900. For subscribing to the Springfield, Mount Vernon, and Pittsburg railroad company, 44,611; against it 825.

American Railroad Journal.

Saturday, April 30, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for *BOOK AND JOB PRINTING*, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

Markets on Wheels.

The food of the people is their first care. The food of mankind for a year is equal in value to the whole movable wealth of the world. To the laboring man, his food is more than all his other expenses; and this must be had, however other things may be cut short. To the people at large, therefore, the price of their food is the measure of their other enjoyments. Whatever makes his day's labor productive of more or better food is a God-send to the poor man. He wants wages to go to market, and a cheap and handy market to go to.

The magnitude of the subject is probably the reason why the Corporation continues in the market business after having given up every other branch of trade to individual management. But, it happens in this case, as in most others, that those who enjoy the monopoly of the public markets, manage the matters for their own advantage rather than for the advantage of the people. It is convenient and profitable for the market folks to have a few great markets; while it would be convenient and profitable for the people to have many small markets, because there would then be a market near to every man's home, and competition among the sellers would make low prices in every market.

Any plan which will bring the consumers of food so near the producers that they can hand over to them the whole price to be paid, will enable the producer to make that price the smallest which will repay the labor of producing and bringing to market.

We have been looking about for some such plan. Various suggestions have been thrown out since the opening of the railroads, which terminate in this city. The letters of a "Westchester Farmer," published in the *Journal of Commerce*, proposed that the producers of food should also convey it to the consumers in the city, by taking into their own hands the freighting business on the railroads, chartering the cars, and paying the companies a minimum price for drawing the cars to and from the market places in the city.

The railroad companies have taken the hint, and not only reduced the price of carrying freight to a lower rate than has heretofore been charged

by sloops and steamers, but they have invited the people of the country to take the freighting business into their own hands. Many are doing so, and more are ready to do so, as soon as they can find a way of running their car loads of food into the market house.

Meanwhile it has occurred to us that the number of different articles of fresh and perishable food, required for the daily use of a family, is a small number; and that the daily wants of a small vicinity might soon be ascertained, so that the requisite supplies, and no more, might be brought every morning at an early hour. But how are those supplies to be brought into every small vicinity? This is the question. Let us look for the answer.

The map of the city is fast becoming a railroad map. Those, who dread the passing of a car along their street, should have resisted the beginning. Having suffered the people to see and ride in one city car, there is no hope of keeping the vulgar intruder out of the streets, most sacred to palaces and private coaches. The Sixth Avenue car is actually taking the gentry of Fifth Avenue and Union Square out of the Broadway omnibusses, and carrying them down to business or amusement. All the enjoined and vetoed city railroads are fore-ordained to be made. The courts and the Legislature have left the bars down for the Common Council to proceed in order with this work. The car mania has turned the heads of a large majority of both Boards of the City Fathers; and they will grant the roads to the highest responsible bidders, until no quarter of a mile on the Island will be found without an iron track. These tracks will connect and cross at all the street crossings, so that a car starting from anywhere will run to everywhere, and through everywhere from Kingsbridge to the Battery, and from side to side of the whole town, and there will be turnouts into thousands of places of manufactures and commerce.—Nay, more, all sorts of wheel carriages will be adapted to the gauge and groove of the track, and all things and people will be riding on a rail.—Moreover, the time may come when this borrowing of a ride on the rails of a company will lead to a common city ownership of the tracks.

But what has this net-work of rails to do with a cheap and easy supply of daily food from the country to every neighborhood of the city? We shall see.

The terminus of each of the railroads from the north and east may connect with this net-work of city tracks. Cars loaded with all sorts of daily food, from all parts of the country, ready for family use, may be run into one hundred small market places, even if those places are no more costly than a turnout by the curbstone on the side of a wide street, where these cars may stand from daylight to 8 o'clock in the evening, supplying meats, milk, poultry, fruits, vegetables, butter and eggs to the people, two or three squares around; and then move off to the general station to carry back city supplies to the country from which the food came. Or, each of these market places may be arranged on one or two lots of ground to be provided for the purpose by the sellers of the food.—And, if this plan become common, the city authorities may drop the whole business of the markets, and let the people make the bold experiment of taking care of themselves and their affairs.

And why not have these "markets on wheels?" the same wheels which brings the food from the farmer's wagon in the country; and without a cart or a forestaller bring the produce of the land, under the care of the producer, to the door of the consumer? Let the seller provide the market place, or let the city provide it—in either case the markets should be many and small, and the consumers of food should have all the advantages which can be given them by appropriating to their use the railroads of the Cities and Country.

Trautwine on Railroad Curves.

We have received a copy of the second edition of Trautwine on Railroad Curves. This, as well as Mr. T.'s work on Calculating Excavations and Embankments, have already attained a wide circulation, and are certainly the best books we have on the subjects.

Ohio and Mississippi Railroad.

We omitted to state that the article entitled, "The Geographical, Geological and Statistical relations of the Ohio and Mississippi Railroad," published in our last issue, was prepared for the Company by E. D. MANSFIELD, Esq., of Cincinnati.

North Carolina

Weldon and Gaston Railroad.—This road was opened last week, on which occasion there was a great dinner at Norfolk, partaken of by the citizens of North Carolina, Virginia and Maryland. About 350 persons were seated, and general joy was manifested at the acquaintance so happily made by means of railroads.

Muskingum Valley Railroad Company.

This Company was lately organized, and the stockholders elected the following named gentlemen Directors for the ensuing year: Douglas Putnam, T. W. Ewart, W. S. Nye, John Mills, Beman Gates, M. Clarke and Davis Green.

Orange and Alexandria Railroad.

The city of Alexandria has subscribed \$50,000 to the Orange and Alexandria railroad, which will complete the road to Gordonsville, its point of junction with the Virginia Central railroad.

Huntsville and Piqua Railroad.

A convention has just been held, at which it was decided to construct a railway from Huntsville to Piqua. The citizens of Sandusky city, take a deep interest in the project, and as the distance is only about thirty miles, the road will probably be built.

North Lebanon Railroad.

At an election held in the borough of Lebanon, on Saturday, April 2, by the stockholders of this improvement, the following gentlemen were elected Directors, viz:—John Krause, President; R. W. Coleman, G. D. Coleman, Wm. Coleman, Levi Kline, John Weidman, Jacob Weidle, Benjamin Mooney, D. S. Hammond, Augustus Boyd and C. B. Forney.

The road has been commenced at the northern terminus, in North Lebanon, and it is the determination of the company to finish it at an early day. This road is to extend from North Lebanon to Cornwall, a distance of between five and six miles only; but the building may be set down as an era in the history of Lebanon county. It will pass through the borough and connect with the Lebanon Valley, or any other of the roads spoken of, and one of which must also be commenced before many days.

Cincinnati and Fort Wayne Railway.

It will be remembered that in our issue of the 16th inst. there was a report of the consolidation, under the above title, of the Cincinnati and Fort Wayne and the four Milc Valley Railway companies. This road was first organized on the Indiana portion of the line, in February last. The subscriptions of stock already amount to \$400,000, and are rapidly increasing. The Board of Directors are reported to be energetic business men, who are making every effort to have their road completed at the earliest day.

Arrangements are on foot to put the whole line under contract in a few weeks. That portion of the road from Fort Wayne to Winchester, where it crosses the Bellefontaine and Indianapolis road, will be in operation within twelve months—length, 63 miles.

The object of this road is to give Fort Wayne an advantageous and expeditious connection with Cincinnati, and all the great eastern and western routes through Ohio and Indiana. It will prove, virtually, an extension of the Fort Wayne and Chicago Railway, from Fort Wayne to Cincinnati, through a section of Indiana and Ohio which has now no immediate railway communication with a market. The proposed route is from Fort Wayne nearly south to Winchester—the crossing of the Bellefontaine and Indianapolis road; thence a little east of south to Centreville, Indiana, at and near which place it crosses both the Cincinnati and Chicago and the Indiana Central Railway; from Centreville inclining more to the east—the route crosses the Ohio State line near Oxford, and continues a little east of south to Hamilton, whence it is proposed to reach Cincinnati, for a time, at least, either by the Hamilton and Dayton or "Short Line" roads.

This is the general direction of the proposed route; what particular towns it will pass through we are unable to say. A good road on such a route must command an extensive local business. PETER P. BAILEY, Esq., of Fort Wayne, Pa., is the President of the consolidated companies, who are engaged in this project, and he is devoting his best efforts to its ultimate success.

Hempfield Railroad.

The city council of Philadelphia has subscribed \$500,000 to the stock of the Hempfield railroad.

Stock and Money Market.

The stock market continues active, with an advance of prices in many instances, favored with a comparatively easy money market.

The following is the financial statement of the Galena and Chicago railroad.

Consolidated stock, 13,543 shares*.....\$1,354,300
Third division stock 6,140 shares†..... 614,000
10 per cent consolidated bonds..... 110,500

Full amount of stock.....\$2,078,800
7 per cent. unconvertible bonds issued. 422,000
Do do do to be issued. 178,000

Full amount stock and bonds.....\$2,678,800
Length of road to Freeport (miles).....120
Length of branch to Beloit..... 20

Total..... 140
Of road costing \$2,678,800, or less that \$20,000 per mile.

*Amount paid in.....\$1,349,741 15
†Amount paid in..... 582,620 00

Earnings of 92 miles of road, costing \$1,800,000, in operation since May, 1852:

May, 1852..	\$31,728 48	Nov. 1852..	\$46,802 04
June.....	43,225 12	December....	38,705 35
July.....	35,147 19	Jan., 1853....	32,672 31
August.....	40,158 85	February ...	25,699 23
September..	56,031 68	March	28,226 59
October.....	58,712 00	April	35,000 00

Earnings for one year.....\$472,109 14
The receipts of the Buffalo and State Line Railroad for March, 1853, were.....\$55,489 80
For March, 1852, were..... 32,000 00

Increase.....\$23,489 80
The comparative receipts of the Rochester and Syracuse Railroad, for the first quarter of the year have been:

	1852.	1853.
January.....	\$45,745 41	\$86,658 76
February.....	50,852 19	75,514 56
March.....	53,233 16	85,640 00

Total.....\$149,830 76 \$247,813 32

Among the late transactions, said to be chiefly for foreign account, we notice one million convertible bonds of the Belvidere Railroad Company, guaranteed by the Camden and Amboy Railroad and Delaware and Raritan Canal companies, has been perfected through Messrs. Duncan, Sherman & Co., of this City, and C. H. Fisher, Esq., of Philadelphia.

The receipts of the Rochester and Syracuse Road for March, were \$84,500.

The Little Miami Railroad Company's receipts for the week ending April 10, 1853, were.....\$10,448 31
Receipts for the week ending April 10, 1852..... 7,221 92

Increase 47½ per cent, or..... \$3,236 39

The Madison and Indianapolis Railroad company's receipts for the month of March, 1853, were.....\$47,000 00
Receipts for the month of March, 1851, 40,426 58

Increase 16 per cent, or..... \$6,573 42

The business of this road for the first 3 months of the year is very satisfactory, as will be seen by the following figures—

Receipts.....\$118,370 33
Expenditures..... 62,175 80

Net Earnings..... 56,394 53
Receipts same time in 1852.....\$101,634 45

Increase in 1853.....\$16,934 88

The net earnings of the last three months are nearly four per cent on the capital of the road.—The expenditures include about \$16,000 for taxes and wood, which should be spread over the entire year.

The collections in the city of Philadelphia, at the office of the Columbia Railway, for the month of March, and for the fiscal year from 30th Nov. last, were as follows:

Amount as per last report.....\$72,374 58
Amount as pr. month ending March 31, 1853..... 62,594 27

Whole amount since Nov. 30th, 1852.. 134,908 75
Same time last year..... 105,680 33

Increase.....\$29,288 52

If this rate of increase is continued throughout the year, a very handsome aggregate will be added to the State revenues.

The Ohio Central Railroad is said to be earning 7 per cent net on its cost so far as completed.—The business of the road for March is shown by the annexed figures—

Passengers.....	\$6,725 61
Freight.....	2,648 21
Mails, &c.....	1,083 39
	\$10,459 21

The following is Mr. PETTIT's response to some enquirer, with reference to the new Coinage law and will be found of general interest:

PROVISIONS OF THE NEW COINAGE LAW.

Mint of the United States.

Philadelphia, April 14, 1853.

SIR—In reply to the questions of your letter of yesterday, I have to present the following statements, relative to the operation of the late laws on the operation of the mint:

1. The additional charge, over and above the deductions heretofore customary, will be six cents per \$100, for the preparation of ingots of fine gold. If a deposit be collected in coin, instead of ingots, the additional charge above the former rates will be fifty cents per \$100. The advantage of receiving bars, instead of coins, will be equivalent to forty-four cents on the \$100. So far, therefore as gold is to be employed for export, or for purposes other than speculation, I think it will be found economical, not to speak of other advantages, for depositors to demand payment in bars.

2. You ask whether, if coined at the mint, can the proceeds be paid at the sub-treasurer's office, in this (New York) city. I presume you mean to ask whether the bars can be so paid, although it is improper to use the term coined to express the manufacture of a bar. In reply, I have to say that there is nothing in present laws authorizing the receipt or redemption, elsewhere than at the mint, of its issues, whether of bars or of certificates of deposit. On the organization of the Assay office in your city, it will be competent to deposit there the bars issued from this mint, for which the value will be paid in coin, less half per cent for coinage; or they may be returned at any time to the mint here, for coin, and paid on the terms just mentioned.

3. With regard to silver separated from gold, the mint now pays the full weight in silver dollars. The former practice of paying in gold was, by consent of the Treasury department, changed by the late director, who, after mature reflection, was convinced of its impolicy and irregularity. The dollars paid for silver parted are, of course, at a premium, which the depositor may realize, either by sale in the bullion market, or to the mint at our fixed price of \$1 21 per oz., say 4 per cent premium.

4. Your fourth question is not very clearly understood, but I presume you wish to inquire whether the mint certificates of the net value of deposits must be issued singly, for the total value, or whether we might divide them into convenient sums, say of \$50, \$100, \$500, &c., the aggregate of which should be equal to the sum total. In reply, I have to state that there is no authority for the latter course. A suggestion, asking for such authority, was made in Mr. Corwin's Treasury report of 1851, but not acted on.

5. The charges at the mint would not be varied by reason of any private melting or assay of bullion. Nor will there be any practical difference to depositors between deposits at the proposed assay office at New York, and at the mint.—There will be the same charges and the same advantages at that office as at this mint or at a mint in New York. The difference to the government will be, that instead of procuring coin for the payment of New York depositors, by coinage in that city, it will be necessary, from time to time, to transmit the bullion here for manufacture; but this in no manner affects the depositors.

Any further information or explanations which you may desire, I shall be very happy to furnish.

Very respectfully, your obdt servant,
T. M. PETTIT, Director,

Portland, Nashua and N. York Railroad.

A project is already matured for the completion of a line of railroad from Portland, Maine, to this city in a direct route, without passing through Boston. The plan is, to run from Portland, over the York and Cumberland railroad, to the State line of New Hampshire, at Lebanon, thence on the most direct line to Nashua, where it is to connect with the Nashua and Worcester railroad.

The necessary authority to carry this plan into effect, was obtained from the legislature of Maine, at its recent session, and an application is made to the legislature of New Hampshire for the same object.

The legislature of New Hampshire meets for business in June next.

This plan will meet favor in this city, more especially from the New York and New Haven railroad company, and the friends of the "air line" project.

The advantages of the scheme are very clearly and fully stated in an address to the friends of the project, recently issued, signed by Col. C. Q. Clapp, president of the York and Cumberland railroad; extracts from which will be of interest to our readers.

The Portland, Nashua and New York railroad, as proposed, will extend from Portland through Gorham, Buxton, Hollis, Alfred, Springvale, Lebanon, by Little Falls to Rochester, across the Great Falls and Conway, and Cochecho railroad, through Barrington, Epping, across the Portsmouth and Concord railroad to Derry, across the Manchester and Lawrence railroad to Nashua, connecting with the Nashua and Worcester railroad, which leads to Worcester, to a junction with the Worcester and other railroads leading to New York.

By the coalition proposed, a connection with Boston will be secured to the road, first by the way of Great Falls and the Boston and Maine, 2d, by the Cochecho through Dover to Portsmouth, and by the Eastern road, 3rd, by the Manchester and Lawrence railroad to Lawrence, and from thence by the Boston and Maine; all three roads being about equal as to distance from Portland.

Thus the Boston and Maine railroad company, will be necessarily compelled to give the Portland Nashua and New York railroad company, advantages equivalent to an equitable division of fares, or otherwise, the travel will be conducted through such other channels as may be found most conducive to the interests of the road.

The York and Cumberland railroad extends at this moment, and has been run over by cars, to Saco river. The means of the directors as well as the contractor have been severely tested, and but for their individual exertions and responsibility, the progress of the road would have been arrested. During its snail-like advance, offers have been received from competent parties to provide all the means necessary to complete and equip the road, provided the Boston and Maine railroad company would make the arrangement for a division of fares, which would compensate the company for the transportation of passengers and freight.

No other proposition has ever been received from the Boston and Maine railroad company, than that the York and Cumberland passengers should be transported and paid for as way passengers.

Passengers from Portland are charged by the Portsmouth, Saco and Portland and other Boston railroads, two dollars each to Boston, while the way passenger is charged one dollar and eighty cents from Great Falls to Boston, thus allowing the York and Cumberland only twenty cents for the transportation of passengers a distance over 50 miles.

In this connection, it should be observed, that the city of Portland has heretofore taken but little interest in the construction of the York and Cumberland railroad, from the fact that the previous

locations have promised but little remuneration for the capital employed, by way of addition to its business.

The proposed arrangement offers not only an inducement for assistance from Portland, by opening a new avenue to the interior, but by lightening its expense of communication with N. York.

The last suggestion may strike with surprise those individuals who are somewhat antiquated in their knowledge of the business channels of this city. Eight years ago, nineteen twentieths of all the supplies both for domestic consumption and foreign trade, were drawn from Boston, while at the present time, with an internal trade quadrupled, three fourths of the articles are now from N. York.

New York is the great mart for imports to this country, and the Boston and Portland merchants, side by side, make their purchase there; the freight to Boston and Portland being equal, the Portland merchant is enabled to make equal profits by selling at lower rates, to the extent of the diminished charges upon all goods landed, as well as of rents and other domestic expenses.

The enterprise of Portland has been manifested in the prosecution to the completion of the Atlantic and St. Lawrence railroad, and it will not suffer a road so identified with its interest to slumber after the first great object of its ambition shall have been completed.

This change in the business connections of Portland, which have also extended to a very considerable portion of Maine, now require other facilities than can possibly be rendered by the Boston and Maine railroad; and although the simple arrangement for a connection at Great Falls, would have been satisfactory to the York and Cumberland, before the wants of the community were unfolded, it has now ceased to be even an object of desire, beyond the mere interest of that locality.

The directors in view of the above facts, have arrived to the conclusion, that there is no other way of building the road than by adapting it to the public convenience.

The route from Lebanon to Rochester, it is believed, will accomplish that end. By crossing the Great Falls and Conway road, Portland will retain its present trade with New Hampshire, and obtain a very considerable accession, while a different policy would witness the results which followed from railroad facilities being furnished their Vermont customers, of whom few, if any, are now left to the city. The Great Falls and Conway railroad will be benefitted by a free communication with the centre of New Hampshire, and with Maine, and the carriage both of passengers and freight increased thereby.

Within a few feet of the Great Falls and Conway railroad, the proposed road will cross the Cochecho railroad, which now extends from Dover to Winnipisseogee lake, and is laid out to Meredith, to a connection with the Boston, Concord and Montreal railroad. When this road is completed, Meredith, N. H. and Burlington, Vermont, will be at least thirty-five miles nearer to Portland than to Boston. The saving of travel will enable Portland to regain that part of the Vermont and New Hampshire trade, which was lost to it by the R.R. facilities afforded to Boston.

The Portland, Nashua and New York railroad will cross New Hampshire as has been before described, from Lebanon through Rochester to Nashua, which will make a saving of at least 30 miles distance to every citizen of Maine, whose destination is N. Y., or the western states.

The citizens of Saco, Kennebunk, Wells, and Portsmouth, would take the Portsmouth & Concord road to Epping; thence by the proposed road to Nashua, and by the Nashua and Worcester road to Worcester; thence by the Springfield or the Norwich and Worcester, or by the air line from Pomfret, and Norwich by the boat, or N. Haven by land to New York.

The saving of distance is not all, but there is a saving of time also. As an example:—The cars now leave Augusta and Waterville in Maine, at ½ past 5, A. M., and arrive at Portland in season for

the half-past eight o'clock cars for Boston. Should the Portland and Nashua be constructed, the cars will leave Bangor in Maine, when that road shall be completed, at six o'clock, A. M., beat Augusta and Waterville at 9 o'clock, at Portland at twelve and leaving Portland at half past twelve o'clock, be at Worcester in time for the cars to New York; thus rendering facilities to the traveller who will leave Bangor at six A. M., and arrive in N. York at 12 o'clock at night, by the present arrangements, or a half past 10 o'clock, P. M., by the air line R. R. from Pomfret.

New Hampshire and Maine are thus connected with the commercial metropolis of the U. States, without travelling thirty additional miles to pass through Boston, and will then be relieved from the forced contribution to their hotels and their hacks, and the loss of about three hours, which is now wasted in Boston.

New Hampshire gains more; she is afforded facilities through a central portion of that state, and will thus bring into operation the Portsmouth and Concord railroad, which now languishes for support. Portsmouth will then supply Nashua and Manchester with coal, iron, cotton, lime and lumber, cheaper than can be afforded from Boston, and thus give additional value to their ware houses, and other commercial conveniences.

The Great Falls and Conway, the Cochecho and the Portsmouth and Concord railroads, are not the only ones to be benefitted by the construction of the Portland, Nashua and New York railroad, but the Manchester and Lawrence and the Concord, by and independent of, its connection with the latter road. The Nashua and Worcester will then take its place among the first class roads, and the Nor. and Worcester will be erased from the list of the fancies.

Among the many benefits which would accrue to the traders of New Hampshire and Maine, would be that of direct communication with New York. Valuable freight is now shipped by steamboats from N. York to Fall river, thence changed to the railroad and transported to Boston, and at Boston it is trucked across the city, and again shipped on board the steamboat for Portland; even the merchandise being thus tributary to Boston.

When the Portland, Nashua and New York railroad shall be completed, freight will be shipped to Norwich, and from thence transported by railroad, and without change, to Rochester, Dover, Portsmouth, Saco, Great Falls and Portland.

The consolidation of the two railroads, will find favor with all persons conversant with railroad affairs, not only so far as economy in its administration, but in the convenience of its practical duties.

The name is adopted for its geographical direction, which is found useful to the way traveller.

Railways Here and Abroad.

It is not a great many years since every American traveller who went to England wrote home glowing descriptions of the railways there—how the cars went faster—rode easier, ran off the track less frequently—and were in every way superior to ours. But the changes that our rapid growth brings about, seems to have extended to our railway management as well as every thing else. It will be seen, by the following article from the London Times, that Parliament is urged now to take our railroads as models for the English ones:

From the London Times, March 25.

RAILWAY MANAGEMENT.—Although Railway reform was not enumerated among the prospective topics of the session, it is known that the subject has occupied the active attention of the department charged with this branch of the business.—Indeed, there was less chance of its being overlooked from the circumstance that all parties had a common and almost equal interest in bringing it under revision. In most reforms there is an element of either obstructiveness or conservatism which is more or less influential in keeping things as they are, but the existing system of railway management is so unsatisfactory to proprietors as

well as to the public, that there is a universal concurrence in demanding a change. The companies themselves have generally pronounced for amalgamation; the public appears to entertain no very definite views, but to apprehend with considerable reason that if railway companies are left to be their own reformers the last state of things may be worst than the first. In this conjuncture it may be of great use to compare the proceedings of other countries under somewhat similar conditions, and for this purpose we publish elsewhere the most important portion of a report made on the subject of railway management to the State Senate of New York.

It will be seen that these intelligent Americans have gone through very much our own course of dissatisfaction, difficulty and embarrassment.—They have discovered by experience that railways, if left to themselves, cannot be relied upon for a faithful discharge of their duties to the public.—They have concluded, after some hesitation, that competition cannot be looked to in concerns like these for securing the results desirable, and though they are thus reduced to the single alternative of recommending Government control, they see with perfect clearness that any direct interference on the part of the State would be likely, by relieving railway officers of their proper responsibility, to produce more evil than good. In this perplexity they suggest that, while the immediate management of railways should be left to the companies themselves, a rigorous system of State supervision should be exercised throughout the agency of some authority created for that purpose.

To the Board of Commission so constituted are to be confided full powers for insuring that all railway companies perform their legal obligations to the public without exceeding their own privileges, and for exacting "the most accurate returns and statistics," so that "ample and unreserved publicity may be given to all the details of their operations, for the purpose of enabling the community to judge, from the representations of responsible and disinterested authority, of the skill and fidelity of their management." It is proposed, also, that the duty of inquiry into railway accidents should be intrusted to the same board, in order that the public safety may be insured by the prompt application of the best preventives, and the companies protected from misrepresentation by the judgment of an impartial tribunal.

Such is the outline of the conclusions announced in the American report, and it is not improbable that our own legislation may ultimately take some such step as is here recommended.

The railroads of New York will be in a year or two—if indeed they are not now—better managed than any others of the same extent in the whole world.

Their Express trains averaging a regular speed of 45 miles to the hour—their sentries, two to every mile post—their spacious, comfortable cars—their "compound rail"—their thorough system of signals and connected supervision and management—have no parallel on the continent, and are not excelled even in Great Britain.

And much as we complain of the frequency of accidents, the report of the State Engineer shows that last, not a single passenger on them all was killed who kept his seat.—*Albany Journal*.

Ohio.

The work on the Scioto and Hocking Valley road is progressing rapidly. The road, it is now said, will be opened to Jackson, forty-four miles from Portsmouth, in June next. This leaves but 81 miles to complete the road to Newark, where it will connect with the Sandusky, Mansfield and Newark railroad, the gauge of both roads being the same, and different from that of any other roads in Ohio, viz: five feet four inches. The road is to be laid with a rail of sixty pounds to the yard;

cost of road per mile \$20,000; total estimated cost, \$2,500,000.

Journal of Railroad Law.

AN INJUNCTION AGAINST SUBSCRIBING FOR RAILROAD STOCK.

The county commissioners of Philadelphia county having taken the responsibility of subscribing to the stock of the Sunbury and Erie railroad, to the amount of \$2,000,000, the Supreme court of Pennsylvania has arrested their proceedings, for a time at least, by an injunction.

It appears that all the members of the court, viz: Chief Justice Black, and Judges Lewis Laurie, and Woodward, were present at and concurred in the decision, respecting the illegality of the subscription in question, which was submitted for adjudication in the case of *Brown, Randall and others, vs. the Commissioners of Philadelphia county*.

This was a bill in equity by several citizens and taxable inhabitants of the county of Philadelphia, who complained that the defendants, commissioners of the county had agreed to subscribe for twenty thousand shares of capital stock in the Sunbury and Erie railroad company, at one hundred dollars for each share, and to pay for these shares were about to make and issue bonds in the name of the county, to the amount of two millions of dollars, pledging the faith and credit of the county for their payment. The bill avers that the large debt thus created would seriously impair the credit of the county and augment the taxation upon the property of the citizens, and that the whole proceeding, as contemplated by the commissioners, is without any warrant or authority of law. The relief prayed for is an injunction to restrain the defendants from making the subscription, or issuing the bonds referred to.

The answer admits that two of the commissioners (being a majority) have agreed to subscribe for the stock as alleged in the bill, and that they intend to pay for it in bonds of the county, and they are well assured that they have the power by law to do so.

Upon these facts, the plaintiffs moved for a preliminary injunction, and the decision of the court turned mainly upon the construction of certain statutes of Pennsylvania, in reference to the powers of the county commissioners, and of the county board, which last mentioned body is composed of the members for the time being of the Senate and House of Representatives, from the city and county of Philadelphia.

By the laws of Pennsylvania, it is provided that without the consent of the county board no loan can be incurred by the county commissioners, and that such county board must regulate the terms of the loan and make specific appropriations to pay out the proceeds thereof. But this legislative provision was disregarded by the commissioners, on the ground that it had been virtually repealed by the Act of April 15, 1834.

The Act which is said to repeal the one erecting the county board, is the general "Act relating to counties and townships, and county and township officers," passed April 15, 1834, which in its third section provides that counties and townships shall have capacity as bodies corporate for certain enumerated purposes, and by the fourth section declares that "the corporate powers of the several counties and townships shall be exercised by the commissioners and supervisors thereof respective-

ly." It is argued that the words here quoted imply a repeal of the Act of April 10, 1834.

But the court held that the act last quoted was by no means inconsistent with that previously cited, which requires the consent of the county board in case of loans, but that the two Acts may well stand together.

The county board was held not authorised by the Act of 15 April, 1834, "to take the place of the county commissioners but only to supervise them, and consequently the subscription unauthorised by them is void. Injunction was ordered upon plaintiff's giving \$1,000 security.

Indiana.

"*The Evansville, Indianapolis and Cleveland Straight Line Railroad.*"—We notice by the Indianapolis papers that articles of association have been entered into, under the general railroad law of the state of Indiana, by Oliver H. Smith, late president of the Indianapolis and Bellefontaine R. R. company. Willard Campbell, Esq., of Evansville, and their associates, with a capital of \$4,000,000, under the above name, to construct a straight line railroad, from Evansville, on the Ohio river, by way of Indianapolis to Union, the only points made in the line. The object of the company is to extend the through line from Cleveland, (about being completed to Union) on the Ohio gauge, from that point, on the same gauge, avoiding reshipments through the centre and capital of the state of Indiana, to Evansville, the south-western city of the state, on the Ohio river, about 350 miles below Cincinnati, 250 miles below Madison, and 200 miles below Louisville. The length of the line from Cleveland to Evansville will be only 420 miles. The length of the line proposed to be built by this company, will be about 225 miles, running through the heart of the state of Indiana lengthwise, and connecting at Evansville with the business and travel of the Ohio river, the Wabash and Erie canal, and the Nashville and Southern railroads. The great importance of this road will be seen at once by reference to the map, while the character of the men engaged, is a strong guarantee of the success of the enterprise.

NEW YORK

Lubricating Oil Manufacturing Co.

12 BROADWAY,

PROPRIETORS AND MANUFACTURERS OF
DEVLAN'S PATENT LUBRICATING OIL,
FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon Slides and Journals, by the use of bad oil. It will wear longer than Sperm, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.

ap30 3m

Krupp's

BEST CAST STEEL.

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions not exceeding six feet long by eighteen inches diameter.

Piston Rods and Shafts for Steam Engines.
Railway and other Axles, Cranks, Springs and Tyres.
Cannon, Rifle and Gun Barrels.
Mint and other Rolling Mills.

—Particularly applicable for—

Engravers' Transfer Rollers and Plates; Diesinkers' Tool-makers, Reed and Lace Makers' use; Dredging Chains, etc., etc. Manufactured at Essen, in Rhenish Prussia, by **FRIED. KRUPP**

Agents, **THOMAS PROSSER & SON,**
ap30 28 Platt street, New York

BRIDGEWATER PAINT, FOR WOOD, BRICK AND IRON BUILDINGS, Steam and Canal Boats, RAILROAD CARS, & C.

OR
For all kinds of Work above and under water.
PERFECTLY SPARK AND CINDER PROOF,
On Roofs of Houses, and Decks of Steamers, Railroad and
other Bridges.
For sale in Bbls., 300 and 400 lbs., and Kegs, 25, 50 and 100 lbs.
R. BOGERT, General Agent,
Depot: 125 Pearl and 78 Beaver sts., New York.

CLARK & JESSUP, GENERAL RAILROAD SUPPLY AGENTS, AND FORWARDING MERCHANTS,

ALSO,
Agents for the Sagatuck Iron works,
NO. 38 EXCHANGE PLACE,
NEW YORK.
OFFER their services for the Purchase, Inspection and Forwarding of Railroad Iron, Chairs, Machinery, etc. Orders are invited for Locomotive and Stationary Engines, Passenger and Freight Cars, Machinists' Tools, Spikes, Chairs, Switches, Frogs, etc.; also, Locomotive Tires, BO, or Lowmoor pattern, which will be executed at Manufacturers' prices.
Engine Waste, Cotton and Hemp Packing, Bell-rope, Car and Switch Locks, Locomotive Lamps, etc., constantly on hand.

REFERENCES:
Rogers, Ketchum & Grosvenor,
Phelps, Dodge & Co.
Ketchum, Rogers & Bement,
N. L. & G. Griswold,
Illinois Central R. R. Co., and others,
Reed, Chadwick & Dexter,
E. Chadwick, Esq., Treasurer of the
Merimack Mills,
New York, April 30, 1853.

Railroad Iron.
3000 TONS superior quality, delivering from April forward, with 5 to 600 tons per month, for sale by
NAYLOR & CO.,
125 Pearl and 99 & 101 John street.

Wm. Swinburne,
LOCOMOTIVE ENGINE BUILDER, Paterson,
N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

To Contractors.


SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.
Portland, April 9, 1853.

A. Whitney & Son,
PHILADELPHIA, PA.,
MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31tf

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

Blake & Parkin, MEADOW STEEL WORKS, SHEFFIELD,

INVENTORS OF
CORE-ANNEALED CAST STEEL,
A most Important Improvement in CAST STEEL, originating with B. & P. for SCREW TAPS, PISTON RODS, ENGRAVERS to CALICO PRINTERS, SILVER and GOLD ROLLERS, etc., etc., warranted to harden by ordinary process without breaking, being soft in the centre to any required diameter, and hard to any specified depth from the outside.

HARD CENTRE CAST STEEL,
For DIES, LATHE CENTRES, MINT PURPOSES, etc., etc., warranted to harden the inside without breaking, (the outside remaining soft.)
HARD AND SOFT SURFACE CAST STEEL,
In Bars and Sheets, hard on one or both sides, and soft in the centre; or soft on one or both sides, and hard in the centre, and adapted for a variety of purposes, as MACHINE KNIVES, SLIDE BARS, PLOW KNIVES, PLANING KNIVES, ROLLER BARS for Beating Engines for Paper Makers, etc.

This peculiar Steel is quite SOLID, and it is quite malleable, and draws down under the Hammer, still retaining the difference of hardness. When hardened, the hard part is left very hard, while the soft is left just harder than common iron.

THE REPORT OF THE JURY OF THE
"EXHIBITION OF ALL NATIONS."
Class 21, Page 486:

"The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE & PARKIN, of SHEFFIELD, consisting of the union of Two qualities of Cast Steel, hard and soft, in the same article; manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors."

A PRIZE MEDAL WAS
AWARDED TO
MESSRS. BLAKE & PARKIN.
N. B.—The Inventors mark all their Goods with their CORPORATE MARK—X. L. ENT.
Also, Cast Steel, German and Spring Steel, warranted Cast Steel Files, Saws, etc.
GEO. SANDERSON,
248 Pearl st., N. Y.

February 9, 1853.
**Wilkinson's
EXPLOSIVE
RAILWAY SIGNAL,**
For sale by
BRIDGES & BROTHER,
64 COURTLANDT STREET.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

THIS WILL BE FOUND ONE MORE PREVENTIVE OF COLLISION. It is often the case that during a fog or snow storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.
January, 20, 1853.

Superior Cast Iron Gas and Water Pipes.

THE Subscriber is prepared to contract for the supply of CAST IRON PIPES required by Gas or Water Companies, Corporations, etc., delivered in any Seaport in the Union, on reasonable terms. These Pipes are cast on the most approved principle by the best Founders in Scotland, from a superior quality of Pig Iron remelted, are guaranteed to resist a pressure of 300 lbs. to the square inch, or greater if necessary, and to be soft enough to drill easily and freely. Full information regarding price, and references to parties in the United States now using the Pipes, can be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Renfield st., Glasgow,
Scotland.
J. M. EADIE, Agent,
26 Front st., New York. 1y50

\$300,000 PERU and INDIANAPOLIS RAILROAD FIRST MORTGAGE CONVERTIBLE SEVEN PER CENT BONDS.

We offer for sale, at reasonable rates, \$300,000 of the 7 per cent 1st Mortgage Convertible Bonds of the Peru and Indianapolis Railroad Company,

Forty miles of this road, lying between Indianapolis and Tipton, is now completed and in operation. The Madison Road operates the same. The residue of the line to Peru, 32 miles, will be completed and in operation by the 1st of November next.

The entire Road will cost, when completed and equipped, about \$1,200,000.

The available stock subscription is 829,000. The mortgage debt is but \$600,000 in all, the above being a part thereof. The Road owes no other debt.

This Road is advantageously located, connecting at Indianapolis with the Madison road (of which it is a direct extension northwardly) and the other roads there centering.

At Peru it connects or intersects with the Wabash and Erie Canal, and it will shortly be extended to the Fort Wayne and Chicago Road at Warsaw.

It traverses a region of great fertility and productivity, having no other outlet to a market. Its local business alone, will, it is thought, yield a handsome support.

Pamphlet exhibits, with maps of the work, and any other more detailed information desired, will be furnished on application to the subscribers.—New York, April 7, 1853.

WINSLOW, LANIER & Co., No. 52 Wall-st.

To Surveyors and Engineers.
A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer.
Address "H. W.," this office. 3*12

Iron for Machinists.
THE SUBSCRIBERS.
IMPORTERS AND DEALERS IN
IRON AND STEEL,
HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE and CAR BUILDERS, AND MACHINISTS GENERALLY.
ELLIOTT & HOLDEN,
Feb. 16, 1853. 90 Reekman st., N. Y.

Fire Bricks.
SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
November 19, 1852. 135 Water street, corner of Pine, New York.

Wrought Iron Wheels!
THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.
4t 12 **WM. BAILEY LANG.**

Notice to Contractors.
SEALED PROPOSALS will be received at the Engineer's office of the Cleveland and Pittsburgh Railroad Company, in Wellsville, from the first to the tenth of May next, for the gradation and masonry of thirty-nine miles of the Wheeling extension of the Cleveland and Pittsburgh Railroad, from the mouth of Yellow Creek to Bridgeport, opposite Wheeling.
Plans, profiles and specifications will be exhibited and all requisite information given at the office of the Company, in Wellsville.

By order of the Board of Directors.
C. PRENTISS, President.
J. LINTON, Chief Engineer.
Office of the C. & P. R. R.,
Cleveland, April 8th., 1853.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
March 2d, 1853. 90 Beaver st.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
April 1, 1853. 90 Beaver st.

O. A. NORRIS.

American Railway Agency,
FOR THE PURCHASE, ON COMMISSION, OF
ALL ARTICLES REQUIRED BY
RAILROAD COMPANIES.

Office, 12 Farquhar Buildings,

Philadelphia.

Engineering.

THE undersigned is prepared to furnish Specifications, Estimates and Plans, in general or detail, of Steamships, Steamboats, Propellers, High and Low Pressure Engines, Boilers, Mill Work, etc., etc. Particular attention given to the procuring and superintending of Locomotives, Tenders, Cars, and Railway Machinery of every description.

General Agent Ashcroft's Steam Gauge, Allen & Noyes' Metallic Self-adjusting Conical Packing, Dudgeon's Hydraulic Jack, Sewall's Salmometers, etc., etc.

Acts as Agent for the purchase or sale of, and has always on hand, Steamers, Locomotives, Engines, Boilers, Machinery, etc.

CHAS. W. COPELAND,
Consulting Engineer,
64 Broadway, N. Y.

1y17

Charles W. Copeland,

Steam Marine and Railway Engineer,
64 Broadway, New York.

Notice to Contractors.



PROPOSALS will be received at the Office of the Fort Wayne and Chicago Railroad Company in FORT WAYNE, until noon on Friday, the 20th of May next, for the Bridging, Grading, and delivering of Cross-ties for said Road.

PLANS, PROFILES and SPECIFICATIONS will be exhibited at the Office three weeks prior to the day of letting.

This line, One Hundred and Fifty miles long, embraces much heavy work, is well suited for prosecution in winter, and is divided into sections of from one to six miles in length, and may be bid for singly, or for the entire work.

J. R. STRAUGHAN,
Chief Engineer.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Hoole, Staniforth & Co., MINERVA WORKS,

SHEFFIELD,
Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by

RICHARD MAKIN,
Agent for the Manufacturers,
43 24 Broadway.

Pease & Murphy,

FULTON IRON WORKS,
Foot of Cherry st., E. R. Office, 27 Cortears,
corner of Cherry st. Manufacturers of Land and Marine Engines.
N. B. - Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,
Ap1 1m 50 South Third street.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidly, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

To Railroad Companies, Car Builders, Machinists, etc.

SINGER, HARTMAN & CO.,
SHEFFIELD IRON and STEEL WORKS,
PITTSBURG, Pa.

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc.

15tf*

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

3 So. Manufacturers, No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1849.

1v

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,**

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co, London.

" Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

38

Virginia Locomotive and Car Works.

Wolfe Street and River Potomac, Alexandria, Va
SMITH & PERKINS, Proprietors.

MANUFACTURE

Locomotive Engines and Tenders,

Marine and Stationary Engines and Boilers.

Chilled Car Wheels and Axles.

Patent Chilled and Wrought Slip-tire.

Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

La 110 of the Alexandria Iron Works,

THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.
July 22 1851

CAUTION.

India-rubber Car Springs.

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA.—Awarded by the American Institute to F. M. RAY, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed,

JAMES TALLMADGE,

President.

N. MEIER, Recording Sec'y.

ADONIRAM CHANDLER, Cor'g. Sec'y.

New York, Oct., 1851.

New England Car Spring Co., No. 104 Broadway
New York. 7tf.

PATENT Locomotive Steam Cylinder BORING MACHINE AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

Notice to Contractors.



SEALED PROPOSALS will be received at the office of the Clinton line railroad company, in Hudson, Ohio, until the 20th day of May next, for the grading, masonry, bridging and superstructure of their entire road, from Hudson to the Pennsylvania state line.

Plans, profiles, and specifications will be exhibited, and all requisite information given, at the office of the company, in Hudson, on and after the 10th day of May next.

By order of the board of directors.

H. N. DAY, president.

W. B. BRINSMADE, engineer.

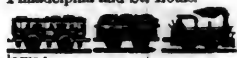
Hudson, March 29, 1853.

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore and Washington City and Chicago.

The only route by which the dangers of Lake Navigation are entirely avoided.

The quickest and best route between New York, Boston and Philadelphia and St. Louis.



On and after Monday, April 11, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

THROUGH TRAINS.
Leave Toledo at 8.00 A. M. and 10.00 P. M.
Leave Cleveland, 9.20 A. M. and 8.30 P. M.

BELLEVUE TRAINS.
Leave Norwalk for Bellevue at 8 A. M.
Leave Bellevue for Cleveland at 2 P. M.

Night Trains will not stop at Townsend, Camden or Clyde, except to leave Passengers.

CONNECTING DIRECTLY

AT TOLEDO—With Trains of Michigan Southern Railroad for Chicago and the West, and forming a line in connection with the Chicago and Rock Island Railroad and Steamers on Illinois River, to St. Louis.

AT BELLEVUE—With Trains of Mad River and Lake Erie Road for Sandusky City, Dayton, Cincinnati, etc.

AT MONROEVILLE—With Sandusky, Mansfield and Newark Railroad, for Sandusky City, Shelby Junction, Columbus Newark and Zanesville.

T GRATON—With Cleveland, Columbus and Cincinnati road, for Cleveland, Shelby Junction, Columbus and Cincinnati.

T CLEVELAND—With Lake Shore Road, for Pittsburgh, Wheeling, Philadelphia, Baltimore and Washington City.

Freight forwarded promptly at fair rates.
E. B. PHILLIPS, Sup't.
Superintendent's Office T., N. & C. R.R.,
Norwalk, O., April 8, 1853.

Notice to Contractors.

HANNIBAL AND ST. JOSEPH RAILROAD.
SEALED PROPOSALS will be received at the office of the undersigned, in the city of Hannibal, Missouri, until the twentieth day of April, for the graduation, masonry and bridging of 25 miles of said road, extending west from Hannibal.

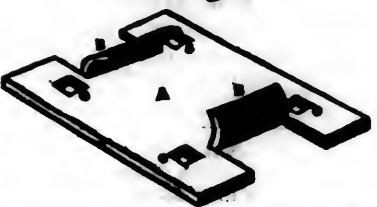
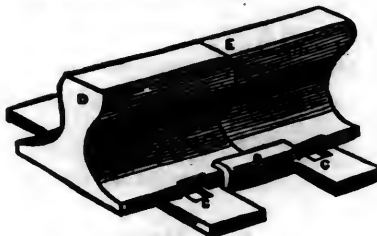
Proposals will also be received at our office, in the city of St. Joseph, Missouri, until the tenth day of May, for the graduation, masonry and bridging of 25 miles additional, extending east from St. Joseph. The remainder of the line, extending a distance of over 150 miles, will be placed under contract as soon as the same can be prepared by the engineers.

This line embraces some very heavy excavations and embankments, and several large bridges.

Plans, profiles and specifications will be ready at each place one week previous to the letting.

DUFF & LEARNED
Contractors H. and St. J. RR.

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:
Syracuse and Utica, Chester Valley, Penn.,
Buffalo and Rochester, Tioga, "
Northern, "
Montreal and New York, Norwich and Worcester,
Kenbec and Portland, Kings Mountain, S. C.,
Plattsburg and Montreal, Columbia and Granville,
Chicago and Rock Island, Buffalo, Bayou Brazos and
Milwaukee and Miss., Colorado, Texas,
Panama, and others.

For further information address,
N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

RAILROAD IRON.

THE undersigned, from their long engagements with the Manufacturers of G. L. Iron, feeling themselves eminently qualified to assist Railway Companies in America, and Gentlemen proceeding to England for the purpose of purchasing Railroad or other Iron, tender their services free of any charge, and invite communications either personal or by letter.

Address JOHN H. AUSTIN & CO.,
2 Ingram Court, Fenchurch Street,
LONDON.
March 9, 1853.

R. GROVES & SONS, SHEFFIELD, ENGLAND, Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Blister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
55 Maiden Lane, New York.
Stocks of the above goods constantly on hand.
January 12, 1853.

Railroad Iron.

5000 TONS Best Staffordshire Rails for sale on early delivery in Liverpool
by **NAYLOR & CO.,**
124 John street.

SIMMON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Peoria and Okawaha.	" 1863
6 per ct.—Mayville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1867
7 per ct.—Troy and Bennington.	Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Muscoogee Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford.	New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock.	" 1866
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.	" 1862

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.

Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York R. R. Co.
Stock in the Mansfield and Sandusky R. R. Co.
Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

The Cold Spring Iron Works INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axes are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.

E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder.

Address HENRY MELLUS, Agent,
Boston, Mass.
or, GEO. W. PRESCOTT, Sup't,
Otis, Mass.

November 12, 1852.

Anthracite and Charcoal Pig Iron.

800 Tons No. 1 Glenden Anthracite Pig Iron.	
1000 " No. 2 " " "	
1000 " Forge " " "	
200 " No. 1 Stockbridge Charcoal " "	
100 " No. 2 " " "	
500 " Forge Katahdin " "	

For sale by

GEORGE W. A. WILLIAMS,
5 Liberty Square, Boston.
December 11, 1852.

FOR SALE.

TWO Sixty Horse Power Beam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia; (where they may now be seen.)

Apply to A. & P. ROBERTS,
No. 80½ Walnut Street, Philadelphia.

Notice to Contractors.

OFFICE N. O., OPELOUSAS & GREAT
WESTERN RAILROAD CO.,
New Orleans, March 5th, 1853.

SEALED PROPOSALS will be received at this office, until the 10th of May next, for the construction of that portion of the road between Bayou Lafourche and Berwick's Bay, a distance of 31 miles; also from Berwick's Bay to Washington, 92 miles, including a branch road of 18 miles. Proposals will be made for the entire completion of the road, (except furnishing iron.)

References of ability, and security, will be required.

Plans and specifications of the work to be seen at this office, after the 10th of April.

JAMES G. GIBBES, Chief Engineer.

Alton, Mt. Carmel and New Albany Railroad.

NOTICE is hereby given, that there are no Bonds of this company in circulation, as the books of this company will testify that no bonds have ever been issued or authorized.

And, as all the stock formerly subscribed on the books of this company was, on the 4th and 18th of December, 1852, sold by the sheriff, under executions issuing from the Circuit Court of Edwards county, Illinois, and was by the purchasers at such sales, or by their assignees, surrendered to the present board of directors, on the 29th of January, 1853: All Certificates of Stock bearing date previous to that time are worthless.

It having been reported, that bonds and certificates of stock of this company have been offered for sale or pledge by parties formerly connected with this company, the board have thought it right thus to put the public on their guard.

F. B. THOMPSON,
Pres't. Mt. C. & N. A. R.R. Co.

SAMUEL THOMPSON, M. D.,
Sec'y to the Board.

March 7th, 1853.

1m12

To Contractors.

LA CROSSE AND MILWAUKEE RAILROAD.—Proposals will be received at the office of the Engineer of this road, in the city of Milwaukee, upon the 10th day of May next, for the Grading, Bridging, Superstructure, Station House, Water Stations and equipments of the first division of the La Crosse and Milwaukee Railroad, extending from the city of Milwaukee to Portage City, on the Wisconsin River.

Propositions will also be considered for the grading in sections, and for the superstructure and buildings, separately.

By order of the Board,

J. L. BEAN, President.

Milwaukee, April 6th, 1853.

Notice to Contractors.

MISSISSIPPI and ATLANTIC RAILROAD, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana; or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUGH, President.

S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

CAR, LOCOMOTIVE, AND TENDER SPRING MANUFACTORY.

PHILADELPHIA, March 1, 1852.

We beg leave to present the following Certificates to the consideration of Railroad Companies and Car Builders, for the quality of CAR, LOCOMOTIVE, AND TENDER SPRINGS manufactured by us.

At the same time we would inform Railroad Companies and Car Builders that we have extended our works, and will be happy to execute any orders for Steel Springs for Cars, Locomotives, or Tenders, of any design or pattern which they may see proper to intrust to us, at the lowest prices, and on terms which will prove satisfactory.

From our long experience as Spring manufacturers, we are enabled to supply Railroad Companies with Spring Steel, of superior quality, converted from Swede Steel Iron.

The iron being imported direct from Stockholm by ourselves, and Converted and Rolled under our supervision.

Yours respectfully,

JAMES JEFFRIES & SON,
REAR OF GIRARD HOUSE.

Philad'a, Feb. 27, 1852.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: In reply to your inquiries as to the character of the Springs furnished by you for Locomotive Engines and Tenders, I take pleasure in saying that I have found them, both in material and workmanship, superior to anything else of the kind that ever came under my notice. I have occasionally tried the Springs of other manufacturers, but in testing their elasticity and strength with the apparatus I have for that purpose, I have found none combining the requisites of a good spring, viz., lightness, elasticity, and durability, in so eminent a degree as yours.

I am using them exclusively under the Engines and Tenders of my make, and can safely recommend them to others.

Yours truly,

M. W. BALDWIN.

Office, Penn'a Rail Road Co.
Philad'a, Feb. 26, 1852.

This is to certify, that James Jeffries & Son manufactured nearly all of the Steel Springs used on the Georgia Rail Road while I had charge of that work, and have also furnished those that have been used on the Pennsylvania Rail Road. The character of their work has always given entire satisfaction, and I cheerfully recommend their Springs to the patronage of Rail Road Companies and Car Builders.

J. EDGAR THOMPSON,

Chief Engineer and President Penn'a Rail Road Co.

Office, Phil'a, Germantown & Norristown R. R. Co.
February 28, 1852.

This is to certify, that I have used the Steel Springs manufactured by Messrs. Jas. Jeffries and Son, for the Locomotives, Passenger, and Freight Cars of the above Road, during the last 13 years, and have always found them good and efficient Springs, giving general satisfaction.

Philadelphia, Feb. 23, 1852.

This is to certify, that we have used Car Springs made by James Jeffries & Son, for the period of twelve years, and find them a very superior article, so much so, that we shall always continue to use them.

DUTILE, HUMPHREYS & CO.

Proprietors of Union Line of Trans. from Phila to Pittsburg

Philadelphia, Feb. 27, 1852.

Messrs. J. JEFFRIES & SON,

Gentlemen: We have been using your Steel Springs under our Cars for a number of years, they have given entire satisfaction, and have proved themselves superior to any other that we have used. Their good qualities should commend them to any who have need of an article so difficult to obtain perfect.

Yours truly,

HARRIS & LEECH,

Proprietors of Leach's Trans. Line from Phila to Pittsburg.

Richmond, Jan. 6, 1852.

Messrs. JEFFRIES & SON: It affords me pleasure to say, that after some six or seven years' trial of your Springs, I find them superior to any other Springs we have used on our road, and are so well satisfied with their merits as to continue the use of them.

I am, very respectfully yours,

THOMAS SHARP,

Superintendent R. P. & P. R. R.

Office, R. & P. R. R. Co.
Richmond, Va., Jan. 6, 1852.

To Mr. THOMAS JEFFRIES,

Dear Sir: I take pleasure in stating that the Springs made by the firm of which you are a member, and which I have been using for the last eight years on Locomotives and Tenders, and also, on Passenger, Freight, and Coal Cars, have given the utmost satisfaction, and I consider them superior to any I have received from other establishments during the above period, and shall still continue to send you our orders for all we may want.

Very respectfully yours,

THOMAS DODAMEAD,

Superintendent R. & P. R. R.

Superintendent's Office, C. R. R.

Savannah, Ga., Jan. 21, 1852.

This will certify, that Car and Locomotive Springs made by Messrs. James Jeffries & Son, of Philadelphia, have been in use on this road for a number of years, and have given entire satisfaction.

W. M. WADLEY,

Superintendent.

Office, Passburg R. R. Co.
Passburg, Jan. 8, 1852.

The house of James Jeffries & Son, of Philadelphia, has made us a good many Car and Engine Springs, and I take great pleasure in stating that they have always turned out well, and I believe their work can not be surpassed by any in the country.

H. D. BIRD,

President.

Office, Sup't T. & M. Power, So. Ca. R. R. Co.
Charleston, Jan. 21, 1852.

This is to certify, that the South Carolina Rail Road Company have for a number of years been using the Steel Springs manufactured by Messrs. J. Jeffries & Son, of Philadelphia, for their Locomotive Engines, and for both Passenger and Freight Cars, and I take pleasure in stating that they have given entire satisfaction, and recommend them to the patronage of all Rail Road Companies requiring such articles.

J. D. PETCH,

Sup't Trans. & Motive Power So. Ca. R. R. Co.

Philadelphia, Feb. 27, 1852.

This is to certify, that I have used Springs made by James Jeffries & Son for the period of five years, and consider them equal, if not superior to any others that I have had in use.

JOSEPH S. LEWIS,

Pennsylvania & Ohio Line.

Georgia Rail Road.
Augusta, Ga., Jan. 1, 1852.

To whom it may concern.—We have used Springs manufactured by Messrs. James Jeffries and Son, for the Locomotives and Cars of our road for the last ten years, and have no hesitation in recommending them as having given general satisfaction.

F. C. ARMS,

General Superintendent.

Macon & Western Rail Road,
Macon, Ga., Jan. 25, 1852.

Messrs. J. JEFFRIES & SON,

Gentlemen: This Company has for several years purchased and used, under Cars and Engines, Steel Springs manufactured by you. We have also purchased from other manufacturers and made Springs ourselves.

Yours have given entire satisfaction, and have proved themselves equal, if not superior to any we have used. Their excellent qualities should commend them to all who have need of an article so difficult to obtain in perfection.

Yours, very respectfully,

EMERSON FOOTE,

Superintendent.

Macon, Ga., January 24, 1852.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: In reply to your inquiries in reference to Steel Springs, I take pleasure in saying, that I have been in the way of observing Springs in use on Cars and Locomotives, on various Rail Roads, for seventeen years past, more particularly on the Central Rail Road of Georgia for eight years past, and during said seventeen years have been practically acquainted with your make of Springs, and I have no hesitation in saying, that your Springs with open work are the best Steel Springs I have ever used or seen in use.

Yours, respectfully,

GEO. W. ADAMS,

Superintendent S. W. R. R. of Georgia.

Transp. Office, W. & A. R. R.

Atlantic, Jan. 31, 1852.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: This road has used the Springs made by your firm since its first opening, under both Engine and Cars, and they have given entire satisfaction to all.

Very respectfully,

WM. D. FULTON,

Superintendent.

Montgomery & West Point R. R. Co.

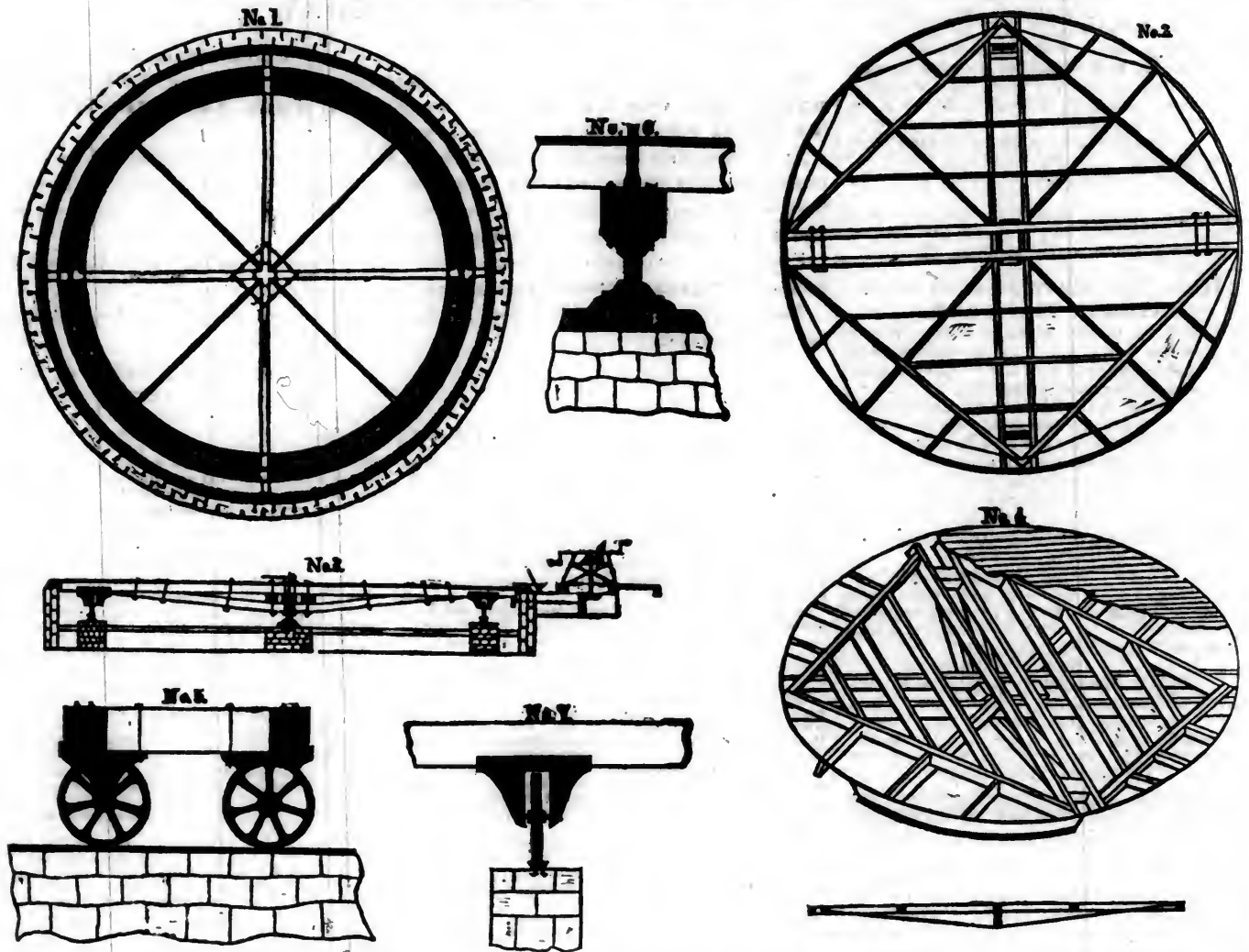
Montgomery, Ala., Feb. 23, 1852.

This may certify, that this Company have been for years using, both under their Engines and Cars, Springs from the manufactory of James Jeffries & Son, of Philadelphia, and are so well satisfied of their superiority that we can confidently recommend them to all companies in need of Springs.

SAMUEL G. JONES,

Engineer and Superintendent.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by ONE MAN in 25 SECONDS.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,
A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally, are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. 17*

E. DAWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use. JAS. PRENTICE, 315 Broadway, N. Y. Feb. 9 1853.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels, made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly. Sept. 11, 1852. 17*

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 19.]

SATURDAY, MAY 7, 1853.

[WHOLE No. 890, VOL. XXVI.]

PUBLISHED BY J. H. SCHULTE & Co., 136 NASSAU ST.

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American Railroad Journal.

Saturday, May 7, 1853.

Terre Haute and Alton Railroad.

We had occasion, some months since, to examine the financial condition of this company, and the state of the work upon its line, for the purpose of determining whether it was entitled to a loan of \$1,000,000, then sought to be negotiated. We came to the conclusion, as we believed did the public, that the loan was entirely unwarranted; that there was no sufficient basis for its security, either in the amount expended, or in the amount of stock subscribed; and that the project itself was of questionable expediency, from the probable construction of other roads, which, by the admission of all parties, would render the above comparatively worthless.

The loan was consequently taken out of the market, and we supposed all idea of negotiating it abandoned. We find however, that we are mistaken. The project was withdrawn and has been suffered to remain quiet, till it was hoped the fact of the previous attempt and failure had been forgotten. Some time having elapsed, a new effort is made again to foist this scheme upon the market. To meet this new attempt, we will again state some of the objections previously urged against the soundness of the security when first offered.

The latest exhibit of the company was issued in Oct. 1852. This exhibit contains no evidence that any engineer was ever connected with the road. We are furnished with no reliable data showing its cost. Nothing is stated by which we can determine the value of work done, nor the value of the subscriptions to the stock. It is stated in general terms, that stock to the amount of \$1,500,000 had been obtained, but we have good reason to believe that the greater part of this was *contractors* stock, which, instead of being of any value as a basis of a loan, merely represented *anticipated* profits. In absence of all suitable information, we stated that from careful inquiry, we believed that \$25,000 had not been actually expended upon the road. We were also informed that the county subscriptions to the amount of \$325,000, were required to be expended within the limits of the counties, making the same; consequently they might not be available at all, in case sufficient means could not be raised, to reach them from either terminus; and that a very considerable portion of the stock was *contractors* stock of the character named. In view of such evidence, we protested against the sale of bonds to the amount of \$1,000,000, having no other basis than the one above stated. The proposed loan was forthwith unceremoniously kicked out of the market, and was afterwards only referred to by way of a joke, as an unsuccessful attempt "to come it" over the market (not by parties in the city) upon a grand scale.

Since that time we presume the condition of the project has not essentially changed. We are informed that no material strength has been added to its means. Little additional work has been done upon the road—there has been no change sufficient to call for a new exhibit, which usually accompanies similar negotiations,—the old issue therefore presents itself. Is the above company in a condition that entitles it to borrow money to the tune of \$1,000,000? Let us look at this matter.

The Railroad enterprises in the west have to be carried on, in part, by borrowed capital. While such is the fact, it is of vital consequence that the policy pursued should be such as to secure, at the same time, safety to the lender, and impose a reasonable restriction upon the construction of roads. Where a community can contribute one-half of

the amount required, this is considered a satisfactory guarantee for the safety of a loan to an equal amount, as sufficient evidence that a section of country that can furnish this amount is sufficiently developed to supply a lucrative business to the road. Where the community most interested in a project put a large portion of their own means into it, there is good ground to believe it will be well managed. For these reasons our leading negotiators have usually insisted that companies offering their securities should have an equal amount expended upon their road or provided in good stock subscriptions. Such an exhibit as this has come to be considered the *test* which a company must pass, to entitle them to come upon the market of money. It is easy to see that a more lax value would at one open the way to every kind of speculation, which, by giving birth to a thousand unwarranted schemes, would, in the end, involve both good and bad in one common ruin. Take the case before us as an illustration. We will suppose \$75,000 to have been actually expended upon the line of the above road, and 500,000 good stock subscribed. Upon this basis a loan of \$1,000,000 is asked for. Here at best is security for only 575,000. The sum of 425,000 is sought to be borrowed without any security at all. We would not intimate that the loan called for would not in the present case be faithfully applied. The question is, whether or not the security be good. If this company can borrow under the circumstances supposed, they may apply the proceeds *honestly*. But being shown the way, will not other schemes be started? the object of which will be to obtain means in a similar manner, not for the purpose of spending it upon any work, but for the purpose of enabling the parties receiving to pocket the balance, leaving the public to whistle for the money? There can be no doubt that such would be the result. If the Terre Haute and Alton company can borrow money in their present condition, every thing like safety in railroad negotiations is at an end. All distinction between *solid* and *speculative* profits is at an end. All that schemers will have to do in future is to get up a plausible story, make a show of work upon a line of road, issue bonds for ten times the amount expended, come to New York, sell them, pocket the proceeds, go to—California, or some equally safe place.

By the observance of the precautions we have laid down, which are considered as an essential requisite by our leading negotiators, our whole system of railroad negotiations may be maintained upon a basis which shall afford entire security to the capitalists, at the same time that it is the only method by which the construction of these works can be restrained within the limits prescribed by the capital and business wants of the county.

Another fact showing the weakness of this security is the manner in which it is sought to be sold. Were it bought out in the ordinary way, or offered for sale at public auction, so as to direct investigation to its merits and secure an expression of popular opinion in reference to it, the whole project would instantly break down. It can only be imposed upon the public by the strength of the private representations of parties interested in the sale of its securities. Is not this fact good ground for suspicion and inquiry?

For one, when Railroad companies come before the market for money, we shall insist upon having a full statement of the grounds upon which their claims for credit are based. If it be a *new* project we must have the statement of some competent engineer, of its *probable* cost. We must know the value of the means which they proposed as the basis of their loans. The public must be placed in possession of every fact necessary to a full understanding of the project, which must be in a position to court, instead of evading investigation.—A project that will not bear light, or one that fails to present all the guarantees enumerated above, should always excite suspicion and inquiry.

With regard to the project itself, apart from the attempted negotiation of its securities, we have but little to say. It is, as is well known, one of the schemes under the old "State policy." It has been the principal means of defeating the the line from Terre Haute to St. Louis; a work eminently called for by the wants of the entire business and travelling public, and one in the construction of which more than 10,000 miles of railroad are directly interested. The objections raised was that if the *Straight* line should be built, the Terre Haute and Alton would be worthless. This was the argument used, and as an effort was making to build the *crooked* line, the Legislature declined to confer upon the *Straight* line project any additional powers not given by the general Railroad Law. It was admitted on all hands, however, that the construction of the *Straight* line was a mere question of time, and if postponed at all, it was for the purpose of enabling the Terre Haute and Alton road to get a start. No sensible man believes that the State system will be persisted in as a permanent policy. The moment it is abandoned, the crooked line falls to the ground as a matter of course. It remains to be seen whether capitalists are going to invest their money upon such a slender support as this. We have no idea they will, as soon as the facts of the case become known.

Again, it is confidently claimed that the Terre Haute and St. Louis railroad company are competent to construct their line under the general railroad law of the State. This company are now proceeding with the work of construction. The *two* roads are certainly not wanted. Would it not be wise for the public to wait and see whether the *Straight* line is to be built or not, before risking their money in any doubtful enterprise?

Condition and Business Prospects of the Jeffersonville Railroad.

The Jeffersonville Railroad Company was organized under Acts of the Legislature of Indiana, with perpetual succession, with a capital stock of one million of dollars, which may be increased to any amount required to meet the objects of the corporation. The charter of the Company also authorizes the construction of a railroad from the city of Jeffersonville to any point or points within the State of Indiana; with such lateral branches as the Company may deem proper and expedient.

Under the power granted in the acts of incorporation, the Company are engaged in the construction of a railroad from the city of Jeffersonville (situated on the bank of the Ohio River opposite the city of Louisville, Kentucky,) to Indianapolis, the capital of the State, a distance of about 107 miles. The portion of the road between Jeffersonville and Edinburgh, a distance of 77 miles, is already completed with a heavy T rail, and in operation; the balance of the line is in progress, with the expectation of having it completed within the present year.

The object of the Jeffersonville Company is to open, by the line now constructing, an outlet for the products of the rich and fertile portions of Central Indiana to the Ohio River, their natural avenue to the Ocean, and to bring them into more immediate connection with the cities of Jeffersonville and Louisville, between which and the country traversed by this road and its connecting lines, intimate business relations exist. The route to market for the great bulk of the products of Indiana is now, and will always be, by the Ohio and Mississippi Rivers. The greater portion of the merchandise imported into the State, will also be received through the same channels. The roads, therefore, the best adapted to the wants of the State, and those which will be the best supported, will be the roads leading to the Ohio River. For the centre and most fertile portions of the State, the terminus of this road is the most convenient of access of any important point on the river, to say nothing of the attractive influence of the rich, populous and rapidly growing city of Louisville, upon the opposite bank of the Ohio, which is now the centre of trade for a very considerable portion of Indiana.

The principal exportable products of the State are flour, wheat, corn, hay, pork and beef; these find their cheapest outlet down the Ohio and Mississippi Rivers, a route from which they are not likely to be diverted by any contemplated work of improvement. While such is the fact, with the exports of the State, it will be readily seen, that a number of the most important articles of consumption imported from abroad, must be received through the same channels. All the sugar and molasses consumed in the West, are the products of Louisiana, and these must always come up the Mississippi; so with cotton, coffee, Rock salt, fish, etc., etc., consumed in the State; for all these articles the cities of Louisville and Jeffersonville will be the principal points of distribution through Southern and Central Indiana, and the Jeffersonville railroad is, of all others, the best adapted for this purpose.

Such being well established facts in reference to the routes and course of trade, the next question which presents itself, and one which materially concerns the stock and bond holders, is as to the capacity of the country traversed to supply a lucrative trade. This question, which only a few years since was one of speculation and enquiry, has been fully solved by the experience of similar projects. There can be no better illustration on this point than the Madison and Indianapolis railroad, which extends from Indianapolis to Madison on the Ohio River. The country traversed by this road is certainly not superior in productiveness to that traversed by the Jeffersonville road. The city of Madison does not contain over 10,000 inhabitants, or about one-tenth of the population of Louisville and Jeffersonville; the latter in addition to being the more convenient points of shipment for the produce of Indiana, afford steady and con-

stant markets for such articles of production as are not calculated for exportation.

The receipts of the Madison road for the past year were \$516,414 52, of which \$153,195 55 were from passengers, and \$363,216 97 were from freight and mails. As Louisville and Jeffersonville afford much better markets than Madison, are nearer the *ultimate* markets to which exported products of the State are sent for consumption, and as the Jeffersonville road traverses an equally fertile if not the better country of the two, there can be no doubt that the latter will very soon after its completion to Indianapolis, enter upon an equally lucrative business in proportion to its length of line, and much more profitable to its Stockholders from its cheaper construction, and the greater facility with which it can be operated, from its easier grades. The Madison road is 87 miles in length, and has cost its present stockholders \$2,400,000. It was completed to Indianapolis in the latter part of the year 1847. The following statement shows the amount and increase of business upon it for the past eight years. In 1845 only 56 miles of the road was completed:—

1845 Receipts	\$60,053 48
Expenditures	47,415 64
	\$12,637 84
1846 Receipts	\$101,014 79
Expenditures	52,202 52
	\$48,812 27
1847 Receipts	\$156,653 24
Expenditures	91,669 45
	\$64,983 79
1848 Receipts	\$212,125 85
Expenditures	123,405 69
	\$88,720 16
1849 Receipts	\$247,920 34
Expenditures	138,682 81
	\$108,237 53
1850 Receipts	\$296,700 73
Expenditures	157,689 75
	\$139,010 98
1851 Receipts	\$386,069 80
Expenditures	185,080 60
	\$200,988 20
1852 Receipts	\$516,414 52
Expenditures	248,819 02
	\$268,095 50

The Jeffersonville road, though about 20 miles longer, will not cost so much as the Madison, by about half a million of dollars.

That with a superior route, with a more attractive terminus on the Ohio river, with an equally productive, fertile and well settled country upon its line, with extensive lines of railroads radiating from either terminus, the advantages of which the Madison road has only begun to enjoy at its northern end, while at its southern terminus no connecting line of road is even contemplated, can there be a doubt that the completion of the Jeffersonville will not be followed by even more favorable results than those which have constituted the Madison road, the leading illustration throughout the country of the productiveness of Western roads? The revenues of the Madison road have been chiefly derived from *local* traffic. The roads terminating at Indianapolis have been too recently completed to effect materially their earnings; they cannot, however fail to develop a very large business, for which the Jeffersonville road must become the channel to the Ohio river. Within the present year there will be completed eight important and extensive lines of railroad, all terminating at Indianapolis, and two others are in progress. At this point must grow up one of the largest and most important inland cities in this country. It is believed that the most productive of these roads

must be the one that will connect this city and the numerous lines of roads or which it is to be the terminus, with that great channel of Western Commerce the Ohio river. The Ohio and Mississippi railroad, designed to connect the cities of Cincinnati and St. Louis, is now in vigorous course of construction. It crosses the Jeffersonville road about 50 miles from Jeffersonville, and will be completed during the present year from Cincinnati to the junction; thus opening, at an early day, a channel of railroad communication between the cities of Louisville and St. Louis, when that road is completed to the latter city, which will probably be effected during the next year.

The Jeffersonville road must always be an important connecting link between the Indiana system of railroads and those of the States south of the Ohio. Louisville is rapidly becoming the focal point of roads that will be extended to New Orleans, Mobile, Charleston and Savannah on the south, and Baltimore, Philadelphia, New York and Boston on the east. Between the States north and south of the Ohio, a large trade must exist, from the great dissimilarity of their productions. Roads traversing the parallels of latitude, occupy the natural routes of commerce. And it is believed that the Jeffersonville road must derive a large trade from commerce that will exist between the States bordering the great lakes on the one hand, and the Gulf of Mexico on the other.

An important fact in favor of the Jeffersonville road, is found in the excellency of its route. It occupies very nearly a straight line between Indianapolis and the cities of Jeffersonville and Louisville. Its steepest grade ascending from the Ohio is only 26 feet to the mile; and only 23 feet in the opposite direction. It crosses the range of River Hills at the lowest gap in the ridge between the valleys of the Miami and the Wabash, the summit being only 172 feet above the river, while it is well known that the general elevation of this ridge is from 400 to 600 feet above the river.

In addition to the income which will be derived from local trade and from the roads centering at Indianapolis, a large business is expected from the Shelbyville Branch, which connects with this road at Edinburg, and extends to Shelbyville 16 miles. From the latter place a road to Rushville 20 miles, and to Knightstown 27 miles, upon the Indiana Central Railway, which is now in the course of completion, and through which the Jeffersonville will be brought into immediate connection with the roads of the Ohio, thus saving for the Louisville and southern travel the long detour now made by the way of Indianapolis. The country traversed by these lateral roads is not exceeded by any portion of the State in fertility and amount of its productions, a large portion of which must be thrown upon the Jeffersonville road. The length of the three lateral roads is sixty-three miles all of which are operated by the Jeffersonville company.

The Shelbyville Branch, which is controlled by the Jeffersonville road, the latter owning most of its stock, is a virtual extension, from Edinburg to Shelbyville, 16 miles. This, with the road from Shelbyville to Rushville 20 miles, and one to Knightstown 27 miles, which are now completed and in full operation, commands, without the expense of constructing roads to those points, the trade of an extensive district of the most densely settled and productive portion of the State. From Edinburg, the point of junction of this Branch to Indianapolis, the distance is about thirty miles. For this distance the road runs parallel and near to the line of the Madison road; the distance between them will not exceed three miles at any point. It is believed that this fact will not detract from the value of the stock of the Jeffersonville road for its entire line, for the reason that it must command the local travel and trade of the country traversed; from the better market found at its river terminus, and from its offering a more direct outlet for exportable products, to their ultimate markets. Were the case otherwise, and were the advantages of the two roads equally balanced, still two roads or a double track would be immediately indispensable, for the immense amount of busi-

ness that these roads will command, as is fully proved by the results already obtained from the Madison road. And as the business of the Jeffersonville road will render the running of through trains necessary, it was believed to be the dictate of sound policy to run the road directly into Indianapolis rather than to forego at present a work which at best could be postponed only a few years longer, and one which the commerce of the country demand and the best interest of the company requires immediately.

In speaking of the earnings in the published history of the Madison road, Mr. Brough, the well-known and able president of the company, says a large portion of the traffic of that road is derived from the main line, that, "not one-fifth of the arable land in the counties along the line is now under cultivation, and less than one-half of that uncultivated portion is capable of yielding a surplus product, greater than the whole present traffic of the road."

"The leading products of the state seek a southern market by the Ohio river." "The natural increase of the country will greatly enlarge the business of the road and increase its revenues, and tax its utmost capacity even after it shall be relieved by the diversion of other roads from the capital." "The net work of railroads concentrating at Indianapolis, will either require some other outlet, or the Madison road will have to be enlarged to a double track, and its present large equipment doubled within two years."

The leading products of Indiana must always have their outlet by way of the Ohio and Mississippi rivers.

Assuming, then, that these statements are correct, that such are the results achieved by the Madison road under the disadvantages of a more difficult and costly route of higher grades, with a summit of much greater elevation above the river, requiring a plane of about 450 feet in ascending from the river, and which is operated at a heavy cost, and without those connecting lines of railroads which are now fast spreading themselves over the state, can there be a question as to the ultimate results of this enterprise, and the perfect certainty of an adequate income to distribute to the stockholders a fair dividend, and liquidate at maturity the debt created by the issue of the bonds?

STATE OF THE WORK AND EQUIPMENT.

Seventy-seven miles of road has been recently put in operation, and since the fourth of March, has been run in connexion with the Shelbyville branch; surveys have been made of three lines between Indianapolis and the present terminus at Edinburg, under the superintendence of Col. Thos. A. Morris, an experienced and competent engineer. They are all found to be good lines, and releases are being procured for the right of way, which on large portions of the several lines are already obtained. That part of the road now in operation is as well furnished with motive power, rolling stock, water stations and other necessary fixtures, as is usually found on new roads in the west. The present equipment of motive power and rolling stock owned by the company may be stated as follows:

13 Locomotives.....	\$90,000 00
8 Passenger cars.....	16,154 00
3 Baggage ".....	4,600 00
92 House Freight cars, 116 platform, 12 Dumping gravel, and 12 hand cars.	103,422 00

\$214,176 00

Add six locomotives recently purchased which will be placed on the road during the approaching summer and will make 19 engines on the road and branches.....

48,000 00

\$262,176 00

COST OF ROAD.

It is estimated that the road from Jeffersonville to Indianapolis will be about 107 miles, and when completed, with the necessary expenditure for real estate, depots, shops, tools, engines, and rolling

stock to equip the road, including 15 miles of double track, passing places, turnouts and switches having reference to the present high price of iron and labor, and making proper allowance for contingencies, interest and discounts, will cost \$1,860,000, or an average of \$17,388 per mile. There has been expended in construction and equipment, (exclusive of stock in branch roads) \$1,111,970, showing a balance of \$748,030 required to complete the road to Indianapolis. To meet this there is stock subscriptions due and becoming due the

present year.....\$49,368 00
Stock to be issued on contracts not yet completed.....35,000 00

\$84,368 00

The 700 bonds before referred to.....700,000 00

\$784,368 00

which will leave an unappropriated balance of \$36,338 00 applicable to any contingency not embraced in the estimates, and if no such contingency arise the whole of the bonds will not be issued.

PROBABLE BUSINESS.—LOAN AND SECURITY.

It has been before stated that the country traversed by the Jeffersonville road, was equally fertile and productive with that traversed by the Madison, and that equally beneficial results were expected soon after its completion to Indianapolis. The business of the Madison road has constantly increased, and so rapid is the development of the resources of the country, that the president in his late annual report says "The country is developing itself nearly as fast as the railroads. Population is increasing, lands opening to cultivation, and as fast as a new avenue is completed, it is crowded with the surplus that existing roads cannot take and perform." "If the Madison road had no competitor to day, it could not without a double track and at least double its present power, perform one half the business that would be pressed upon it." In 1845 the Madison road was completed to a point north of Edinburg, 56 miles from Madison, and its receipts for the entire year were \$60,053.48, or an average of about \$5,000 00 per month. In 1846 it was extended still further and the income for the year was \$101,14 79, or an average of \$8,420 00 per month, and in 1847 the road was completed to Indianapolis 87 miles, and its income was \$156,653 24, or an average of \$13,055 per month. It is shown by the published reports of that company, that the earnings for the month of March, are about an average monthly proportion of annual revenue. The Jeffersonville road has very recently been put in operation to Edinburg, 77 miles, and more than half its present line having been constructed within the last twelve months, the present earnings must as a matter of course, be greatly below a fair average for the present year. The receipts for the past month were \$10,670 90, and assuming that as the average month, its income for the year would be \$128,050 80 from the 77 miles, which is quite equivalent to the average receipts of the Madison in the infancy of its operations, including 1847, when it was completed to Indianapolis, 87 miles. Its line was then ten miles longer than the present line of the Jeffersonville, while its average monthly receipts were only \$13,055, with the superior advantage of its connection with the capital of the state.

The country traversed by these roads, respectively, is rapidly improving; the surplus products are amply sufficient to supply them with remunerating local business, independent of their several connections. Upon the line of the Jeffersonville road there is marked improvement of the country throughout its entire length, since the location of the road. Between Jeffersonville and Columbus, 12 towns have been laid off, all rapidly improving; 9 steam mills have been erected on the line, and the whole country shows active improvement.

In addition to the local traffic and travel of the Jeffersonville road, and that which must be thrown upon it from the numerous, extensive and important lines concentrating at Indianapolis, its general business, and particularly, its through travel, must

be vastly increased by the important and extensive lines of road concentrating at the city of Louisville. The road from that city to Frankfort and Lexington is completed and in successful operation. The early completion of the Louisville and Nashville road is now placed beyond a doubt. A large amount of bonds of the company have been sold in Europe, and the balance of stock requisite for its construction has been secured, and the work will be vigorously prosecuted to completion, both on the main line to Nashville, and its branch to Memphis. The most active measures are being taken for the immediate construction of the road from Louisville to Danville, Ky., and Knoxville, Tenn. From Knoxville and Nashville the railroad connections will soon be completed to Charleston, Savannah, Mobile and New Orleans. The amount of business which the Jeffersonville road will derive from such advantageous connections at its northern and southern terminus, cannot well be estimated, but must be very great as it constitutes the connecting line between them.

The capital stock of the Company is now \$1,019,642 00, as follows:

Stock subscribed and paid.....	\$935,274 00
Stock subscribed not yet paid.....	49,368 00
Stock to be issued for machinery and contracts not yet completed...	35,000 00

\$84,368 00

Stock owned by this Company in branch road.....	\$171,500 00
Total amount of stock.....	\$1,019,642 00

The Company own nearly 3,000 acres of land, selected for the purpose of supplying the road with timber and stone, which will be of great value to the Company in relaying the track when it should become necessary, and for further repairs of bridges, &c. These lands were procured at extremely low prices before the location of the line, and have been greatly enhanced in value by the construction of the road. They have also provided ample grounds at suitable and convenient places for Depots, Water Stations and Stock yards, which are now of great value compared with their original cost.

The increased value of the real estate of the Company may be fairly estimated at \$100,000 00.

On the 28th of February, 1851, a mortgage was executed on sixty-six miles of the road to secure the payment of three hundred bonds then proposed to be issued, of which only 289 have been sold, bearing 7 per cent interest, and to mature in 1861. The residue will not be disposed of. It is proposed to issue seven hundred bonds in addition to the above, and to secure the payment a mortgage has been executed, dated 15th March, 1853, covering the whole road from Jeffersonville to Indianapolis, about 107 miles, and all the property of the Company, subject only to the above lien of \$289,000, on sixty-six miles, part of said line. Of the 700 bonds so secured, 300 will now be issued bearing 7 per cent interest, payable semi-annual at the Bank of America, New York, and to mature in 20 years from the 1st of April, 1853. The remaining 400 bonds will be issued as required by the wants of the Company.

When the whole of these bonds are issued the funded debt of the Company will be \$989,000, secured as above on 107 miles of road, estimated to cost as before stated \$1,860,000 00, and \$171,500 00 of stock owned by this Company in other roads, to which add \$100,000 estimated advance in the value of real estate owned by the Company, making together \$2,131,500 00 as security for the Loan.

WM. G. ARMSTRONG, Pres't.

April 1, 1853.

Philadelphia and Baltimore Railroad.

The Philadelphia and Baltimore railroad company is preparing to proceed at once with the erection of a bridge over the Susquehanna river. A survey is already in progress for the purpose of ascertaining the best point for its location.

Madison and Indianapolis Railroad.

A meeting of the stockholders of the Madison and Indianapolis Railroad was held at the Stuyvesant Institute on the 22nd inst., to hear a report from the President, Mr. Brough, on the operations of the road for the past year. The following is the substance of his remarks;

Mr. Brough commenced by reviewing the business operations of the road for the year just closed. He referred to his prediction one year since, that the receipts of the road for 1852 would reach \$500,000, which was then considered large. That had been more than fulfilled. He felt as safe in predicting now that the receipts of 1853 would reach from \$600,000 to \$620,000, notwithstanding a reduction of 25 to 30 per cent in the tariff, and he felt certain the expenses would fall below those of last year. The receipts of the first quarter showed an increase of \$16,000 over same time last year; while during a portion of that time the entire business of the Shelbyville, Knightstown and Rushville roads, which the Madison road has heretofore exclusively enjoyed, had been cut off by the Jeffersonville company—that company charging so high a rate on the Shelbyville road, which the Jeffersonville company owns, for freights to and from Madison, as to amount to a prohibition.

Mr. B. went into a full exhibition of the railroad connections in his vicinity, and showed how the trade of the lateral roads had been cut off. The city and citizens of Madison had determined to restore it by building a road from Columbus to Shelbyville, and the action in this matter had been so prompt as to insure the completion of this lateral line by the 1st of September next, when this trade would be in a great measure restored. Madison was an equal market for either Louisville or Cincinnati for produce, and it would tend in that direction, owing to the shortness and cheapness of transportation, if the facilities were afforded. He also announced that the road from Franklin on the Madison road, westerly twenty-five miles to Martinsville, in Morgan County, would be in operation in a few weeks; that a lease had been taken on it by the Madison company for a term of years, and that this would very considerably increase the business of the Madison road.

In reply to the enquiry of a stockholder, who stated that he received such information from Indianapolis, Mr. B. Stated that there was no floating debt on the road, and no obligation of the Company existed that it could not promptly meet.

He had also been requested to give the reason why the Madison Company had refused to transport the freight of the Jeffersonville Company between Edinburg and Indianapolis, thus rendering it necessary, as the officers of that Company averred, to build a competing road between those two points. His answer was that he had made no such refusal, for he had not had an opportunity for doing so. He had declined an informal proposition to run the engines and trains of that Company on his road, and he must persist in that refusal—for experience had proved that such a course would lead to conflicts and difficulties. Last fall an arrangement for the transportation of hogs for Louisville had been made in twenty minutes after the parties came together. At that time a freight arrangement was talked of, and Mr. B. said he would like to consult his Directory as to the terms, but they could be arranged without difficulty, and he should remain open to such a proposition. Since that time the Jeffersonville Company had not sought any arrangement, nor had any official communication, except to discontinue the freight arrangement on the Shelbyville road. Mr. B. said he felt great delicacy in alluding to these matters, but the stockholders were entitled to facts, and he gave them accordingly.

Mr. B. alluded at some length to the conflicting interests, as they are generally esteemed, to the Madison. He did not design to be too sanguine. He had always expected to divide the business with other lines. The road could not monopolize if it would, for it could not perform it. He did not expect the Madison to continue its large in-

creases, but it had elements of strength that few roads possessed, and he felt confident it would maintain its position, and continue to make ample returns to its stockholders.

The new terminus, to avoid the inclined plane at Madison, Mr. B. stated was progressing rapidly. Some changes had been made, in making the work stable and permanent in its character, and the cost would exceed the original estimates. It would amount to about \$375,000.

In answer to a request of a gentleman present, Mr. Brough extended his remarks to the state of railroad lines in Illinois. He gave an elucidation of Illinois "state policy" as it is termed, and the obstacles that had been thrown in the way of the direct communication between Terre Haute and St. Louis. That "policy" he said was argued in a few words—"build the crooked lines first, and the straight ones will build themselves afterwards,—but if the straight lines are built first, the crooked ones will never be built." The hostility to the straight line was that it was too good a thing. Still Mr. B. said it was making its progress, and though it might have some further obstacles to overcome its eventual success was not a matter even of doubt. It had all the elements of strength and value, and would command success. It might be good state policy to build crooked lines before straight ones, but capitalists would hardly be caught by such shallow baits.

Vicksburg, Shreveport and Texas Railroad.

From the Vicksburg *Whig*, of the 16th, we take the following synopsis of the report of the Chief Engineer of the road, made by Mr. N. D. Coleman, President of the Company, and transmitted to the editor of the *Whig* for publication. It will be found interesting, showing, as it does, a clear view of the cost of the three sections of this great enterprise, which, together with our other great works of internal improvement, is destined to exercise so salutary an influence over the future prosperity of the State at large and the city of New Orleans.—The following are the estimates:

Section 1—From Vicksburg to Monroe, 81 miles—Cost of embankments, trestlework, bridges, etc.....	\$315,129
Cost of Superstructure.....	567,729
	\$882,858
Section 2—From Monroe to Dorcheat, 75 7-10 miles—Cost of embankment, excavation, bridges, etc.....	\$549,254
Superstructure.....	525,675
	\$1,074,929
Section 3—From Dorcheat to Texas line, 49 3/4 miles—Embankment, trestlework, bridges, etc.....	\$402,900
Superstructure.....	350,452
	\$753,353
Total—Section 1.....	382,858
" " 2.....	1,074,929
" " 3.....	753,353
	\$2,711,139
Motive power, cars, etc.....	258,800
Station buildings, etc.....	75,400
Engineering expenses and contingencies.....	100,000
	\$3,145,339

Amount of trestle work on first section is six and a half. On section 2, is less than one mile. On section 3, is six miles and three-quarters—less than fourteen miles on the whole route of 206 3/4 miles.

Bridges are necessary at Tensas river, Macon river, Beauf river, and at Dorcheat. The Ouachita and Red rivers will be passed on steam ferry boats.

The embanking on section 1, amounts to 1,657,290 cubic yards; excavations 25,675 cubic yards, at 15 cents.

The embankment or earth work on section two, amounts to 3,616,600 cubic yards, and fifty-one culverts.

The embankment or earth work on section three amounts to 1,560,748 cubic yards, and thirty-two culverts.

New York Consolidated Railroads.

The *Rochester American* says:

Railroad negotiations affecting the interests of Rochester very materially, have been made within a few days, and need only official ratification to become fixed facts. The parties to the same are the New York consolidated railroads and the Buffalo and New York city railroad, acting in conjunction on the one side, and numerous other roads hereafter named on the other part. As we are informed the projects are as follows: The Conhocton Valley railroad is to be stopped at Avon, and is not to be carried beyond the Genesee river. All their works west of the Genesee river are to be abandoned in consideration of the sum of \$360,000 to be paid by the consolidation of the Buffalo and New York city railroad. The Canandaigua and Niagara Falls railroad is to give up its proposed terminus at Buffalo, and go to Tonawanda and the Falls, in consideration of the sum of \$200,000, to be paid as above. Collateral to these plans are also the projects of leasing the Genesee Valley R. R., and putting a quietus upon the Rochester and Honeoye Falls railroad. These may be regarded as among the first fruits of consolidation. They are of the highest importance to the roads interested, and as far as the Buffalo and New York city railroad is concerned, are of paramount advantage to them. It is impossible now to state what action may be taken upon the leasing of the Valley road. The directors meet to-morrow in this city, when, we presume, the committee of conference will report. A majority of them are adverse to it. It remains then for the stockholders by the next election of directors, which is held in June, to designate the course they wish pursued. If a majority of the shares favor leasing, it will be done. The papers are ready for execution.

Louisiana.

The New Orleans Commercial *Bulletin*, of the 23rd April, gives the following synopsis of the bills which have recently been passed by the Legislature of Louisiana, subscribing to the capital stock of the Jackson, the Opelousas, and the Vicksburg Railroads.

"The vote on extending State aid to the New Orleans, Jackson and Great Northern Railroad Co., stood 62 yeas to 15 nays—being 12 more than the Constitution required to secure its passage.

Section one enacts that it shall be the duty of the State Treasurer, within ten days after the passage of the act, to subscribe for 64,000 shares of \$25 each, to the stock of the road above mentioned, being one-fifth of the entire number of shares, amounting to \$1,600,000.

Section two provides that payments for said shares shall be made in the bonds of the State, according to law, and for the payment of said bonds, and accruing interest, the shares of stock subscribed and all revenues that may be derived therefrom, are set apart to remain forever pledged.

Section three declares that the Board of Directors shall on or before the first Monday in November, in every year, furnish the Auditor of Public Accounts with an estimate of the amount that may be due said Company upon its capital stock for the ensuing year; no bonds shall be issued by the Governor unless the estimate required be furnished the Auditor, as before specified, and the amount of bonds the Governor may issue shall never exceed the estimate furnished by the Company on the first Monday of November next preceding; "Provided, however, that any subscription to said stock that may be due on the first Monday in November, 1853, shall be paid in bonds as is provided for by law, without the estimate herein required to be given."

Section four directs that for the payment of the

interest that may accrue upon the bonds issued under this act, the Auditor shall, within thirty days after he receives the assessment rolls from the several Parishes and Municipal corporations, proceed to determine, by accurate calculation, what rate of taxation on the movable and immovable property of the State will suffice to pay the interest for the ensuing year, on the outstanding bonds, and to pay the interest that may become due within the year, and the bonds that may be issued the ensuing year; to notify the Sheriffs and Tax Collectors of the rate of taxation, fixed as before mentioned, for the payment of said interest; said rate of taxation shall be known as the Internal Improvement Tax, and said tax, as annually ascertained, shall be levied upon all the movable and immovable property that may be annually assessed in the State; Sheriffs and Collectors are to collect the tax, in the manner provided for by law, etc.

Section five appropriates \$11,000 for the payment of the interest that may accrue on the bonds to be issued during the current year, and \$13,000 to pay the interest on the bonds that may be issued during the year 1854. The act takes effect from and after its passage.

The subscription to the Opelousas road is 48,000 shares of \$25 each, amounting to \$1,200,000, and the bill provides for the appropriation of \$8,000 to meet the interest of the present year, and \$10,500 to pay that of 1854.

The subscription to the Vicksburg and Shreveport railroad is 32,000 shares of \$25 each, amounting to \$800,000. The sum \$2,500 is appropriated to pay the interest that may fall due this year, and \$4,500 to pay that which may accrue in the year 1854.

For the Railroad Journal.

Racine, Janesville and Mississippi R. R.

The company engaged in the construction of this road, was chartered by the legislature of the state of Wisconsin, in 1852, and was organized in Nov. following. The preliminary surveys were completed, and the line from the city of Racine to the village of Beloit, on Rock river, was put under contract on the 1st inst. The work of grading was commenced on the 6th inst., and 26 miles—or the line from Racine to Fox river—is to be completed and stocked by the first day of January next; and the line to Beloit (65 miles,) is to be fully completed and equipped by the first day of Sept., 1854.

This road will pass through the counties of Racine, Walworth and Rock, to Beloit, and will there connect with the Beloit and Madison railroad, leading to the capital of the state, and from thence to Portage city. It will also connect at Beloit with the Belvidere Branch railroad, with the Rock Island and Rockford railroad, and with the Rockton and Freeport railroad, which latter road is to be an extension of this road to Freeport in the state of Illinois. At Freeport it will connect with the Illinois Central railroad from La Salle, from the south, and also with Galena, DuBuque, and Mineral Point, from the north-west, and with the Savannah Branch railroad from the west, thus making not only the shortest and most direct communication between Lake Michigan and the Mississippi river, but also affording much the shortest route to the Lake from Beloit, Rockford, Freeport, Savanna, Galena, Dubuque, Mineral Point, Madison, Janesville, and all other intermediate points. It also traverses the best settled, and much the richest portion of Wisconsin and north-west Illinois. The entire line is of the most feasible character, and it is believed that it can be constructed at a less cost per mile, than any road yet constructed in the west. Three-quarters of that portion of

the road now under contract, viz; from the city of Racine to Beloit, sixty-five miles, with full equipments, has been provided for, and to meet the balance, the company have public and private subscriptions to the amount of five hundred and ninety thousand dollars, obtained wholly upon the line of the road. As an evidence of the confidence of the people upon the line, in the importance and stock of this company, it may be mentioned that some six towns and cities have subscribed liberally to its stock in their corporate capacity, and in most cases by an entirely unanimous vote. And another fact is also worthy of being mentioned, viz: The town of Beloit having subscribed one hundred thousand dollars of the stock, was soon afterwards offered par for the same, which proposition was submitted to a Town meeting on Saturday last, and almost unanimously declined. Its eastern terminus, the city of Racine, offers advantages for marketing and shipping produce and other property, second to no other point on lake Michigan. It possesses one of the most eligible harbors on the entire chain of lakes and it has always been only second in size, population and business of the cities of the state.

A glance at the map will show that a line drawn from Albany, N. Y., to Iowa city, brings the following lines of railroad in almost an air line, viz: the line from Albany to Niagara Falls, from thence to Port Sarua, at the foot of lake Huron, over the Canada railroad, from thence to Grand Haven, over the Pontiac and Grand Haven railroad, from thence across lake Michigan, 60 miles, from thence to Beloit over the Racine railroad, from thence to Savanna on the Mississippi river, over the Rockton and Freeport and Savanna branch railroads. This route will be full one hundred miles shorter, more direct and pleasanter than any other route. A branch is also in contemplation from the Michigan Central railroad to the mouth of the Kalamazoo river, which is directly opposite Racine, which will furnish another very short and direct communication with the seaboard. Lake Michigan can always be crossed with entire certainty ten months in the year, and generally every day in the year, and the long and tedious circuit around the head of the lake for the people of Wisconsin, Iowa and Minnesota cannot be endured, and it is without the least necessity; hence it cannot be doubted that the short, straight and direct line is destined to at least a fair share of the carrying and passenger business. In view of the above considerations and facts, the proprietors of this road have felt warranted in undertaking its construction. From a very careful estimate of the local business that will come upon this line, based upon accurate and reliable statistics, has satisfied the company that from this source alone, a handsome remuneration may be relied upon, while for through business no road can successfully compete with it until the present position of the Mississippi river and lake Michigan shall have been changed.

The parties to whom the construction of the work has been committed, being largely interested in its early completion, the ample experience and means which they possess, together with the earnest manner in which they have already begun the work, afford the most satisfactory guarantee that the terms of the contract will be fully met, and the purposes of the Co. carried out.

From the fact that the road will connect the

Mississippi river with lake Michigan at the nearest possible point, together with the rich and populous country through which it passes, it is believed no railroad stock in the west presents stronger inducements for investment, and there can be no doubt of its proving at least remunerative.

The officers of this company are as follows:—
Directors.—Elias Smith, John Dickson, Marshall M. Strong, Charles S. Knight, Isaac Taylor, Chas. Herrick, Reuben M. Norton, Henry S. Durand, all of Racine; George B. Sanderson, Beloit; Wm. A. Lawrence, Janesville; Wm. C. Allen, Delavan; W. H. Hodges, Elkhorn, and John A. C. Gray New York.

Henry S. Durand, president; Chas. S. Knight, secretary; Simeon Draper, New York, treasurer; Henry J. Ullmann, Racine, asst. treasurer; Chas. L. Prescott, chief engineer, and James R. Doolittle attorney.

Prospectus of the Grand Trunk Railway of Canada.

Below we give the prospectus of the Grand Trunk line of Canada, which has just been placed before the London market. The lines that compose it are the—

	Miles.
Sarnia and Toronto	172
Toronto and Montreal	345
St. Lawrence Bridge	2
St. Lawrence and Atlantic	140
Quebec and Richmond	100
Quebec and Trois Pistols	253
Petersboro' Branch	50
Atlantic and St. Lawrence, (leased)	150
Total	1,112

The main trunk from Sarnia to Trois Pistols is 912 miles, in a very direct course, from southwest to northeast.

With the exception of the Great Western, and one or two roads of minor importance, the above scheme contemplates the construction of a system of railroads adapted, and adequate, to the wants of the entire Province. The parties who have undertaken this vast work, Messrs Peto, Brassey, Betts, and Jackson, are also engaged in carrying out similar schemes for the Provinces of New Brunswick and Nova Scotia, involving an amount of road inferior only in extent to that undertaken in Canada. The systems of the Upper and Lower Provinces will probably be eventually connected by the prolongation of the Canadian line, following down to the St. Lawrence river, and the New Brunswick line extending up the Gulf; and also by the construction of the European and North American Railroad, in Maine. The accomplishment of all these great projects is necessary to give symmetrical proportions to that part of the great North American system of Railroads designed for the Provinces and the eastern States, and will supply all the railroad facilities that will for many years be required by more than 2,500,000 of people in Canada, Nova Scotia and New Brunswick, and occupying an area of some 80,000 square miles.

In our next we shall give a portion of the appendix to the foregoing prospectus, which is excluded from our present issue for want of room.

The government and legislature of Canada have by various acts incorporated several companies for the construction of different sections of the Main Trunk line of railway throughout the province; and Acts of the Canadian Parliament have also been passed authorising the amalgamation of all

the companies whose railways intersector join the Main Trunk railway with the Grand Trunk railway company, so as to form one company, under the name of the "Grand Trunk Railway Company of Canada." Arrangements are accordingly in progress for a fusion of the Grand Trunk railway Co. of Canada East, the Quebec and Richmond railway company, the St. Lawrence and Atlantic railway company, the Grand Junction railway company, and the Toronto and Guelph railway company, forming together 964 miles of railway (including a bridge over the St. Lawrence at Montreal, which will be constructed under the superintendence of Robert Stephenson, Esq., M. P., and A. M. Ross, Esq.) with a combined capital of £9,500,000, and for a lease in perpetuity of the Atlantic and St. Lawrence railway from the point of its junction with the Grand Trunk railway to the city of Portland, 148 miles, whereby access is obtained to the Atlantic at one of the natural harbors of the Western Continent.

The capital is..... £9,500,000

Made up as follows:

Amount already raised in shares and spent on works of the St. Lawrence and Atlantic and Quebec and Richmond railways..... £683,400

Amount already raised on bonds..... 733,000

£1,416,400

Reserved in shares and debentures for the shareholders in the St. Lawrence and Atlantic and Quebec and Richmond railways on the amalgamation, and for the bondholders of the Ontario, Simcoe and Huron railway company..... 887,600

2,254,000

Leaving..... £7,246,000

This amount will be created and apportioned as follows:

Stock in 144,920 shares of £25 each..... £3,623,000

Debentures of £100 each, payable in 25 years, bearing interest at 6 per cent. per annum, payable half yearly in London, and convertible into shares, on or before the first day of Jan. 1863, at the option of the holder..... 1,811,500

And debentures convertible into bonds of the Provincial government of £100 each, payable in 20 years, bearing interest at 6 per cent. per annum payable half yearly in London..... 1,811,500

£7,246,000

Of these 144,820 shares, it is proposed now to issue one-half, viz: £1,811,500 in shares, and the same amount in debentures, the other half having been agreed to be taken by the contractors, who, however, engage to give the holders of such shares on the 1st July, 1854 (12 months after the anticipated opening of the St. Lawrence and Atlantic section of the railway,) the option of taking in equal proportions, two thirds of such remaining moiety; that is to say, every holder of 80 such shares will on the 1st July, 1854, be entitled to claim 20 shares more at par, together with an equal amount of debentures also at par. Such additional shares and debentures to bear interest at 6 per cent., from the said 1st July, 1854.

£200 of debentures (one-half of each description) will be issued at par with each £200 of shares.

By the law granting the provincial aid, it is provided that the bonds of the province shall be issued as the works advance. These bonds will, therefore be held in trust, to be delivered *pro rata* to the holders of the convertible debentures.

Interest at the rate of six per cent. per annum, from the completion of the amalgamation, until the entire works are finished, will be paid half-yearly, in London, in Sterling, on the amount from time to time paid upon each share. The dividends as declared, will also be payable in Sterling, in London.

The first payment in respect of the Shares and Debentures, will take place on allotment as follows, viz:—£5 on each share, and 20 per cent. on each debenture, to be paid at the Company's Bankers in London, Liverpool, or Canada. The remainder will be called up by instalments, not exceeding £2 10s. per share, and 10 per cent. per debenture, at intervals of not less than four months between each call, and the first call will not be made until the expiration of six months from the date of allotment. Subscribers will, however, have the privilege of anticipating the calls upon the debentures, receiving six per cent. interest on the amount paid up in advance.

The description and objects of the Grand Trunk Railway are fully set forth in the appendix, to which especial reference is craved.

The more prominent points therein are:

1. The completeness of the system of Railway, engrossing, as it does, the traffic of Canada and the State of Maine, and precluding injurious competition.

2. The large amount of Government guarantee and of Canadian capital invested—being two millions eight hundred thousand pounds sterling.

3. The fact that two hundred and fifty miles of the Railway are now open for traffic—to be increased to 390 miles by the close of the present year.

4. The execution of the whole remaining works being in the hands of most experienced contractors, the eminent English firm of Messrs Peto, Brassey, Betts and Jackson, having undertaken six-sevenths thereof, including the St. Lawrence Bridge.

5. The cost of the railway being actually defined by the contracts already made, whereby any apprehension of the capital being found insufficient is removed.

In the appendix will also be found the data for the following summary of probable revenue.

On 1,112 miles, at an average of above £25 per mile, £1,479 660	
Deduct working expenses, 40 per cent.....	591,864
	£887,796
Interest on debenture debt, £4,635,200	278,100
Rental of Atlantic and St. Lawrence Railway	60,000
	338,100
	£549,696

Thus showing a profit on the share capital £4, 864,800 of nearly 11½ per cent.

Providence and Worcester and Norfolk Co. Railroads.

Parties interested in the the Norfolk Co. Railroad have secured the control of a majority of the Stock of the Providence and Worcester road. Mr. Crane, President of the former, states, in an address to the stockholders, that in consequence of this arrangement it would enable the Norfolk Co. road to control the business, not only of the Blackstone Valley, but also in consequence of lighter grades, in his opinion, in part of the cities of Providence and Worcester.

From Blackstone, he said the road would be finished to Mechanicsville by September next, only 22 miles distant from New Haven, which could be reached over the Norwich and Worcester and New London and New Haven roads, thus opening a line to New York, which is ten miles nearer than by the way of Springfield.

Railroad Items.

The Sydney Banner states that the Board of Directors of the Dayton and Michigan Railroad have determined to survey and estimate the line through Piqua to Sydney, before commencing the construction on the line this spring.

The work on the Ohio and Mississippi road will be commenced at Vincennes on the 5th of May, at which time the people there are determined on a grand fete on the occasion, and especially to invite gentlemen from Cincinnati and St. Louis to attend it.

The Steubenville and Indiana road progresses well. Up to this time \$1,000,000 has been expended on the line. The laying of the track has been commenced. All the rails, heavy T, have been procured, and are now in course of delivery. The Newark Gazette says the line from Steubenville to Newark will be completed by the 1st of December next.

A convention, numerously attended, was held at St. Marys on the 14th inst., to take measures for the construction of a railway from Dayton to Piqua and St. Marys to Toledo. The proceedings of the meeting were spirited. The Dayton Gazette says the whole country north of Piqua would listen to no suggestion which contemplated a road to Cincinnati, without making Dayton a point. The determination is to reach Dayton, the coal mines and the Queen City. They have no fears of being able to reach Cincinnati from Dayton. This organization may use the Eaton and Piqua charter north of the latter place, if it can be used without diverting the lines from Dayton; but that is left an open question. The Dayton Gazette says this line will be completed to Toledo in two years.—By which time they can run in connection with the Short Line road to this city, and run the whole 200 miles on a six foot gauge from city to city.

Bellefontaine and Indiana Railroad.

We are gratified—and know that many of our railroad friends will share the pleasure of the announcement, that another link in the great chain of our western communications has just been closed. We allude to the finishing of that part of the important line above named, between Marion and Bellefontaine, a distance of 40 miles. We have previously referred to the opening of the eastern end of the same, from Galion to Marion, 20 miles, and of the link from Bellefontaine to Sidney, 23 miles. There are also nine miles of track laid west of Sidney, leaving but 29 miles on which the grading and bridging are finished, yet to lay; which, it is expected, will be completed during the month of May. There is a continuous line laid on this road 92 miles long, and the trains now run regularly between Galion and Sidney, 83 miles, passing through Marion and Bellefontaine. A letter from a friend who was present at the opening celebration, which took place on Saturday, the 23d inst., states that a train of passenger cars filled with four hundred ladies and gentlemen, passed on that day from Galion to Bellefontaine and back; and that passenger and freight trains commenced their regular trips between Galion and Sidney, on Monday the 25th. But 26 miles remain to close the long chain from New York to Terre Haute, a total distance of 961 miles of continuous railroad.

We have frequently referred to this great line of internal communication as one of the most valuable in which New York means have ever been in-

vested; and we hail with much satisfaction its near approach to completion as far as the Wabash river. Within two years, we hope to see its extension to St. Louis, 160 miles farther, in successful operation. But even within one short month, we shall have continuous and very direct roads, not only to Terre Haute, but to Madison and Jefferson on the Ohio river, (passing through Indianapolis,) and also to Lafayette, in the interior of Indiana, bringing us into intimate railroad connection with western Ohio, and a large portion of the state of Indiana.

We must not, however, overlook the fact, that the recent completion of the Ohio and Pennsylvania road from Pittsburg to Crestline, presents to our neighbors of Philadelphia and Baltimore, continuous railroads to the same important western points, with the exception of the crossing of the Alleghany river at Pittsburg, which has not yet been effected.

We learn that it is the intention of the Cleveland, Columbus and Cincinnati company to lay down a second track from Cleveland to Galion, at the earliest period practicable; and in view of the large increase of business which may be anticipated on the opening of the Bellefontaine and Indiana line, we should deem this a very commendable measure.

The closing of the short link which now remains will give us also a direct railroad communication with Madison to the Ohio river, and what is of still more importance, with Jeffersonville, opposite Louisville: thus striking the Ohio river below the Falls. This is what must become a very important thoroughfare at all times, but especially during the season of low water in the river.

Memphis and Charleston Railroad.

A meeting of the stockholders of the Memphis and Charleston railroad company was held lately at Huntsville, Ala. The affairs of the company are prosperous, and the prospect fair for an early completion of the road. The whole road has been located, and all of it which lies in Tennessee and Alabama not already under contract will be put under contract immediately.

The eastern division of the line which extends from Mississippi line to Crow Creek, will probably be completed during 1854.

Of the western division, which extends from the Alabama line through Mississippi to Memphis, 50 miles have been put under contract, and on forty-one miles the iron is already laid. "Aggregating" adds the Advocate, "the two divisions, the general estimate of the cost of the Memphis and Charleston railroad, of 273½ miles main trunk, and 15 miles branches, is \$4,493,773, viz: eastern division \$2,509,774; western division \$1,983,998—average cost per mile of 288½ miles of road construction, \$13,576. The cost is considerably greater than when estimates were made by Col. Garnett. The difference arises from the great advance in the cost of railroad iron, equal 3,000 per mile, the price of labor, etc., and the construction of fifteen miles branch road. In a few weeks one-third of the main trunk will be completed and equipped; 92 miles of first class railroad for an outlay of \$950,000, average \$10,000 per mile, fully equipped for business. It may be safely affirmed that no company has ever opened to the public 92 miles of railroad under such encouraging auspices as to prospective resources."

Androsoggin and Kennebec Railroad.

An adjourned meeting of the Androsoggin and Kennebec Railroad company was held on the 27th inst., to hear the report of a committee appointed to devise means to improve the financial condition of the company. The plan proposed was to raise two hundred and fifty thousand dollars, by the issue of bonds to the amount of five hundred thousand dollars, payable in ten years in stock of the company, at par, with interest coupons annexed; payable semi-annually in cash.—For these bonds the stockholders are to pay one-half in cash on or before the 1st day of July, 1853, and one-half in the stock of the company at par. Thus the stockholder, availing himself of this privilege, will receive interest on the stock turned in, as well as on his cash, semi-annually. The bonds are convertible into stock at any time. The proposition was acceded to by the meeting, and about seventy thousand dollars of the bonds subscribed for on the spot.

Maryland.

A bill to construct a railroad through Worcester county, in this State, to form a connection in a new line from the north to the south, has passed the House of Delegates, by a vote of thirty-nine yeas to sixteen nays. The Metropolitan Railroad bill also passed the same body, thirty-eight to fifteen. The latter authorizes the making of a road through Washington, Frederick and Montgomery counties to the District of Columbia, for some point in proximity with the Baltimore and Ohio Railroad. The last mentioned bill previously passed the Senate, but having been amended in the House by the imposition of a capitation tax, will have to go back to the Senate for further consideration.

Evansville, Indianapolis and Cleveland Straightline Railroad.

The directors of this company have formed their association incorporating their company. The election of directors for the ensuing year will take place on the 12th of next month. The object of the company will be to make a through line of the same gauge without reshipment from Cleveland on Lake Erie through Indianapolis to Evansville on the Ohio river. The length of the line between these points will be about 420 miles, that is 270 miles east of Indianapolis from Cleveland, 160 miles southwest from Evansville. It is designed to be run upon the shortest practicable line.

New Orleans, Jackson and Great Northern Railroad.

The New Orleans, Jackson and Great Northern railroad of which Mr. James Robb of New Orleans is president, makes its first annual report on the 11th inst. The disbursements and liabilities of the Co., amounted to \$254,424 33; its receipts and dues to \$341,808 58, the cash balance on hand being \$87,384 25.

The total capital of this company is fixed by their charter, just adopted by the legislature at \$8,000,000. To this there have been subscribed by the city of New Orleans, in its corporate capacity \$2,000,000, and by individuals of the city \$647,750, making a total of \$2,647,750, which less \$159,225 reduction under the railroad tax law, leaves the present aggregate subscription, public and private, of N. O., at \$2,488,525.

The state is to subscribe \$1,600,000, but this amount is to be regulated by a scale of individual subscriptions. This important work is considered to be in a fair way towards completion.

Buffalo and Cincinnati.

A convention was recently held in Cincinnati, at which the several companies operating the different lines of transit between the above named cities were represented. It is understood that an arrangement was entered into, by which uniform rates of fare will be charged by all the lines—probably about seven dollars and a half. Add seven and a half more from Buffalo to New York, and Cincinnati and New York will be only about fif-

teen dollars and thirty hours apart.—Distance 900 miles.—Cheap travelling.

American Railroad Journal.

Saturday, May 7, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

The way to Wealth for our city is on the Railways within the City.

Our sea-girt Island, with its navigable waters to all parts of the earth, was slow to admit the iron rail as an aid to its prosperity. A people who had roads through all waters, the winds for motive powers, and the tides for down grades when the winds were sleepy,—reluctantly confessed an obligation to Fulton and his floating engine; but when the iron rail was talked of, they laughed it to scorn. The ancient ghosts at Communipaw, walked up to Paulus Heck to spook the first iron-horse from Newark, lest he should dash over the bay and disturb the skippers from Esopus at Kinderhook. The Cerberus of Hell Gate howled at the first train which broke the slumbers of the quiet men of Harlem. The marble Neptune on the Manhattan Waterworks, shook his trident at the first long car which came into Tryon Row. Hendrick Hudson, roused his men of might to keep a railroad from alarming the frogs on the bank of his river. The sons of the Stuyvesants have set their trumpeter to drive back the New Haven encroachment on the Second avenue. Grand juries, Judges, legislators, omnibuses and private coaches are in motion to keep rails and cars out of the long avenues of our Island; and, yet, the revolutionizing mischief goes on. The existing roads are thrifty, and the Common Council is pestered with petitions for new tracks.

What will be the end of this whole movement? To answer this question requires an estimate of the commercial, municipal and social value of those railroads. Perhaps the work has gone far enough to suggest the elements of this value. And it may be well to journalize the facts and probabilities of the case, so that they can be revised after another period of progress. This is our present task.

First, let us give a moment to the effect of the railway system of America on the commercial wealth of our city. The construction of these roads has cost about five hundred millions of dollars. A large part of this vast sum was foreign capital drawn hither by the roads, and the whole sum has been and is tributary to the commerce of New York.

Fourteen thousand miles of finished road, (and as many in progress and soon to be finished,) have cut off nine-tenths of the cost of reaching a market for the products of the new and remote regions

of the south and west. A large part of these products are created by the railroads in regions which could never without these roads have been brought into commercial relations with the seaboard. A greater part of all this commerce centres in New York.

Fuel and food brought cheaply by the railroads to our city, are making a wharf with tide water on one side, and a rail on the other, the best site for a manufactory, and such sites are abundant on our Island.

The capital and labor of Europe, by means of railroads, are doing on this continent the work of one hundred years in ten years; and New York has its profits on the whole. Hence the growth of business exceeds the growth of buildings, and the expense of living is great, because the wants of the people employed in our city exceed the provision made for their supply.

But our city has municipal and social interests, which are peculiarly its own, and are to be looked at aside from the general mass of commerce transacted on this Island. The people doing business in this city and enjoying all the advantages for which five million of taxes are levied and expended, do not all live upon the Island. As matters are now arranged, a majority of the whole will soon have their residences in the surrounding country. These outsiders share the benefits of this seat of commerce, but shun the burden of the taxes because they roost beyond the corporate limits. While commercial gains are not taxed, and the city expenses continue to increase with the increase of our commerce, it becomes a matter of great municipal interest to make the whole Island of New York, accessible and pleasant for private residence. The cheap and easy movement within the city of property as well as persons, is also a matter of great concern to the general welfare. These two ends, the railroads operating solely on this Island are likely to secure.

The economy of movement, on the rail, for the conveyance of commodities after they reach the city is so new a topic, that we must shade our convictions of what is hereafter to be done. But the shadow of the future is already in dim outline before us. The power of a horse on the rail is about four times his power on the pavement. Two horses carry 50 passengers in a city car. This saving of horse power is already understood by teamsters whose axles are growing longer or shorter to adapt them to the groove of the rails. Rails will become more common and more used; then they will take a form adapted for easy turning; low trucks will be adopted with the floor above the top of the wheel; the tracks will run into warehouses, workshops, markets and yards, and all business transportation will be done on rails. But the last and greatest economic revolution will be the displacement of all draft horses by the universal use of steam power. This power costs about one-fourth as much as horse power. When there are no horses to be frightened, there will be far more safety for human beings in the use of locomotives than of horses. And our children, if not ourselves, will see, in the substitution of scientific force for the force of semi-voluntary muscles, "that a horse is a vain thing for safety."

Along with levels for tracks in all the places of manufacture, conveyance or storage of commodities, there will come the use of stationary steam

power and power-cranes in the handling of property; and men will do with economy and ease the drudgery of commerce, in which they and their horses are now oppressed with heavy burdens.

If the laughers owe us anything for the last two paragraphs, they may pay us in the way of thinking soberly of the matter after their laugh, and asking themselves if steam power has not already done more difficult tasks than we have proposed.

The conveyance of persons from place to place, on our long, narrow island, in rail cars is already a familiar operation. How this operation was ever permitted to start, is still the puzzle and vexation of the old lawyers, who know that no man, or set of men can lawfully appropriate any part of a street, except that part over which he or they may at any time be passing, and that he or they must turn out to the right as the law directs. But, scientific progress modifies old laws and makes new ones to suit the altered condition of society, and thus reconciles society to the change. The cars do not turn out for cart or coach. The people have taken to riding in the cars. The Courts and legislators have concluded to let the law change, and no man can now foretell what other and greater changes will come about in this operation of carrying persons in city cars.

But the whole operation is in a clumsy infancy. The car is a sort of canoe in land navigation, when compared with the elegant two-story warmed and lighted rolling palace, which will come into use, and make the most grum of grumblers complain.

The fares are not yet adjusted by any rule of social justice. The Harlem has six cents for carrying a passenger three miles, and the Eighth Av. has five cents for carrying him five miles. A discrimination between the fares and *thoroughfares* on a five mile route is sure to be called for by the public. The through fare does not pay for the work of carrying. Enough of through business to exclude the way business would ruin the owners of the road.

But, the experiment on the avenues has settled one very important point: *the five miles from the Park to Fiftieth Street can be regularly made in 40 minutes.* This is probably the maximum of speed by horse cars. Below Fiftieth street there is room for a million of people, all of whom can reach their places of business or labor in forty minutes, for 5 cents. This is a great point gained. What remains to be done below Fiftieth street is the establishment of numerous *cross* lines to convey passengers from side to side of the town. One of these cross lines in the vicinity of Thirtieth street is an enterprise of present and pressing importance to the public convenience, and we venture to commend it to the notice of such operators as have courage to annoy our well abused Common Council with new petitions for railroad grants. This road would carry the passengers to and from the steam terminus of each of the railroads, to every part of the city, for a few cents each.

We now come to the question—*What can city railroads do to make the land between Fiftieth street and Spuyten Duyvil a convenient and easily accessible place of residence?* There is more and better ground for private residences above Fiftieth street than below it. The five miles from Manhattanville to the north end of the island, is not surpassed either for beauty of situation or salubrity of air by

any spot on earth. Scarcely a tenth of an acre is out of view either of the North or the East river. Grading and drainage are removing the nuisances of Harlem. The suburb is still below Fiftieth st., and may be kept there, if easy, cheap and rapid access to the upper half of the island can be had at any time of day and evening. *This access can now be had.*

The Hudson River Railroad Company proposes to lay down rails for the sole and separate use of city passenger cars, to run every few minutes of day and evening, from the Park to Spuyten Duyvil. They will go by horse power to Thirtieth street, and by locomotive power the rest of the way.— They will make the time to Fort Washington, at One Hundred and Sixtieth street, as quick as the horse car conveys it to Fiftieth street—in 40 minutes. The long cars will cease to go below Thirtieth street, and all passengers from the north will go down in the city cars.

This much we learn from authority, as to the disposition of this company.

We take the liberty of asking, why should they not extend this city road along the border of the Harlem River around to the Fourth avenue? There would then be a steam car accessible on both sides of the island, and no one could place his house at a greater distance than the Seventh avenue from one of these cars. Omnibusses from the back-bone of the island would carry passengers in five minutes to any station of the steam cars.

Under this arrangement, the remotest inhabitant of the island would be within less than an hour of his place of business, at all hours of the day and evening.

Should this plan be approved by the Common Council, as is provided for in the charter of the company, some very striking effects would be sure to follow.

The municipal value of the operation would be very great.— A lot at Fort Washington would soon become more valuable than at Fiftieth street and the Eight avenue, because it would be as near to the Park, and with all the advantages of water, gas, fine roads and the absence of suburban nuisances, it would be a much better place of residence.

Tens of thousands who now live out of New York, will find inducements to return. And especially will this be the case if the first in order and importance of all city reforms shall be adopted,— the taxing of the business incomes of the city to pay the cost of making it a place of business, and that without reference to the dwelling place of the maker of the income.

Under this arrangement our city education, of the highest order, might be advanced to a truly universal character and fame. Let Columbia College, with her great income, place herself on a farm of forty acres, at Fort Washington; and her day pupils might come in an hour from a circuit which would embrace Peekskill and all the towns south, including Newark and Jamaica, while resident students would gather there, as to another Cambridge.

None, who have not walked over the northern part of our island, have any just notion of its beauty and availability for residence, under a plan of constant access, in forty minutes, by well-kept railroad cars.

The enhancement of the value of private prop-

erty will be immense. We hope the enterprise will be remunerating to the company.

The wants of business will gradually remove residences from the lower part of the city, but the upper half of the island will always be the place of healthful and beautiful homes. With all the conveniences of a city, without a ferry, and with the cheap and easy approach proposed by the new road, the city will be preferred before all the surrounding country.

James River and Kanawha Canal.

The receipts of toll on the James River and Kanawha canal, for the month of March, exhibit the following results:

Receipts for March 1843.....	\$10,436 21
Do Do do 1849.....	20,531 26
Do do do 1853.....	33,286 35

being an increase of about 25 per cent. per annum.

This gratifying result proceeds in a great measure from the increasing prosperity of the city of Richmond, and the extension of its business relations with the interior.

The receipts of tolls at Lynchburg, for the last six months, exceed those for the same months of the preceding year by about \$15,000, which is attributable to the trade thrown upon the canal by the Virginia and Tennessee railroad.

The Joliet & Terre Haute Railroad Co.

The books of this company were opened on the 20th of April, 1853, and the whole amount of stock, one million of dollars, was at once subscribed.— The company design running one branch of the road in the direction of Fort Wayne and one in the direction of Lafayette; and also to extend the road westwardly to Fox River.

The organization of the company took place a few days since, when, we learn from the *True Democrat*, the following named gentlemen were elected officers:—Joel A. Matteson, President, Peter Stewart, Vice President, George W. Casseday, Treasurer, Richard Doolittle, Secretary. Directors—Peter Stewart, G. W. Casseday, S. W. Randal, Josiah McRoberts, Joel A. Matteson, Richard Doolittle, G. D. A. Parks.

Pittsburgh and Washington Railroad.

At an election of Directors for the Chartiers Valley Railroad company, the following persons were chosen, to wit:—Messrs J. K. Morehead, Jacob Painter, George W. Jackson, and David T. Morgan, of Pittsburgh; William S. Calohan, and David Houston, of Canonsburg; and John H. Ewing, of Washington. After the election, the Directors met and unanimously elected Gen. J. K. Morehead President.

Ohio and Mississippi Railroad.

We learn from one of the principal parties to this enterprise, who has just returned from England, that he was entirely successful in his mission thither to negotiate the securities and purchase the iron for this great work. All the bonds of the company have been sold at good rates, and 10,000 tons of rails purchased for an early delivery, free on board, at the low figure (for the present time) of £8 5s. per ton.

The success of these negotiations place in the hands of the company ample means for the entire line, and the work upon the whole, is being pressed forward with an energy, as to leave little doubt, that the road will be completed within two years from the present time.

Jeffersonville Railroad.

We invite attention to the report of the Jeffersonville Railroad Company, to be found in another column.

The citizens of St. Charles Co., Mo., have subscribed \$100,000 to the stock of the North Missouri Railroad.

Removal.

After the publication of the present number of this paper, the office of the *Journal* will be removed to No. 9 Spruce street, near Nassau, and a few doors only, above the one recently occupied.

Stock and Money Market.

There is a good feeling in the money market the present week, with a pretty active business in many of the leading stocks, which in most cases have shown a considerable advance. Money is sufficiently abundant, and good securities of all kinds are in active demand.

The weekly earnings of the Toledo, Norwalk and Cleveland Railroad, since its opening, have been as follows,

Week ending.	
January 29.....	4,120 00
February 4.....	6,240 50
" 12.....	6,200 00
" 19.....	7,000 00
" 24.....	8,095 00
March 5.....	8,917 00
" 12.....	9,934 00
" 19.....	10,417 00
" 26.....	8,784 00
April 2.....	8,867 00
" 9.....	9,479 00
" 16.....	9,364 00

Total.....\$98,035 00

The road is 87 miles long, and will cost, when fully completed, not far from \$1,600,000. The earnings per the present year will probably reach \$450,000, deducting \$150,000 for various expenses, will leave \$300,000 for interest and dividends.

The Michigan Central earnings for the first week in April were

1853.	1852.
Passengers...\$11,082 12	Passengers...\$4,841 85
Freight..... 7,100 93	Freight.... 3,369 21
Total.....\$18,493 05	Total....\$8,212 06

Gain.....\$8,980 88

The existing debt of North Carolina is as follows:

Amount due literary fund.....	\$193,235 14
Bonds issued for construction of Fayetteville and Western Plank road..	110,000 00
Bonds issued to meet state liabilities generally.....	370,000 00
Bonds issued by the Raleigh and Gaston railroad endorsed by the state..	500,000 00

Total.....\$1,183,235 14

Add bonds due in 1853 and 1854..... 45,000 00

Total.....\$1,228,235 14

Bonds authorized to be issued:	
For construction of North Carolina railroad.....	\$2,000,000 00
For one half the sum necessary to construct a railroad from the seaboard and Boanoke to the Raleigh and Gaston railroad, estimated..	75,000 00
For improvement of Neuse and Tar rivers.....	65,000 00

Total existing and authorized debt, Nov. 1, 1852.....\$3,368,235 14

From 1st. Jan., 1851, to 1st Nov. 1852, the amt of new bonds issued by the state was \$230,000. During the same time \$101,000 of the principal of her debt was paid off, making a net increase of 129,000.

The receipts of the Hudson River railroad for the month of April amount to \$102,268
Receipts of April 1853..... 62,718

Increase in favor of 1853 (equal to 63 per cent..... \$39,540

The receipts of the Naugatuck railroad Co., for the three months ending March 31, 1853, have been :

	1852.	1853.	Increase.
January.....	\$10,020 54	\$14,799 11	\$4,778 57
February.....	10,440 36	13,122 95	2,673 59
March.....	15,066 72	18,503 08	3,436 36

Total....\$25,536 62 \$46,425 14 \$10,888 52

The receipts of the sub treasury are \$151,740; payments, \$57,830; balance \$6,998,480.

The earnings of the Erie railroad for April were.....\$423,076 56
April 1852..... 320,822 95

Increase.....\$102,253 61

The aggregate receipts of Jan., Feb., March and April are.....\$1,407,295
Same months, 1852..... 946,303

Increase..... \$461,992

Sales of 400 shares of the new consolidated R. R. company between Albany and Buffalo were made at 120.

The following table will show the coinage at the Mint of the United States, for the first four months of 1853 :

	First 3 months.	April.	Total,
Double Eagles, 11,289,920 00	4,251,800 00	15,541,720 00	
Eagles, 316,930 00	237,060 00	553,990 00	
Half-Eagles, 137,880 00	212,430 00	350,310 00	
Quarter Eagles, 640,505 00	143,745 00	784,250 00	
Doll'rs, 1,049,241 00	460,045 00	1,509,286 00	
Tot'g'd 12,434,476 00	5,305,080 00	18,739,556 00	
Doll'rs,	30,000 00	39,000 00	
Quarter Doll'rs, 11,050 00	302,505 00	313,555 00	
Dimes, 9,500 00	56,001 00	65,501 00	
Half-Dimes, 6,750 00	21,501 00	28,251 00	
Three-Cents, 338,550 00	.....	338,550 00	
Tot. silv'r 365,850 00	419,007 00	784,857 00	
Copper 992 36	2,511 54	12,503 90	

	1851.	1852.	1853.
Gold, silv'r & cop- per ...	13,810,318 36	5,726,598 54	19,536,916 90
In 1852 11,228,324 12	3,537,989 82	14,766,263 94	

Incre'se this y'r. 2,581,934 24 2,188,658 72 4,770,652 96

The gold deposited for the first three months of 1851, 1852, and 1853, were ;

	1851.	1852.	1853.
January	\$5,071,169	4,151,688	4,962,097
February	3,004,976	3,101,222	3,548,523
March	2,880,271	3,892,157	7,583,752
April	2,878,853	3,091,037	4,766,000

Total....\$13,835,263 14,155,103 20,810,372

Showing an increase this year of \$6,655,269 over 1852, and \$6,975,109 over 1851.

The railroads and canals of Pennsylvania show

an increase in their receipts equal to that of the roads of this State and the West. The *Ledger* says :

The receipts on the Chesapeake and Delaware canal, for the current year to the 13th inst., were \$207,812, against \$152,690 to the same time last year, showing an increase of \$55,122. There is one and a half months yet to the end of the fiscal year, which will probably swell the annual increase to \$60,000. The Susquehanna canal shows an increase correspondingly great. The business on the Norristown Railroad is also steadily growing each month, showing a large increase of receipts on the corresponding months last year. The shares and loans of all these companies command prices corresponding with the increased productiveness. The freight and passenger business of the Reading Railroad Company has also largely increased, showing, on a lessened amount of coal tonnage, an excess of cash receipts of some forty or fifty thousand dollars over the corresponding time of last year; and yet the company last year paid 6 per cent. cash dividends. The stock of the company is now, however, some ten per cent below par. This must result from some cause other than that of the business of the road.

The following is the business of the mint at Philadelphia.

COINAGE FOR APRIL, 1853.

Gold.	Pieces.	Amount.
Double Eagles	212,590	\$4,251,800 00
Eagles	23,707	237,060 00
Half Eagles	42,486	212,430 00
Quarter Eagles	57,498	143,745 00
Dollars	460,045	460,045 00
Total	796,325	\$5,305,080 00

Silver.	Pieces.	Amount.
Dollars	39,000	39,000 00
Quarter dollars	1,210,020	302,505 00
Dimes	560,010	56,001 00
Half Dimes	430,020	21,501 00
Total	3,035,375	\$5,724,087 00

Copper.	Pieces.	Amount.
Cents	2,241,614	2,146 14
Half Cents	73,080	365 40
Total	3,323,069	\$5,726,598 54

GOLD BULLION DEPOSITED.

From California	\$4,736,000 00
From other sources	30,000 00
Total	\$4,766,000 00

Silver bullion deposited	2,550,000 00
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GOLD DEPOSITED.

January	\$5,071,669	\$4,161,688	\$4,692,697
Feb.	3,004,970	3,101,222	3,548,523
March	2,880,271	3,892,156	7,583,752
April	2,878,853	3,001,037	4,766,000

Total.....13,834,463 14,455,103 20,810,372

The following are the transactions at the office of the Asst. Treasurer, U. S. Mint, Philadelphia, for April, 1853:

March 31—Balance.....\$1,094,971 32

April 30—Receipts:

Transfer drafts	\$822,564 16
Customs	248,922 58
Post Office	63,932 69
Miscellaneous	757 11
Total	\$2,231,147 80

Payments:

Transfer drafts	\$1,222,564 16
Treasury drafts	335,870 26
Post office warrants ..	33,477 24
Interest on loans and coupons	1,904 00
Pensions	8,654 95
April 30—Balance	\$628,677 25

Journal of Railroad Law.

MEASURE OF DAMAGES IN CASE OF LAND TAKEN FOR RAILROADS.

We subjoin the important decision of the Supreme Court of Louisiana in the case of *Woodfolk vs. the Nashville and Chatanooga Railroad company*.

The question introduced in this case is a vexed one in many States—but by the general Railroad laws of Ohio and of New York, Commissioners are bound in express terms to estimate the value of the land taken by railroad companies, irrespectively of any benefits to be derived from the use to which it is applied.

DECISION IN THE SUPREME COURT—OPINION BY JUDGE CARUTHERS.

Wm. W. Woodfolk vs. the Nashville and Chattanooga Railroad Company.—The defendants located their road for about 500 feet on a six acre lot of plaintiff in the vicinity of Nashville. The road runs through one corner of the lot, separating about three quarters of an acre from the main lot, and occupying in the bed, which is from seven to ten feet deep, about one-quarter of an acre. The plaintiff has his family residence on the lot, and it is handsomely and beautifully improved. The part separated has upon it some negro houses, a cow house, well and spring house. The plaintiff appealed from the decision of the Commissioners, and the case was submitted to a special jury. The law was laid down by the circuit judge in his charge, in part and so far as it is necessary in our examination, as follows: "You will recur to the testimony and ascertain from that the value of the land taken for the road, and take into consideration such other inconveniences and damages as shall have resulted to the plaintiff from the acts of defendant. You will estimate what damages the plaintiff may have suffered, if you shall think that any have accrued, then you will look to the testimony in the cause and ascertain whether the acts of the defendant in locating the road upon the land of the plaintiff have resulted in benefit or advantage to him; on ascertaining this, you will determine whether the land of the plaintiff appreciated in value. You will not look to the fact that the road is a public benefit or advantage, unless that public benefit or advantage be inseparable from the benefit conferred upon the plaintiff. If any advantages have resulted, you will determine what they are and assess their value. You will then take the amount of benefit or advantage from amount of damages, and the remainder, if any, will make your verdict. In ascertaining the benefits and damages you will confine yourselves to the time when the defendant appropriated the land of the plaintiff to the use and construction of the road." Thus is the law laid down by the circuit court, and both parties are dissatisfied with it.—The defendant brings up the case by appeal, and the plaintiff by writ of error. It now devolves upon this court to settle the law, and indicate the proper rules for this and all other cases of the kind. After thus explaining the nature of the case, His Honor cited the constitution to show that no private property can be taken by the State without making compensation therefor, upon which conditions, however, by a necessary legal reference, property may be so taken. The only questions in this case, the Court proceeded in substance to say, are—what is meant by just compensation? How is it to be ascertained, and how, when, and in what

is it to be paid? No Charter which conflicts with the Constitutional requirements can be sustained. The 24th section of the Charter regulates the mode of ascertaining the damages to individuals, and the manner of compensating them for the lands taken for the road. It provides when the land cannot be purchased, or the price agreed upon, "the same may be taken at a valuation to be made by five Commissioners, or a majority of them, to be appointed by the Circuit Court of the County, where some part of the land or right of way is situated." who shall take an oath faithfully and impartially to discharge the duty assigned them. In making the said valuation, the said Commissioners shall take into consideration the loss or damage which may occur to the owner or owners in consequence of the land being taken or the right of way surrendered, and also the benefit or advantage he may receive from the erection or establishment of the said road or work, and shall state particularly the nature and amount of each, and the excess of loss or damage over and above the benefit and advantage, shall form the measure of valuation of said land or right of way. The proceeding of said commissioners, accompanied with a full description of said land or right of way, shall be returned under the hand and seals of a majority to the Court from which the commission issued, there to remain of record. Either party may appeal, and have a new valuation by a Jury in Court, whose verdict shall be final, unless a new trial shall be granted.

In view of the constitution which provides that no one shall be deprived of his property "without just compensation," the question arises, is it rendering "a just compensation" to plaintiff to measure the same by the excess of his damages above his benefits? Such a measure of damages would poorly protect private rights; and the supreme law of Louisiana sanctions no such method of determining the claims of those whose land has been taken for public purposes. The plaintiff is constitutionally entitled to the value of the land taken from him by defendants, in money, and this value cannot be liquidated in whole or in part by "any benefit or advantages." On the other hand, the public should not pay the enhanced price that would result from the fact that the road had been located at that place.

The appropriation of the property, by the company, under the charter, was no wrongful taking, but was legal and rightful, and the only open question was, What is a fair price for the property?

The incidental damages of plaintiff, such as the necessity of building new fences, etc., are provided for in another part of the charter, and these have nothing to do with the question of due compensation for the land. As to the plaintiff's incidental advantages from the road, such as the increased facility of travelling, these are equally foreign from the question of "just compensation." The plaintiff is entitled to enjoy certain incidental advantages in common with every other citizen. For this purpose, in part, he pays taxes.

The following are the grounds upon which the estimate of "just compensation" is to be based.

1. The quality of the land taken; and in reference to this point, it would not be reasonable to fix the value of an acre in strict proportion to the value of the whole tract of which it constitutes a part. This would be to compel a party to sell as cheaply at retail as at wholesale.

2d. The locality, vicinity and form in which the land is taken, most be considered. Does it cut off an unsaleable lot or otherwise?

3d. The general effect of the railroad upon the value of the land appropriated, is not to be regarded. We do not make plaintiff suffer when the value of his land is diminished by the location of a railroad; nor do we allow him the benefit in the shape of damages, for any enhancement of its value from that cause.

Incidental advantages and disadvantages must be left out of view in estimating the question of "just compensation." The plaintiff is entitled to what would be the fair cash value of his land, if the owner were willing to sell and the Co. wished to buy the particular quantity, at the place and in the form of that which the company require in this case.

In respect to merely incidental advantages, and disadvantages, the court would, if required, set off one against the other, and strike a balance between them; yet, in estimating these incidental damages or advantages, the commissioners should regard only those of a special character, and affecting particularly the land in question.

The land owner should not pay for what he enjoys in common with the public. He pays for that in taxes.

This doctrine is in accordance with various decisions of the courts of Kentucky, although much conflict of opinion on the subject prevails in other states.

LIABILITY OF COMPANIES FOR EXTRA BAGGAGE.

The Supreme Judicial court; Massachusetts.—March Term, 1853. *Assumpsit*. Mary Brown, vs. Eastern railroad.

Two trunks, on each of which was a card with the plaintiff's name and destination, viz: Freeport, Me., were delivered to the defendants at their depot in Boston. The baggage master was asked for checks, said they were out of checks, and thereupon marked the trunks for Freeport, and one containing the plaintiff's necessary wearing apparel, was lost before arriving there. When the trunks were so delivered, she inquired at the ticket office for a ticket to Freeport, and the seller told her they did not sell tickets to that place, but she could take one to Brunswick beyond, and get out at Freeport, and \$1 would be refunded. She paid \$3 and received a ticket, on the back of which was the following in fine print:—

"Notice.—Passengers are not allowed to take, nor will these companies be responsible for baggage if it exceed fifty dollars in value, unless freight on any addition thereto be paid in advance, and this notice forms a part of all contracts for transportation of passengers and their effects." In the cars between Boston and Portland, the plaintiff discovered this notice. There was no evidence that she saw it until she saw it in the cars aforesaid, or that she had any notice that she was required to look after her baggage. On this evidence the defendants contended that the words on the back of the ticket were part of the contract between the parties, and that by that contract the defendants were not responsible for the baggage, it being more than \$50, or at any rate for more than that sum.

But the court below ruled that the taking of the ticket by the plaintiff raised no legal presumption that she read the printed matter thereon, and that if she did not read it, her rights were not affected by it, and the jury returned a verdict for the plaintiff for \$141 78.

Dewey delivered the opinion of the court.

We have not found it necessary to enter upon the consideration of the vexed question of the right of common carriers to limit their common

law liability by notice. It has been seriously doubted whether they could limit it at all, as such a limitation was supposed to be against public policy, and to have a tendency to encourage negligence, if not to favor actual fraud. But the principle of limitation is gradually being incorporated into the jurisprudence of our country, and our courts are more and more generally yielding to the pressure, and allowing the binding effects of such limitation on the bailor, if full notice be secured to him.—Without questioning the power of common carriers to make a reasonable limitation of their common law liability, we think that this case must be decided in favor of the plaintiff. The cases holding such a doctrine rigidly require that the party must be fully informed, and that the terms of such limitation must be specific and certain. In the case of Camden and Amboy railroad vs. Baldan, 4 Harris, 67, a notice in the English language was placed in the hands of the bailor, who was a German, wholly ignorant of English, and it was held to be no notice. The court say: "The authorities are uniform, that to discharge the carrier from responsibility it is necessary to show clearly that the person with whom he deals is fully informed of the terms and effect of the notice." See Davis vs. Wallan, 2 Starkie, 279. We think the instruction of the court below was properly guarded and correct.

The plaintiff had delivered her luggage, which was received without any notice of the limitation, and marked for the proper destination. Soon after she asked for her ticket and received it, under the circumstances stated. Up to this time there was no notice of any limitation. The only intimation or allusion to it was the printing on the back of the ticket. There was no direct notice by the baggage master or the ticket vender, and no actual or constructive notice in fact. A mere passage ticket such as those in general use, would not induce a passenger to examine it particularly, it being generally understood to be a mere check, given as evidence that the fare has been paid. This is not the case of a limitation distinctly stated on the face of a ticket. The tickets frequently have various matters printed on the back, such as tables of distances, etc.

On the whole, the facts in the case fail to furnish that certain notice which must be given to exonerate the defendants from liability. We are aware that in reference to the transportation of merchandise it has been held in two cases, that a notice of a limitation borne on the face of a ticket was sufficient to exonerate the carrier. Austin vs. Manchester, Sheffield and Lincolnshire railroad Co., 11 E. L. and E. Report, 506. Shaw vs. the York and N. Mid. railroad company, C. R. & C. Cases, p. 87.

But these partake more of the nature of special contracts, and we apprehend it will be found that they were under the signature of the agent. A receipt of property delivered, which the party is not to accompany on its transport is a contract of a different character, and one to which a different view applies. And the present decision is confined to the case of a notice of a limitation of responsibility on the back of the ticket.

Defendant's exception overruled, and judgment of C. C. P. for the plaintiff affirmed.

Harlem Railroad.

At the recent meeting of the stockholders of the Harlem railroad, the acceptance of the Act, increasing the capital stock to eight millions, was unanimously voted, 67,000 shares of stock being voted upon. The increase was for the purpose of converting the remainder of the extension certificates, about \$640,000 into stock. The receipts upon the extension had increased from \$51,000, during the first six months to \$112,000, during the second six months, which considerably exceeded the running expenses. Mr. Schuyler in his address spoke of the successful operations of the Harlem road, and predicted continued improvement in its condition and traffic. Another million of dollars will, probably be expended before the constructive account can be considered full.

New Portable Head Rest.

Mr. C. P. Bailey of Zanesville, Ohio, has shown us a contrivance which he has just invented, for the support of the head in railway travelling. Of all parts of the body, the head is the one most out of place in a railroad car, especially when a person is sleepy. To provide comfortable quarters for this inconvenient but necessary part of the body, Mr. Bailey takes a steel plate an inch and a-half wide, and from an 8th to a 16th thick, and about two feet long, and fitted to the curve of the back, the forks, extremities of which, are connected by an India rubber band. The principal upright is jointed, as are the forks, so that the whole can be folded up to occupy a space not greater than 8 inches long, by one-half an inch thick. It can be carried conveniently in one's pocket, as the whole weighs only about half a pound. When a person wants to go to sleep, or rest his head, all he has to do is to take his rest out of his pocket, put it to his back, place his head upon the india rubber band, and he at once places himself in the most comfortable position possible. The upright, by being fitted to the back, keeps its place perfectly, and completely supplies the desideratum so long felt in travelling in railroad cars, a place to rest the head. Every person who has had any experience of this matter, knows how much he has suffered in endeavoring to support this member, and how often he has worn out the patience of his hands and arms all to no purpose, only to put them into the worst of all sleeps.

The Portable Head Rest can be obtained for a trifle, and as it can be carried about in the pocket, and contributes so much to his comfort, it should be an inseparable companion of every traveller.

Evansville and Illinois Railroad.

The Evansville Journal states that Judge Hall, president, and John Engle Jr., secretary of the Evansville and Illinois railroad, are now engaged in examining the lines surveyed by the engineers, between Vincennes and Terre Haute, preparatory to a final location of the roads between these points, soon after which it is expected to put that portion of the road under contract. The portion of the road between this point and Vincennes is steadily advancing to completion.

Lake Shore Railroad.

The Lake Shore road on Lake Michigan, from Chicago to Milwaukee, is to be completed in all this year. Messrs. Bishop and Co., Bridgeport, Conn., are the contractors, from the Illinois State line to Milwaukee.

Michigan Southern and Indiana Northern Railroad.

Robert B. Duxtater, Esq., has been elected president of the Michigan Southern and Northern Indiana railroad company, in the place of John B. Jervis, Esq., resigned. Mr. Jervis, after having been connected with this enterprise as chief engineer, from the commencement of operations upon its construction, and as president since June last, now retires in order to devote himself more exclusively to his professional pursuits. He continues his connection with the companies as a director and chief engineer. Mr. Duxtater has been heretofore connected with the Rome and Watertown railroad company, and is favorably known as an active, intelligent and energetic business man, and there can be no doubt that, in his new position, he will fully maintain his established reputation and

the high character of this important and successful western road.

To Contractors.

PROPOSALS will be received at the Engineers' Office of the Cleveland and Mahoning Railroad Company, in Warren, Trumbull County, Ohio, until Tuesday, May 17th, 1853, for the Grading and Masonry of about Fifteen Miles of said Road, from Warren to Youngstown. The line runs along side or within sight of the State road, and the Pennsylvania and Ohio Canal, the whole distance. Plans and Specifications are now ready for inspection at the office in Warren.

Estimates will be made monthly, and payments in cash.

By order of the Board of Directors.

EDWARD WARNER, Chief Engineer.

RAILROAD IRON.

THE Cambria Iron Company are now prepared to contract for Rails for future delivery, at their Works, Johnstown, Penn, or upon the Allegheny River at Pittsburgh or Freeport. Office, Johnstown, Penn., and 46 Pine st., New York. May 2, 1853.

Engineering.

THE undersigned is prepared to furnish Specifications, Estimates and Plans, in general or detail, of Steamships, Steamboats, Propellers, High and Low Pressure Engines, Boilers, Mill Work, etc., etc. Particular attention given to the procuring and superintending of Locomotives, Tenders, Cars, and Railway Machinery of every description.

General Agent Ashcroft's Steam Gauge, Allen & Noyes' Metallic Self-adjusting Conical Packing, Dudgeon's Hydraulic Jack, Sewall's Salinometers, etc., etc.

Acts as Agent for the purchase or sale of, and has always on hand, Steamers, Locomotives, Engines, Boilers, Machinery, etc.

CHAS. W. COPELAND,

Consulting Engineer,

64 Broadway, N. Y.

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Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions, not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines. Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

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ap30 23 Platt street, New York

**CLARK & JESSUP,
GENERAL RAILROAD SUPPLY AGENTS,**

AND

FORWARDING MERCHANTS,

ALSO,

Agents for the Saugatuck Iron works,

NO. 38 EXCHANGE PLACE,

NEW YORK.

OFFER their services for the Purchase, Inspection and Forwarding of Railroad Iron, Chairs, Machinery, etc. Orders are invited for Locomotive and Stationary Engines, Passenger and Freight Cars, Machinists' Tools, Spikes, Chairs, Switches, Frogs, etc.; also, Locomotive Tires, BO, or Lowmoor pattern, which will be executed at Manufacturers' prices.

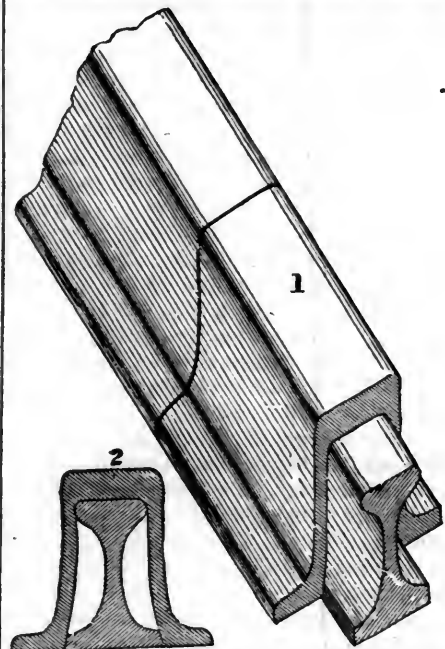
Engine Wastes, Cotton and Hemp Packing, Bell-rope, Car and Switch Locks, Locomotive Lamps, etc., constantly on hand.

REFERENCES:

Rogers, Ketchum & Grosvenor,
Phelps, Dodge & Co.,
Ketchum, Rogers & Bement,
N. L. & G. Griswold,
Illinois Central R. R. Co., and others,
New York.
Reed, Chadwick & Dexter,
E. Chadwick, Esq., Treasurer of the
Merimack Mills,
Boston.
New York, April 30, 1853.

Railroad Iron.

5000 TONS Best Staffordshire Rails for sale on early delivery in Liverpool
by **NAYLOR & CO.,**
12th 99 John street.

**WELLES & SERRELL'S
COMPOUND RAILWAY BAR.**

THE Subscribers offer for sale the right to make and use their Compound Railway Bar on the most favorable terms.

This Bar combines the practical advantages of stiffness and lightness—and breaks joints without the use of bolts or rivets; and may be used with or without chairs; ordinary workmen, with the usual tools, can lay or repair it.

WELLES & SERRELL.

N.B.—Address Edward W. Serrell, 157 Broadway, New York City.

May 1, 1853.

THE BOSTON BOLT AND MACHINE CO.

BOSTON, MASSACHUSETTS,
MANUFACTURE

EVERY description of Carriage Bolt, Screw and Blank Bolts of all kinds, suitable for Steam Engines, and all kinds of Machinery.

Also Car and Bridge Bolts, etc., etc. All kinds of neat forgings of Bolts to gauges and patterns for Locomotive Engines, etc.

Likewise Rivets for Engine Boilers, Machinery, etc.

This company Manufacture, also, the most complete Slide Lathe, and at the Franklin Institute Fair were awarded a Premium for the superiority both of construction and design of the same.

J. N. WILLS, Agent and Treasurer,

May 4, 1853.

75 State st., Boston.

New Works on Civil Engineering.

THE Field Practice of laying out Circular Curves for Railroads.—By JOHN C. TRAUTWINE, Civil Engineer—2nd edition in pocket-book form.

A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates.

Price One Dollar each—postage on the Curves Three Cents—and on the Excavations and Embankments, Six Cents.

For sale by

WILLIAM HAMILTON,

May 4, 1853.

Hall of the Franklin Institute,
Philadelphia.

Railroad Iron.

THE undersigned, from their late long engagements with one of the most eminent Houses in the Iron Trade of Great Britain, considering themselves well qualified to assist Railway Companies and others in making purchases in the English markets, tender their services free of any charge to such as will favor them with communications, either personal or by letter.

Address

JOHN H. AUSTIN & CO.,

2 Ingram Court,
Fenchurch street,
London.

May 2, 1853.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
March 2d, 1853. 90 Beaver st.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
April 1, 1853. 90 Beaver st.

O. A. NORRIS,

American Railway Agency,
FOR THE PURCHASE, ON COMMISSION, OF
ALL ARTICLES REQUIRED BY
RAILROAD COMPANIES.

Office, 12 Farquhar Buildings,

Philadelphia.

Notice to Contractors.

PROPOSALS will be received at the Office of the Fort Wayne and Chicago Railroad Company in FORT WAYNE, until noon on Friday, the 20th of May next, for the Bridging, Grading, and delivering of Cross-ties for said Road.

PLANS, PROFILES and SPECIFICATIONS will be exhibited at the Office three weeks prior to the day of letting.

This line, One Hundred and Fifty miles long, embraces much heavy work, is well suited for prosecution in winter, and is divided into sections of from one to six miles in length, and may be bid for singly, or for the entire work.

J. R. STRAUGHAN,
Chief Engineer.

R. GROVES & SONS, SHEFFIELD, ENGLAND, Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Blister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maiden-lane, New York.

Stocks of the above goods constantly on hand.

January 12, 1853.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Hoole, Staniforth & Co., MINERVA WORKS,

SHEFFIELD,
Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by

RICHARD MAKIN,
Agent for the Manufacturers,
43 24 Broadway.

Pease & Murphy, FULTON IRON WORKS,

FOOT of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land and Marine Engines.
N. B. - Engines and Boilers repaired. 6th

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,
Apl 1m 50 South Third street.

NEW YORK Lubricating Oil Manufacturing Co.

12 BROADWAY,
PROPRIETORS AND MANUFACTURERS OF
DEVLAN'S PATENT LUBRICATING OIL,
FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon Slides and Journals, by the use of bad oil. It will wear longer than Sperm, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidly, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
Sole Manufacturers, 41
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States. The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1848.

lv

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE
PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore. 38

CAUTION.

India-rubber Car Springs.

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA—Awarded by the American Institute to F. M. RAY, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed, JAMES TALLMADGE,
President.

N. MEIER, Recording Sec'y.
ABONIAM CHANDLER, Cor'g. Sec'y.
New York, Oct., 1851.
New England Car Spring Co., No. 104 Broadway
New York. 71f

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer,
Portland, April 9, 1853.

PATENT Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

Notice to Contractors.

SEALED PROPOSALS will be received at the office of the Clinton line railroad company, in Hudson, Ohio, until the 20th day of May next, for the grading, masonry, bridging and superstructure of their entire road, from Hudson to the Pennsylvania state line.

Plans, profiles, and specifications will be exhibited, and all requisite information given, at the office of the company, in Hudson, on and after the 10th day of May next.

By order of the board of directors.

H. N. DAY, president.

W. B. BRINSMADE, engineer.

Hudson, March 29, 1853.

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore and Washington City and Chicago.

The only route by which the dangers of Lake Navigation are entirely avoided.

The quickest and best route between New York, Boston and Philadelphia and St. Louis.

On and after Monday, April 11, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

THROUGH TRAINS.
Leave Toledo at 8.00 A. M. and 10.00 P. M.
Leave Cleveland, 9.20 A. M. and 8.30 P. M.

BELLEVUE TRAINS.
Leave Norwalk for Bellevue at 8 A. M.
Leave Bellevue for Cleveland at 2 P. M.

Night Trains will not stop at Townsend, Camden or Clyde, except to leave Passengers.

CONNECTING DIRECTLY

AT TOLEDO—With Trains of Michigan Southern Railroad for Chicago and the West, and forming a line in connection with the Chicago and Rock Island Railroad and Steamers on Illinois River, to St. Louis.

AT BELLEVUE—With Trains of Mad River and Lake Erie Road for Sandusky City, Dayton, Cincinnati, etc.

AT MONROEVILLE—With Sandusky, Mansfield and Newark Railroad, for Sandusky City, Shelby Junction, Columbus Newark and Zanesville.

T. GRAFTON—With Cleveland, Columbus and Cincinnati road, for Cleveland, Shelby Junction, Columbus and Cincinnati.

T. CLEVELAND—With Lake Shore Road, for Pittsburgh, Wheeling, Philadelphia, Baltimore and Washington City.

Freight forwarded promptly at fair rates.

E. B. PHILLIPS, Sup't.
Superintendent's Office T., N. & C. R. R.,
Norwalk, O., April 8, 1853.

Notice to Contractors.

HANNIBAL AND ST. JOSEPH RAILROAD.

SEALED PROPOSALS will be received at the office of the undersigned, in the city of Hannibal, Missouri, until the twentieth day of April, for the graduation, masonry and bridging of 25 miles of said road, extending west from Hannibal.

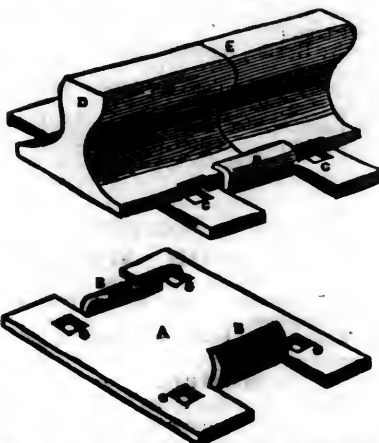
Proposals will also be received at our office, in the city of St. Joseph, Missouri, until the tenth day of May, for the graduation, masonry and bridging of 25 miles additional, extending east from St. Joseph. The remainder of the line, extending a distance of over 150 miles, will be placed under contract as soon as the same can be prepared by the engineers.

This line embraces some very heavy excavations and embankments, and several large bridges.

Plans, profiles and specifications will be ready at each place one week previous to the letting.

DUFF & LEARNED,
Contractors H. and St. J. R.R.

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make **WROUGHT IRON RAIL ROAD CHAIRS**, of various sizes, at short notice.

By use of the **WROUGHT IRON CHAIR**, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of **CAST IRON CHAIRS**.

Our Chairs are made from **ULSTER IRON**, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica, Chester Valley, Penn.,
Buffalo and Rochester, Tioga,
Northern, Norwich and Worcester,
Montreal and New York, Kings Mountain, S. C.,
Kennebec and Portland, Columbia and Granville,
Plattsburg and Montreal, Buffalo, Bayou Brazos and
Chicago and Rock Island, Colorado, Texas,
Milwaukee and Miss., Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

BRIDGEWATER PAINT, FOR WOOD, BRICK AND IRON BUILDINGS, Steam and Canal Boats, RAILROAD CARS, & C.

OR

For all kinds of Work above and under water.

PERFECTLY SPARK AND CINDER PROOF,

On Roofs of Houses, and Decks of Steamers, Railroad and other Bridges.

For sale in Bbls., 300 and 400 lbs., and Kegs, 25, 50 and 100 lbs.

R. BOGERT, General Agent,

Depot: 125 Pearl and 78 Beaver sts., New York.

To Railroad Companies, Car Builders, Machinists, etc.

SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,

Railroad and Boat Spikes,

Car and Locomotive Springs,

" " Spring Steel,

Solid Box Vices, etc., etc.

1853*

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of **RAILROAD BONDS** and **STOCKS**; also **CITY, TOWN** and **COUNTY BONDS**, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Peoria and Oquawka.	" 1863
6 per ct.—Maysville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1860-70
7 per ct.—New Jersey Central.	" 1867
7 per ct.—Brunswick Canal Co.	" Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	" 1864
7 per ct.—Troy and Boston.	" 1862
7 per ct.—Muscookee Railroad.	" Savannah, 1862
7 per ct.—Huron and Oxford.	" New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	" 1856-57
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861

10 per ct.—City of Keokuk, Iowa. Keokuk, 1863

7 per ct.—Town of Huron, Erie county, Ohio. Huron, 1861

7 per ct.—Town of Newark, O. New York, 1860

7 per ct.—City of Sandusky, convertible into Junction R. R. Stock. 1866

7 per ct.—State of California. 1862-72

7 per ct.—Mortgage bonds of the Atlantic Steamship Co. 1855

12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River. 1862

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.

Stock in the Western Vermont R. R. Co.

Stock in the Mad River R. R. Co.

Stock in the Buffalo, Corning and New York R. R. Co.

Stock in the Mansfield and Sandusky R. R. Co.

Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

The Cold Spring Iron Works INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures **CAR AXLES**, and all kinds of **WROUGHT IRON** used in the manufacture of **LOCOMOTIVES** and **CARS**; also, **BAR IRON** of all descriptions. Particular attention is paid to the manufacture of **CAR AXLES**, and the Works being situated in a region of **WOOD** and **CHARCOAL**, with which their Axles are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of **RAILROAD CORPORATIONS** and **CAR BUILDERS**, and promise they shall be promptly attended to: and executed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinaman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.

E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder,

Address **HENRY MELLUS, Agent,**

Boston, Mass.

or, **GEO. W. PRESCOTT, Sup't,**

Otise, Mass.

November 12, 1852.

Anthracite and Charcoal Pig Iron.

800 Tons No. 1 Glenden Anthracite Pig Iron.

1000 " No. 2 " " "

1000 " Forge " " "

200 " No. 1 Stockbridge Charcoal " "

100 " No. 2 " " "

500 " Forge Katahdin " " "

For sale by

GEORGE W. A. WILLIAMS,

5 Liberty Square, Boston.

December 11, 1852.

3m

FOR SALE.

TWO Sixty Horse Power Beam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia, (where they may now be seen.)

Apply to **A. & P. ROBERTS,**

No. 80, Walnut Street, Philadelphia.

Notice to Contractors.

OFFICE N. O., OPELOUSAS & GREAT
WESTERN RAILROAD CO.,
New Orleans, March 5th, 1853.

SEALED PROPOSALS will be received at this office, until the 10th of May next, for the construction of that portion of the road between Bayou Lalourche and Berwick's Bay, a distance of 31 miles; also from Berwick's Bay to Washington, 92 miles, including a branch road of 18 miles. Proposals will be made for the entire completion of the road, (except furnishing iron.)

References of ability, and security, will be required.

Plans and specifications of the work to be seen at this office, after the 10th of April.

JAMES G. GIBBES, Chief Engineer.

To Contractors.

LA CROSSE AND MILWAUKEE RAILROAD.
—Proposals will be received at the office of the Engineer of this road, in the city of Milwaukee, upon the 10th day of May next, for the Grading, Bridging, Superstructure, Station House, Water Stations and equipments of the first division of the La Crosse and Milwaukee Railroad, extending from the city of Milwaukee to Portage City, on the Wisconsin River.

Propositions will also be considered for the grading in sections, and for the superstructure and buildings, separately.

By order of the Board,

J. L. BEAN, President.

Milwaukee, April 6th, 1853.

Notice to Contractors.

Mississippi and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahtontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until on the 15th day of June, 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahtontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUGH, President.

S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

Railroad Iron.

3000 TONS superior quality, delivering from April forward, with 5 to 600 tons per month, for sale by
NAYLOR & CO.,
12th 99 & 101 John street.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.
DAVID CHILLAS,
60 South 3rd Street,
Philadelphia.

May 1st, 1853.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK,

**Blake & Parkin,
MEADOW STEEL WORKS,
SHEFFIELD.**

INVENTORS OF

CORE-ANNEALED CAST STEEL,
A most Important Improvement in CAST STEEL, originating with B. & P., for SCREW TAPS, PISTON RODS, ENGRAVERS to CALICO PRINTERS, SILVER and GOLD ROLLERS, etc., etc., warranted to harden by ordinary process without breaking, being soft in the centre to any required diameter, and hard to any specified depth from the outside.

HARD CENTRE CAST STEEL,
For DIES, LATHE CENTRES, MINT PURPOSES, etc., etc., warranted to harden the Inside without breaking, (the outside remaining soft.)

HARD AND SOFT SURFACE CAST STEEL,
In Bars and Sheets, hard on one or both sides, and soft in the centre; or soft on one or both sides, and hard in the centre, and adapted for a variety of purposes, as MACHINE KNIVES, SLIDE BARS, FLOW KNIVES, PLANING KNIVES, ROLLER BARS for Beating Engines for Paper Makers, etc.

This peculiar Steel is quite SOLID, and it is quite malleable, and draws down under the Hammer, still retaining the difference of hardness. When hardened, the hard part is left very hard, while the soft is left just harder than common iron.

THE REPORT OF THE JURY OF THE
"EXHIBITION OF ALL NATIONS."

Class 21, Page 486:

"The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE & PARKIN, of SHEFFIELD, consisting of the union of Two qualities of Cast Steel, hard and soft, in the same article; manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors."

A PRIZE MEDAL WAS

AWARDED TO

MESSRS. BLAKE & PARKIN.

N. B.—The Inventors mark all their Goods with their CORPORATE MARK—X. L. ENT.

Also, Cast Steel, German and Spring Steel, warranted Cast Steel Files, Saws, etc.

GEO. SANDERSON,
248 Pearl st., N. Y.

February 9, 1853.

**Wilkinson's
EXPLOSIVE
RAILWAY SIGNAL,**

For sale by

BRIDGES & BROTHER,
64 COURTLANDT STREET.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England, and from experience are found to be much better. They are so constructed that the movement of an engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

THIS WILL BE FOUND ONE MORE PREVENTIVE OF COLLISION. It is often the case that during a fog or snow storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable.

They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.
January, 20, 1853.

**Superior Cast Iron Gas and
Water Pipes.**

THE Subscriber is prepared to contract for the supply of CAST IRON PIPES required by Gas or Water Companies, Corporations, etc., delivered in any Seaport in the Union, on reasonable terms. These Pipes are cast on the most approved principle by the best Founders in Scotland, from a superior quality of Pig Iron remelted, are guaranteed to resist a pressure of 300 lbs. to the square inch, or greater if necessary, and to be soft enough to drill easily and freely. Full information regarding price, and references to parties in the United States now using the Pipes, can be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Renfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st., New York.

1y60

\$300,000 PERU and INDIANAPOLIS RAILROAD FIRST MORTGAGE CONVERTIBLE SEVEN PER CENT BONDS.

We offer for sale, at reasonable rates, \$300,000 of the 7 per cent 1st Mortgage Convertible Bonds of the Peru and Indianapolis Railroad Company.

Forty miles of this road, lying between Indianapolis and Tipton, is now completed and in operation. The Madison Road operates the same. The residue of the line to Peru, 32 miles, will be completed and in operation by the 1st of November next.

The entire Road will cost, when completed and equipped, about \$1,200,000.

The available stock subscription is \$29,000. The mortgage debt is but \$600,000 in all, the above being a part thereof. The Road owes no other debt.

This Road is advantageously located, connecting at Indianapolis with the Madison road (of which it is a direct extension northwardly) and the other roads there centering.

At Peru it connects or intersects with the Wabash and Erie Canal, and it will shortly be extended to the Fort Wayne and Chicago Road at Warsaw.

It traverses a region of great fertility and productiveness, having no other outlet to a market. Its local business alone, will, it is thought, yield a handsome support.

Pamphlet exhibits, with maps of the work, and any other more detailed information desired, will be furnished on application to the subscribers.—New York, April 7, 1853.

WINSLOW, LANIER & Co., No. 52 Wall-st.

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer. Address "H. W.," this office. 3*12

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,

HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE AND CAR BUILDERS, AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,
Feb. 16, 1853. 90 Beekman st., N. Y.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

4t 12 WM. BAILEY LANG.

Notice to Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Cleveland and Pittsburgh Railroad Company, in Wellsville, from the first to the tenth of May next, for the gradation and masonry of thirty-nine miles of the Wheeling extension of the Cleveland and Pittsburgh Railroad, from the mouth of Yellow Creek to Bridgeport, opposite Wheeling.

Plans, profiles and specifications will be exhibited and all requisite information given at the office of the Company, in Wellsville.

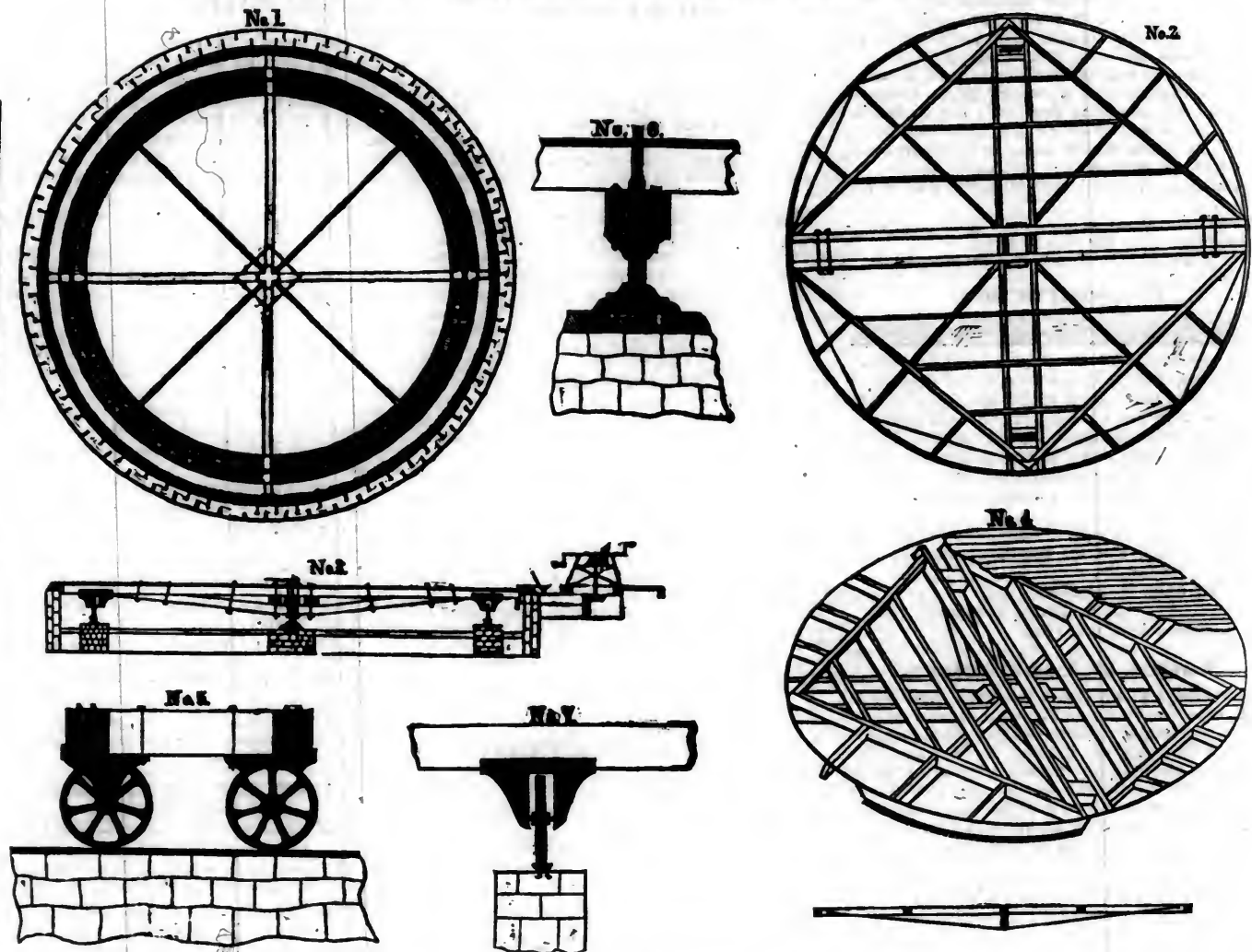
By order of the Board of Directors.

C. PRENTISS, President.

J. LINTON, Chief Engineer.

Office of the C. & P. R. R.,
Cleveland, April 8th, 1853.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in **25 SECONDS**.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Furguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.

A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address
D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,
A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

Railroad Companies, and the public generally, are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. 17*

E. DAWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use. JAS. PRENTICE, Feb 9 1853. 315 Broadway, N. Y.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels, made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly. Sept. 11, 1852. 17*

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 20.]

SATURDAY, MAY 14, 1853.

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American Railroad Journal.

Saturday, May 14, 1853.

How Stand our Railroad Affairs?

For years past, more or less apprehension has been felt in reference to the numerous lines of railroad that have been in progress, lest their demands should exceed the ability of the country to supply the means for their construction, or that projects should be taken up, which, after absorbing a large amount of capital, should prove unproductive, invoking a loss not only in the particular case, but throwing discredit upon the whole interest, and ending it was feared, in a financial crisis.

The result has proved the groundlessness of all these fears. From 5,000 miles of road on the first day of January, 1849, we have proceeded in their construction without the slightest check, till we have some 14,000 miles in actual operation, and nearly an equal extent in progress. In the mean time we have experienced no financial crisis. Money has on the whole, been constantly growing more and more abundant; the roads as they were completed at once engaged in a lucrative traffic. Confidence in their safety as investments of capital, has been steadily gaining ground. All these causes combined have rendered the construction of railroads an easy matter, and the building of 100 miles at the present time, is in fact regarded as a less formidable task, than one-tenth of the same extent five years ago.

Our great success has been in fact owing to the

very feeling of distrust which we have referred to in the commencement of this article. What railroads have achieved, was foreseen only by the most ardent minded and sagacious among us. The most sanguine imagination could not have anticipated all that they accomplished. On the part of such persons often, "the wish was father of the thought." They more conservative and cautious, and these always represent the monied classes,—dealt out the means for their construction with a sparing hand, requiring in all cases a sufficient stock basis as the security for their loans. The result was, that these projects which had an amount of local strength which promised entire safety to the money sought to be borrowed, could obtain it. The weaker ones were compelled to bide their time, and were postponed till they acquired additional strength, or till an increased confidence in these enterprises, rendered capitalists less choice as to the character of their investments.

To speak more directly, the following has been considered the safe rule for making investments. If those engaged in the construction of a railroad could furnish *one-half* of the means required, the sum was regarded as a sufficient guarantee for the safety of a loan to an equal amount; as evidence that the road was needed by a community that furnish so large an am't and that having so much at stake, those having it in charge, would take good care that it was well managed. When such an exhibit could *not* be made, the presumption was that the road was not called for by any existing business; that the project was premature, and would consequently prove unprofitable.

The rule we have laid down, not only serves as a test, by which to determine the soundness of a security offering, but imposes a proper and wholesome restraint upon the wholesale and indiscriminate construction of roads. It has been owing to the observance of this rule, that our great success, and the healthy and prosperous condition of our roads, is mainly owing. It becomes the more important and obligatory, in proportion to the increased strength of public confidence in the profitability of our railways. Our danger is really commencing. Because all that we have built *pay*, there is great danger that we may work ourselves into the infatuation, that all we *may* undertake *will pay*.

The railroad is the agent or instrument of commerce. The condition of success should always exist before attempting to realize it. Railroads can only be built and operated at vast cost, and if we anticipate the wants of a community in the construction, or build them where they are not needed, the most disastrous results cannot fail to follow. Let us preserve what is achieved, and not soil our present success nor mar our projects in construction by overdoing a business which has been legitimately pursued, but which one serious mistake might overwhelm with disaster. Let us cherish and mature what we have, rather than undertake problematical schemes, which may endanger present success, and our prospects for the future.

Assessment of Property in Baltimore City.

The Assessors for Baltimore city having completed their labors, and the Appeal Tax Court having finally decided all cases of appeal, the following is the complete assessment, as returned to the Comptroller of the Treasury:

The aggregate value of the different descriptions of property assessed are as follows:—Value real estate \$66,271,259; bank and other stocks \$11,213,761; private securities \$5,157,633; public securities \$4,852,321; stock in trade \$9,521,108; household furniture \$3,377,047; live stock and carriages \$437,316; watches \$100,370; slaves \$326,815; other property \$3,543,788. Grand total—\$104,801,438.

The aggregate of assessable property, according to the assessment of 1846, was \$86,103,673. The increase shown by the assessment just completed, is therefore \$18,697,765.

Liability of Railroad Companies in carrying Live Stock.

At Rutland, Vt., in the case of William Kimball vs. the Rutland railroad company, for loss and injury of cattle on the way to Cambridge Market, before the Common Pleas Court, the Judge held that the defendants were not liable as common carriers for the transportation of live stock; that the plaintiff had himself disclosed the existence of a special contract under which the defendants must be liable, if at all, and that the plaintiff was not entitled to recover under his declaration. Judgment was given for the defendants.

Grand Trunk Line of Canada.

Below we give a portion of the Appendix to the prospectus of this company (published last week,) which sets out more fully the route, objects and business prospects of this scheme. Every thing relating to a work of such magnitude and general importance, will be read with interest:

We copy the following:

The Grand Trunk railway of Canada, with the Atlantic and St. Lawrence railway of Maine, 1112 miles in length, with an uniform gauge of 5 and 6 inches, as now brought under the notice of the British public, offers the most comprehensive system of railway in the world. Protected from the possibility of injurious competition, for nearly its entire length, by natural causes as well as by legislative enactment, it engrosses the traffic of a region extending 809 miles in one direct line from Portland to Lake Huron, containing a population of nearly three millions, in Canada, Vermont, New Hampshire and Maine. At Portland it connects with the system of railways reaching eastward towards the province of New Brunswick, and hereafter to Halifax in Nova Scotia, as well as southward, by lines already existing to Boston and New York. At the frontier of Canada it again unites with other lines to Boston and the great manufacturing districts of New England. From Richmond it runs eastward to Quebec and Trois Pistoles 253 miles, giving direct access to the great shipping port of Canada in summer, and hereafter by rail to the Atlantic at Halifax by Trois Pistoles, sixty miles, now in course of early completion; and on the opposite side of the St. Lawrence, the northern New York road to Ogdensburg, will pour its stream of passenger traffic upon the Trunk line. At Kingston the Rome and St. Vincent railroad, also from New York, becomes its tributary. From thence to Toronto it receives the entire produce of the rich country north of lake Ontario, through the channels of Belleville and Peterborough branch, and several other new lines already in progress to construction, and all tributary to the main trunk road. At Toronto the Ontario, Simcoe and Huron railroad, one hundred miles, now nearly finished pours in the traffic of the region around lake Simcoe and Georgian bay. At the same point is also met the Great Western railroad by Hamilton to Detroit, 240 miles, now in a forward state of completion, by which communication is had with the southern part of Western Canada, as well as with the railways in operation from Detroit to the states of Michigan, Illinois and Wisconsin.

From Toronto westward, the line passing through the heart of the western peninsula of Canada, ensures to the Grand Trunk the exclusive traffic of the finest part of the province, while at its terminus at Sarnia it debouches at the very outlet of lake Huron, avoiding the shallows of the Detroit and St. Clair rivers below—a point the most favorably situated for the navigation extending through lakes Huron and Michigan, and hereafter through lake Superior. At Sarnia, the American railroads now in course of construction, place the Grand Trunk line in the most direct communication with the arterial lines to the Great West and the Mississippi, a region whose advance in population and wealth has been regarded as almost fabulous, and yet whose resources are still very partially developed, while the traffic of the copper and iron districts of lake Superior, the most valuable and extensive in the world, with the coal of Michigan, will accumulate on the railways at this point, reaching ocean navigation at Montreal in much less time and by the same mileage that it can now pass by boat to the waters of lake Ontario, 350 miles above that city.

The Grand Trunk railway of Canada, it will be therefore seen, commencing at the debouchure of

the three largest lakes in the world, pours the accumulating traffic in one unbroken line throughout the entire length of Canada, into the St. Lawrence at Montreal and Quebec, on which it rests at the north, while on the south it reaches the magnificent harbors of Portland and St. John's on the open ocean. The whole future traffic between the western regions and the east, including Lower Canada, parts of the states of Vermont and New Hampshire, the whole of the state of Maine, and the provinces of New Brunswick, Nova Scotia, P. Edward's Island and Newfoundland, must therefore pass over the Grand Trunk railway.

This great and comprehensive scheme of railway communication throughout the most wealthy, populous and important colonial dependency of Great Britain, is not now offered as a *l'eu* project to the public. It comes with the guarantee of the province of Canada, which has embarked upwards of two millions sterling in the enterprise; it is supported by the most intelligent, far-sighted men in the colony, and it has the security of nearly half a million sterling of private Canadian capital invested therein, while a conviction of the great benefits of unanimous action has provided a combination of railway interests probably never before seen, and ensuring such an energetic and harmonious working of the entire line, as cannot but produce the most satisfactory results.

The Grand Trunk Railway does not rest for its success altogether on anticipations. The entire section from Portland to Montreal, of 290 miles, is now in operation for 250 miles, and will in July next be fully connected, making the shortest and most easy communication between the River St. Lawrence and the Atlantic ocean. This part of the line forms in itself a complete railway, opening up an entire new channel for the western trade; and giving an outlet in winter for the produce of Eastern Canada, as well as of that of western Canada east of Kingston. The line from Quebec to Richmond brings Montreal and Quebec within six hours of each other, and opens to those cities the most direct access to the ocean at Portland, Boston and New York, passing through a most populous and fertile part of Eastern Canada. To Montreal, until the completion of the western section of the trunk line, the produce of the countries surrounding the great lakes is brought through the most magnificent inland navigation in the world, and the opening of the line to Portland at once secures the supply of the markets of Maine, New Brunswick and Nova Scotia with breadstuffs, receiving in return via Portland, British and American manufactured goods, West Indian produce, &c. The lines from Montreal to Portland, and from Richmond to Quebec, already known as the St. Lawrence and Atlantic and Quebec and Richmond Railroads, will be in full and continuous operation in the course of the present summer, comprehending 390 miles of railway for which the capital has been entirely provided, with a very small exception. The receipts on 72 miles, in Canada, from the mere local business, for the first twelve months from their opening, at 20th October, 1851, were 34,000*l*. On 91 miles of the line from Portland, now under lease, were, for the same period, 38,000*l*. Assuming the same rate per mile on the entire distance of 390 miles, a gross income of 172,300*l* will be at once obtained from local business; while the total traffic, if estimated by the receipts per mile of the Ogdensburg road, 25*l* per mile per week, the latest American railroad offering any parallel, will amount to a sum of 507,000*l*, independent of the great future development of the country opened up by the line. It may be assumed that the revenue of the Company, from the sections to be completed in 1853, will not fall short, at once, of 304,200*l* per annum, net, allowing 40 per cent for working expenses, and deducting 60,000*l* for lease of Portland line, would leave nearly equal to the charge for the entire mortgage debt of the Company, and thus from actual present earnings securing to the bondholders their interest, on all the capital intended to be raised by debentures.

It is proposed, simultaneously with the construction of the railroad westward, to proceed with

the bridge over the St. Lawrence, at Montreal.—A work of this stupendous character, required to span a navigable river of two miles in width, can only be undertaken by a large combined capital, and is justified by its paramount importance.—The site selected is at the sole point on the river St. Lawrence, from the great lakes to its mouth, where a bridge can be placed without interfering with the navigation. And also at that point no less than 1,595 miles of continuous railway, now in operation, with a very insignificant exception, from New York, Boston, Portland and Quebec, arrive on the south shore of the river opposite to Montreal, a city containing 60,000 inhabitants.—On the northern shore, the railways either in progress or completed, including the western section of the Grand Trunk, number already 967 miles, exclusive of projected lines. The completion of this link is essential to the satisfactory and economical working of the Grand Trunk Railway, and it has therefore been incorporated with the entire line. It will be constructed according to the plans and under the superintendence of Robert Stephenson, Esq., C. E., (who is about to visit Canada for this purpose,) and Alexander McKenzie Ross, Esq. C. E.; and the structure will be of that substantial character, which a work of such magnitude requires.

For the bridge an ample allowance of capital is made, and the work has been provisionally contracted for with Messrs. Peto, Brassey, Betts and Jackson, on the estimate framed by Messrs. Stephenson and Ross. The Act, authorising the construction of this bridge by the Grand Trunk Railway Company, is now in progress through the Canadian Parliament, under the sanction of the Government.

The western section of the Grand Trunk line extends from Montreal to Toronto, 345 miles, and from thence to Sarnia, 172 miles. Contracts have been executed, with the approval of the Government and Board of Railway Commissioners in Canada, with the eminent English contracting firm of Messrs. Peto, Brassey, Betts, and Jackson, for the construction of the section to Toronto, 345 miles, from Quebec to Trois Pistoles, 155 miles, and the Grand Junction, fifty miles; and with the Canadian contracting firm of Messrs. C. S. Gzowski and Co., from thence to Sarnia, 172 miles.

The condition of these contracts are for the construction of a first class, single-track railway, with the foundations of all the large structures sufficient for a double line, equal in permanence and stability to any railway in England, including stations, sidings, work shops, ample rolling stock, and every requisite essential to its perfect completion, to the satisfaction of the Canadian Government.

By means of the arrangements entered into with the contractors, the proprietors of the Grand Trunk line are assured that, for the capital stated they will secure the delivery of the whole railway fully equipped and free from any further charges whatever.

The western section of the Grand Trunk commences at Montreal, and proceeds westward through the towns and villages of Lachine St. Clair, St. Anne, Longueil, Lancaster, Charlottenburg, Cornwall, Osnabruck, Williamsburg, Matilda, Edwardsburg, Augusta, Elizabeth Town, Yonge, Landsdowne, Leeds, Pittsburg, to Kingston, at the outlet of lake Ontario, and the principal naval and military station in Canada West. From thence continuing along the north shore of lake Ontario it passes through Ernest Town, Napanee, Shanonville, Belleville, Port Trent, Brighton, Colborne, Grafton, Cobourg, Port Hope, Bond Head, Bowmanville, Whitby, Pickering, Scarboro' to the city of Toronto, which city contains 38,000 inhabitants.

At Toronto it meets the Great Western railway leading through Hamilton and the southern part of the western Peninsula of Canada to Detroit; a connection of which the value may be judged from the favorable position in which the Great Western railway of Canada now stands in London. This

line itself forms a continuation of the Trunk line although under a different company, for 240 miles now approaching completion. The Trunk road also here connects with the Northern railroad to Lakes Simcoe and Huron, 99 miles to be finished during 1853.

This section occupies the important position of connecting the chief emporia of eastern and western Canada, the cities of Montreal and Toronto, numbering together nearly 100,000 inhabitants besides passing through the towns already enumerated; and it also passes, throughout its entire length, through the most populous and cultivated district of the province.

The section west of Toronto to Sarnia passes through the towns and villages of Weston, Brompton, Georgetown, Acton, Rockwood to Guelph, Berlin, Petersburg, Hamburg to Stratford, where it is intersected by a proposed line to Goderich, 45 miles north (for which £125,000 has been already raised by municipal subscription,) thence through or near Downie, Fullarton, Blanchard, Osborne, Biddulph, Bosanquet, Warwick and Plympton, to the outlet of Lake Huron and the western extremity of the province at Port Sarnia; the whole course of the line being through the finest section of western Canada, a district already well peopled and most rapidly advancing in population and wealth.

It will be seen, therefore, that the western section of the Grand Trunk line, in its connections, embraces the whole of Canada West, a district of 32,000,000 of acres, with a population doubling itself every ten years, and which, with a limited exception, must find in the Grand Trunk railway their speediest, most direct, and cheapest intercourse; having neither local railroads nor canals to compete with.

Independent of the local traffic peculiar to this section, both in passengers and goods, through traffic of more than ordinary extent, consequent on its geographical position, may be safely calculated upon.

Not the least important branch of traffic will arise from the ocean steamers communicating with England, making Portland, and hereafter Halifax, the port of embarkation, as the nearest and most accessible on the continent of America.

A further and more important consideration in connexion with Portland, St. John's and Halifax, is that the navigation is never closed by ice, produce may, on the completion of the Grand Trunk railway, be shipped there when otherwise there would be no ready means of forwarding it to Europe.

Thus, with the exception of that portion of Nova Scotia to the port of Halifax (about 150 miles) the entire length of 1,400 miles, both by the southern route through the State of Maine, and by the northern route by Trois Pistoles, is for a great part in course of construction, and the remainder will shortly be commenced under highly favorable auspices, the immediate prosecution of that portion through Nova Scotia being now under the consideration of the Government of that province, whose future interests are so largely compromised in the speedy and perfect completion of the project, as to ensure their best and strenuous efforts for its early accomplishment.

The following gentlemen are connected with the scheme as Directors, or otherwise:

Directors in London—Thomas Baring, Esq., M. P., and George Carr Glyn, Esq., M. P., Agents of the province of Canada, and Directors of the Co., on behalf of the Canadian Government; Henry Wollaston Blake, Esq.; Robert McCalmont, Esq.; Kirkman Daniel Hodgson, Esq.; Alderman W. Thompson, M. P.

Directors in Canada—The Hon. John Ross, Member of the Legislative Council, Solicitor General for Upper Canada, *President*; the Hon. Francis Hincks, M. P., Inspector General; the Hon. E. P. Tache, M. L. C., Receiver General; the Hon. James Morris, M. L. C., Postmaster General; the Hon. Malcolm Cameron, M. P., President of the Executive Council; the Hon. R. E. Caron, Speaker

of the Legislative Council; the Hon. Peter McGill, M. L. C., President of the Bank of Montreal; Geo. Crawford, Esq., M. P., Brockville; Benjamin Holmes, Esq., Vice President of the Atlantic and St. Lawrence Railway Company; W. H. Ponton, Esq., Mayor of Belleville; W. Rhodes, Esq., Quebec; E. F. Whittemore, Esq., Toronto.

Bankers in London—Messrs. Glyn, Mills & Co., and Messrs Baring Brothers & Co.

Engineer in Chief—Alexander McKenzie Ross, Esq.

Assistant Engineer—Samuel Keefer, Esq.

Secretary in Canada—C. P. Rodney, Esq.

Solicitors in England—Messrs Swift and Wagstaff, 30 Great George street, Westminster.

Solicitors in Canada—G. E. Cartier, Esq., M. P., Montreal; John Bell, Esq., Belleville.

Splendid Passenger Cars.

The Michigan Central railroad Company have just put on their road twenty-two first-rate passenger cars, which have been built in their own workshops, and under the superintendence of experienced builders. Each of these are 60 feet long and constructed not only with reference to their elegant appearance, but with a due regard for strength, durability and convenience of passengers. Each car is intended to hold seventy-two passengers, and the seats in each are the same width as those in the cars of the New York and Erie railroad, which is a six feet track; the passage way running between the rows of seats is a little narrower, and is the only difference. Each seat will conveniently hold two persons of the largest size, without crowding, and a moderately sized couple can allow a little child of five or six years of age to sit between them; or two ladies in the most fashionable dresses might occupy the same seat without fear of disarranging the folds in each other's skirts. These cars are supported on trucks of the most approved construction for ease, the manner in which they are placed on them giving the body the same easy motion that the traveller perceives in one of Putnam's thousand dollar carriages. The trucks run on six wheels each of the best manufacture. All these cars are provided with fountains to supply passengers with iced water.—*Detroit Advertiser.*

Third Annual Report of the Memphis and Charleston Railroad.

The third annual report of the directors of the Memphis and Charleston railroad company, was submitted to the stockholders on the 4th inst., at their meeting at Huntsville, Ala.

The line of the road extends from Memphis to its junction with the Nashville and Chattanooga road, in the valley of Crow Creek, in north-eastern Alabama, a distance of 273½ miles, exclusive of a branch of two miles, from the town of Tuscumbia to Tuscumbia Landing; and another from Moscow to Somerville, 13 miles long,—making an aggregate of 288½ miles.

The main trunk comprises two divisions called the eastern and western; the former extending from Crow Creek to the eastern boundary of Alabama, 150 miles, and the latter from said boundary to Memphis, 128½ miles.

Of the former, the distance between Tuscumbia and Decatur, 45 miles long, occupying the line of the old Tuscumbia and Decatur railroad is nearly completed, 35 miles being in actual operation. The remainder will soon be finished. From Crow Creek to Decatur, 82 miles, and from Tuscumbia west, 15 miles, in all 97 miles, the line is under contract.

The following statement shows the expenditure already incurred upon the eastern division, together with the amount estimated as necessary to complete it:

Amount expended between Tuscumbia and Decatur.....	\$115,534 62
Do. do. for rails, chairs, spikes, etc., between Tuscumbia and Decatur..	224,954 64
Do. do. for equipment.....	34,504 94
Do. do. for engineering.....	29,993 90
Miscellaneous.....	37,059 34

Total amount expended on eastern division.....

\$443,020 04

The total estimated cost of this division is as follows:

Amount expended between Tuscumbia Landing and Decatur.....	\$297,491 52
Amo. required to complete and equip the same.....	70,000 00
Amo. required for purchase of "Tenn. Valley railroad".....	75,000 00
	442,491 52
Amo. required to complete grading and masonry.....	574,446 43
Do. do. do. bridges and trestles.....	112,100 00
Do. do. do. 107½ miles superstructure at \$9000 p. mile.	967,500 00
Do. do. do. engineering and contingencies.....	82,702 00
Do. do. do. engines, cars, ware-houses, right of way, etc.....	215,000 00
Add amount paid for grading and masonry.....	115,534 62

Whole cost of eastern division, \$2,509,774 57

Average cost per mile of road constructed..... 14,538

In reference to the state of the work upon this division, the engineer in his report says:

The grading and masonry from Crow Creek to Decatur are to be completed by the end of the present year; the superstructure around the Muscle Shoals will be finished by the 1st day of June next. The contractors for grading and masonry west of Tuscumbia were allowed until May 31, 1854, for the completion of their works; as yet they have barely made a commencement; they have not been urged to a stronger demonstration on account of the intermediate condition of our western connection; as that shall assume a more definite aspect, it will be easy to press that work to completion within the contract time.

The masonry of Tennessee river bridge will probably be ready to receive the superstructure this year, and early in the spring of 1854 the whole structure can be raised. No impediment will then lie in the way of constructing the track from Crow Creek to Decatur. With this prospect in view, no time should be lost in providing for the iron and timbers. If the Nashville and Chattanooga railroad should be completed in season, a portion of the iron could be received through that channel from the Atlantic, and forwarding the remainder by Tuscumbia Landing. The superstructure could advance in both directions. This arrangement affords a reasonable expectation of completing the eastern division in the whole of the year 1854.

WESTERN DIVISION.

This division comprises, as before stated, that portion of the road which lies in Tennessee and Mississippi, is 123½ miles in length on the main trunk, with a branch of 13 miles from Moscow to Somerville; 93½ miles of the main trunk will be in Tennessee and thirty miles in Mississippi.

The contracts made on this division embrace the Grading, Trestle-work and Superstructure, Depots &c., for 50 miles, extending from Memphis to a point one mile east of LaGrange. The grading is nearly all completed, and the track is laid forty-one miles; two miles east of Moscow and 8 miles from LaGrange.

The expenditures on the Western Division have been—

For grading and drains.....	\$59,050 16
" Iron rails, spikes, chairs, switches, frogs, &c., (including freight)...	198,925 56
" Cross ties.....	18,857 54
" Laying track and Trestlework....	30,636 65
" Depot buildings, wells, tanks, &c..	24,944 49
" Cars, Engines, &c.....	51,720 80
" Engineering.....	16,758 58

Amount disbursed.....\$400,893 78

To complete existing contracts, there will be required—

For State's Interest in old LaGrange & Memphis railroad.....	\$15,000
" Grading and drains.....	5,641 32
" Iron Rails.....	42,781 90
" Cross ties.....	5,828
" Laying Track and Trestle-work...	6,500
" Equipment and Depot Buildings..	30,355 58
" Engineering, right of way, and contingencies.....	1,054 67

Whole cost of constructing and equipping 50 miles.....\$508,065 25

Average cost per mile of road constructed.....\$8,161 30

The Grading, Trestle work and Cross ties of the Sommersville Branch will cost, by agreement, no more per mile than the same portions of construction on the main trunk.

<i>Estimated Cost of the Sommersville Branch:</i>	
Grading, drains, Trestles and Cross ties	\$26,393 55
Iron Rails, spikes, chairs and laying track.....	110,500
Equipment, Warehouses, &c.....	20,000
Engineering.....	1,000

\$157,893 55

The whole cost of the Western Division is estimated as follows:

Road completed and equipped from Memphis 50 miles east.....	\$508,065 25
Grading and Masonry on to E. boundary of Mississippi.....	423,000
Bridging and Trestles.....	30,800
Superstructure, 73½ miles, at \$9,000 per mile.....	661,500
Engines, cars, warehouses, shops, right of way, wells, &c., at \$2,000 per mile.....	147,000
Sommersville Branch, completed and equipped.....	157,893 55
Engineering and contingencies.....	55,740

Amounting to.....\$1,983,998 80

Average cost per mile of road construction.....\$12,534 80

The total cost of the road will therefore be as follows:

Cost of Eastern Division with branch, 152 miles.....	2,509,774 57
Cost of Western Division with branch, 136½ miles.....	1,983,998 80

Total.....4,493,773 37

Average cost per mile.....13,576

The above exceeds the first estimate made by Mr. Garnett, by the sum of \$993,773 00; which is made up of the following items:

Cost of Branches not estimated by Mr. Garnett.....	\$175,000
Increased cost of Superstructure, consequent upon the increased price of iron.	568,500
Increase from enhanced rates of labor...	250,273

\$993,773

The capital stock subscribed is \$2,516,425.—A large portion of this sum is made up of corporate subscriptions, and nearly the whole line may be considered available at its par value. Added to the resources of the Western Division will be the

State loan, equal to \$8,000 per mile upon 93½ miles of road, or an aggregate sum of \$750,000; increasing the present available means of the Company to \$3,266,425.

The "Mississippi Controversy," as it is termed, occupies considerable prominence in the report.—The line of the road only runs through a portion of the state of Mississippi; and the authority for this purpose is coupled with a condition requiring the Company to construct their line by way of *Holly Springs*. To do so would, it is claimed, involve the construction of 10 miles of additional road, and at an increased expense of \$648,681 over the more direct route. These are considered as insuperable objections to the adoption of the *Holly Springs* route, and, it is claimed, should absolve the Memphis and Charleston railroad company from the obligation of adopting it. They have been able, however, to obtain no modification of their chartered rights in Mississippi, and they intimate that, in case no relief can be had, they will construct the necessary link through Mississippi under the authority given to the *Mobile and Ohio* road, to construct a road upon the *convenient* line for the Memphis and Charleston. While *Holly Springs* route is a more expensive one, it would at the same time, probably, supply a larger amount of traffic than any other; and parties interested in its construction offer a subscription to the stock of the company of \$500,000, in case of its adoption. The controversy is mainly *local* in its character, and is referred to in the report, principally for the purpose of explaining why an important portion of the line has not been placed under contract. As *Holly Springs* is soon to be supplied with railroad accommodations by means of the *Mississippi Central Railroad*, the controversy referred to will, we presume, be adjusted, so as to allow the Memphis and Charleston road to proceed in the construction of that portion of their line lying within the State.

In reference to the proposed extension of the road, east from Crow Creek to Chattanooga by an independent line, the Engineer, in his report, says:—

"At this juncture, when your resources are so heavily taxed for the consummation of your great project, according to its original design, perhaps your Board will not consider it seasonable to consider a proposition which will demand a large accession to your capital stock; and yet it is not deemed inexpedient to bring to your notice the question of your eastern terminus, and to glance at the reasons which seem to favor an eastward extension and a termination at Chattanooga.

The route will penetrate a rich coal region, affording constant occupation for your trains in seasons otherwise dull, resulting, probably, in the development of large manufacturing interests along the line, which would, in turn, react most favorably upon the Road. You would intersect the fertile valleys of Battle Creek and Sequatchee, taking a monopoly of their valuable trade, the importance of which would be second to none on the whole route.

These considerations leave nothing to desire on the score of local profits, but more comprehensive benefits would flow from the proposed extension. Chattanooga is the point at which transshipments of freight and passengers will be made from train to train; and it is not politic to confide to an intervening and perhaps a rival party the great interests that must arise at the point of exchange, when the construction of 45 miles of self-sustaining railroad would place you on the ground where those interests may be directly controlled to your best advantage. A junction at Crow Creek with the

Nashville and Chattanooga railroad will require a second transshipment or an interchange of trains; the one too expensive an operation to be frequently repeated, injurious to packages and inconvenient to travellers; the other, a fruitful source of embarrassment, involving vexatious questions of carrent, and the equitable adjustment of claims for loss, damage and detention, from which you can only be relieved by transacting your business on your own road and in your own trains. Tariffs of charges and schedules of time, suitable to the intervening company, might result to you in great injury, inconvenience and loss.

It is hoped that the great advantage promised by this modification of your first plan, will warrant the Board in taking such initial steps as will ascertain the cost of the extension, and the means which can be collected for so desirable an object.

Resting upon Memphis, the commercial heart of the Mississippi valley, it will perfect the symmetry of your enterprise to embrace Chattanooga, the *entre-pot* of the South-Atlantic; whence, its mighty traffic having climbed from the Ocean, is first fairly launched upon its western destination."

The completion of this great work may be confidently looked for, in all, in 1854. One-third of the entire line, making 95 miles, will be in operation in a few weeks, and will at once engage in a lucrative business, and will yield a revenue more than sufficient to defray all the liabilities of the Company, and such as may be necessary to incur to complete the entire road. The Company are in possession of ample means to push forward the work upon the whole line with vigor.

The Memphis and Charleston road is one of the most important projects in the United States. It will form a point of one of the *shortest* lines of road between the Atlantic and the Mississippi. At Chattanooga outlets will be opened, both to Southern Atlantic cities by the Western and Atlantic road, and in a northerly direction by the roads traversing East Tennessee. It traverses, for nearly its entire extent, the valley of the Tennessee River, which is not only one of the largest settled and richest portions of the Southern States, but celebrated throughout the country for the excellence of its soil and climate. It runs exactly in the direction to accommodate the business of the section traversed, and we see no reason to doubt the great productiveness of its stock, in addition to the vast benefits it must be the means of conferring upon the whole country within its influence.

Cincinnati Hamilton and Dayton Railroad.

The annual meeting of the Stockholders of the Cincinnati Hamilton and Dayton Railway was held in Cincinnati, on Monday. The annual report was presented. The following is the statement of earnings:

From passengers.....	\$191,700 93
From freight.....	122,377 25
From mail and Express.....	7,714 99

Total earnings.....	\$321,793 17
Running expenses, including interest, taxes, &c.....	\$187,064 00
Surplus fund.....	41,000 00

The earnings for the month of April were as follows, showing an increase of over 76 per cent, as compared with last year:

	1853.	1852.
Passengers.....	\$20,651 92	\$14,314 72
Freights.....	14,391 88	4,864 26
Mail and Express.....	1,008 03	301 30

Total.....\$36,051 83 \$20,481 28

The old Board of Directors were unanimously re-elected.

Science versus Accidents in Railroad Movement.

In every operation to adapt matter to the wants and wishes of man, nature provides the raw materials and the powers we use. A better knowledge of these materials diminishes our labor, and a better choice of these powers renders our work more effective. For this better knowledge and choice we are indebted to ingenious men who discover the elements and movements of nature, and adapt them to the arts of civilized life. This progress of effective labor is marked by striking changes in the choice of powers. A great change for the better was made when the force of the locomotive on the boat and on the road, took the place of the force of the winds and brute animals.

This was a change for the better as to economy but especially as to the safety of property and life and more especially on the road than on the boat.

Immediately after two horrible railroad accidents may seem a singular time for invoking public attention to the increase of safety for life and property by changing from horse-power, wind-power and steamboats to the rapid power of the locomotive on iron rails. But, we are led by these very accidents, to take up this subject at the present crisis; not because we are fond of dealing with a case of seeming difficulty, but because the public mind is now deeply moved, and may be disposed to go along with us into a thorough examination of the causes of railroad accidents, and to demand available remedies.

The use of the locomotive on the iron rail favors the safety of property and life because the elements employed are subject to the entire control of scientific and skillful men. The winds, the waves and brute animals cannot be brought under the complete control of the most accomplished masters; but, there is no possible accident on the railroad, against which effectual provision cannot be made by competent and faithful men. The natural agents and materials which they use can be exactly measured as to their strength and force; they conform always to fixed laws and those laws can be perfectly known. The ship which is wrecked by a storm teaches no other shipmaster how to defy future storms; but every accident by a train suggests the way to avoid a similar accident in future. The broken axle which caused the death of the only child of President Pierce, showed a weakness manifestly caused by cutting away the surface of the axle to make a groove for a washer, and suggested to the iron master that no such cutting should be made in future axles.

To attain the highest result of railroad movement, there need not be a strained use of any part of the road nor the rolling stock. If the road is properly made and faithfully kept; if the rolling stock is built in the best manner, and always maintained in complete repair, the safety of the movement will be measured by the competency and fidelity of all and each of the men employed in the whole operation. The experience on several of our railroads where the highest speed is attained, shows that the fewest accidents have happened to the swiftest trains, and these rare accidents have rarely arisen from high speed. The reason of this result is found in the superior preparation and care in the running of express trains.

Railroad accidents naturally divide themselves into two classes: those which a more perfect ap-

plication of science will entirely prevent; and those which can be prevented only by a perfect competency and fidelity in the persons employed about the movement of the trains.

First, let us examine the former class; the accidents which science promises to prevent by taking them out of the region of casualty, and substituting a perfect for an imperfect machinery.

Scientific men who are most familiar with railroad matters regard the present state of the whole complex machine called a railroad, as a state of infancy. The locomotive is the part most perfect. On this most care and thought have been bestowed. No accident in the locomotive endangers the life of the passenger. But almost every part from the road bed to the communication between the two ends of the train, is a hopeful subject for improvement. Every improvement is one more exposure taken from the side of imperfect machinery or human carelessness or ignorance and turned over the safe-keeping of science.

Our first view of a mortal accident was near Princeton, on the Jersey road about twenty years ago. It was the breaking of an axle, and 7 were killed. This led to numerous plans for preventing future calamities in case of the breaking of a wheel or axle, and an effectual remedy is now probably invented.

Our next accident was at Mamaroneck on the N. Haven road, and was caused by a wrong turn of the switch on a single track road. Here also we escaped unhurt. But this cause of accident, (the most frequent and the worst to provide for) will cease when all roads have double tracks. The switchman has the very worst and most difficult office on the road—he is a watchman without a walk, and extremely liable to forget or slumber. In the factories they have an alarm clock which will wake the whole town if the watchman does not move the hand of it backward every 5 minutes. We have thought of this clock for the switchmen; but the true remedy is to dispense with the switches as far as possible. The switchman at Mamaroneck was puzzled by a third train from the Housatonic road.

The next accident we saw, without being in the train, was caused by the breaking of a chair and the consequent spreading of the rails on a short curve. No lives were lost, but the injury to property was large. That curve in the road might have been avoided at less cost than was involved in the injury to that one train. But, moreover, the rails cut off, and merely placed together on a cast-iron chair, is a most clumsy arrangement; and calls for amendment more loudly than other imperfection of the railroad. We have often walked along the track of a railroad to see what proportion of the chairs were unbroken, and cobbled up by extra spikes. More than one in five are more or less broken on every road we have observed. But the combined or Winslow rail is a remedy for this danger; and can be so constructed and put down as to be immovable, at the highest speed, on the shortest curve.

Another accident of great danger to life, is the collision on cross-tracks and on country roads.—This danger suggests the remedy which is every where applied in Europe: No such crossings should be permitted without a bridge. And accidents will compel the adoption of this rule in our country.

The last great accident (and it is not the first one of the kind) was that of the draw bridge at Norwalk. We have looked to the daily papers for some hopeful suggestion of a remedy for this danger, but, among them all, we have not noticed the only two which have occurred to us, as being effectual and just. Nine-tenths of the drawbridges on the roads along the Sound and the Hudson should be abolished, and they will be abolished as fast as the progress of scientific locomotion forces itself into legislation. The idea, that millions of lives are to be perilled for the sake of a saw mill, when the business of that mill may be as well done on rails, is too absurd to be entertained by any but a foggy advocate of vested rights, who is past being reasoned with,—and such cannot continue "by reason of time." In the few cases where the amount of business done beyond the bridge warrants its continuance, there the movement requiring half an hour must wait for the movement requiring half a minute—the boat must wait for the train—the snail for the eagle. If any one doubts our view of this matter, we advise him to read the opinion of Judge Stones and Judge Taney in the case of Charles River Bridge.

Next come the accidents incident to the entering of trains into large towns. This subject is too large for a paragraph. We have much yet to learn on this topic from foreign experience, and much from the suggestions of ingenious men among ourselves. Our city authorities have appointed a standing committee for inquiry and suggestion as to the best plans.

We come now to the long chapter of accidents arising from the carelessness of passengers themselves.

The statistics of injury to passengers show that four-fifths of the whole arise from passengers being where they ought not to be, and doing what they ought not to do. The travelling public have not become schooled to the danger of every deviation from the laws of the train. Standing about the train, walking on the tracks, passing in and out while the train is in motion, standing on the platforms, and riding in the baggage cars, have cost great numbers of lives, while a seated passenger is rarely injured. All that can be done to keep passengers from exposing themselves to danger, must be done by the officials of every railroad company; for few persons travel so much as to be safe without regulations. On a road that never lost the life of a passenger, we have known two gentlemen, officially related to the Company, injured on the same day. The one by getting on, and the other by getting off the trains while in motion.—The station house should stand across the road, with a platform on each side, and none should get in or out across the track where another train may come suddenly upon them. This very day we have witnessed a narrow escape of passengers standing on the vacant track.

But, when science and contrivance have done their utmost to diminish the hazard of railroad movement, there will always remain a certain measure of danger, arising from the inexperience or carelessness of those entrusted with the several parts of the movement. And the accidents from this source are of the second class.

In diminishing these accidents, the remedy or preventative must be applied to the men, the voluntary agents and instruments, who are to be co-

operated with the machinery, and with each other to execute the whole designs of the movement.—A perfect railroad official is the highest order of machinery—an intellectual, voluntary, yet subordinate and unwavering machine. He governs his own department of the work, but obeys mechanical laws. He is a wheel or a spring in the most complicated clock, while that clock runs by an arbitrary time table, which is liable to have its whole dial changed at any day.

If such a character is required at each one of several hundred different posts and services of a railroad, what then should be the capacity and qualifications of a superintendent? He has need to be a sort of ubiquitous demi-god,—a master of all the science involved in the contrivance and construction of the complex system called a railroad. But as ubiquity is denied to mortals, he has need of a genius to supply its place, by a system of detective checks, reports, examinations and records which expose the smallest delinquency, at the remotest point, at the earliest time. All persons in the service must somehow be aware of his universal presence by feeling the pressure of his plans; and all must be his cheerfully obedient servants.

Every person taken into the service should come with a sufficient education to be a fair candidate for promotion. He should bring a clean bill of health, and be subjected to a rigid examination as to his past history. Postboys used to be examined as to their wind; but a railroad official should be especially tested for a vigilant eye, a steady hand and a pure breath.

We have a deep conviction, that no man should be employed on the movement of a railroad, who is or ever has been addicted to intoxicating drink. This rule would exclude some men of high capacity and large experience; but extensive observation and careful inquiry into accidents on railroads and steamboats more than justifies this rule of exclusion. We omit painful instances to spare the feelings of men, but we shall not cease to agitate this topic until the rule is universally adopted and faithfully carried out. To impress the public mind with the vital importance of this rule, we now assert, and challenge contradiction, that a majority of all the railroad accidents resulting from human carelessness, can be fairly, and directly traced to the influence of intoxicating drink.

Our readers will now be ready to agree with us, that the directors of our railroads ought to be men of great capacity, sound judgement, and large experience. For they are in some sense the creators of the whole machine, and of all agencies concerned in its movement. We have little confidence in severe penalties; but we will say to railroad directors, that the public intend to hold them to a severe account for employing incompetent men—and most especially men rendered periodically incompetent by drink.

Philadelphia and Cincinnati.

An arrangement has been concluded between the Ohio and Pennsylvania railroad company, and the Cleveland and Columbus company, for through ticketing and the interchange of passengers at Crestline. Passengers are to be ticketed through from the Queen City to Pittsburgh and Philadelphia. The time from Pittsburgh to Cincinnati, both ways, is to be but fifteen hours, and the fares are to be greatly reduced from the present rates. This arrangement takes effect on the 16th inst.

Commerce of the St. Lawrence--Canadian Canals.

We have received from Quebec "Tables of the trade and navigation of the Province of Canada for the year 1852." These tables fill a large volume of 448 pages, and contain detailed statements of much importance to the mercantile community. We give some particulars:

The total value of the exports during the year 1852, from Canada to Great Britain amounted to (we omit shillings and pence. £1,689,244
To the N. American colonies. 203,036
British West Indies. 3,460
United States. 1,571,130
Other foreign countries. 48,123

Total. £3,513,998

The value of imports during the same period:
From Great Britain. £2,667,783
North American colonies. 120,238
British West Indies. 1,278
United States. 2,119,424
Other foreign countries. 152,899

Total. £5,071,623

Tonnage entered from British ports 410,459; outward to British ports, 567,259. Ditto from foreign ports 152,783, to foreign ports 10,800.

The gross amount of duties collected in 1852 was £739,263.

Comparing these with the two previous years, we have the following figures:

In 1850 exports 2,990,428; imports 2,245,517; revenue from customs 615,694.

In 1851, exports 3,241,180; imports 5,358,697; duties 737,439.

In 1852, exports 3,513,993; imports 5,071,623; duties 736,263.

The preceding figures show the gross revenue: The charges for collection in 1850 were 34,463; in 1851 35,231; in 1852 33,640.

In these sums is included money paid for return duties, averaging upwards of £2,000 per year.

From these figures it appears that the revenue derived from the custom duties is very large, and far in excess of the actual needs of the province.

In 1852 the exports from Canada consisted in the produce of the mine, £8,394; ditto of the sea, £74,462; ditto of the forest £1,644,584, animals and their produce £295,929, vegetable food £1,157,020; other agricultural products £24,343; manufactures £19,783; other articles £26,875.

A comparison with the two former years does not show any remarkable change in any of the preceding items.

The returns of the revenue received from the canals, and the amount of property passing through them, are very full. The gross revenue from all the canals for the year 1852 was £89,889. This consisted of tolls £86,431, Welland canal fines £711 17 6, ditto rents £1,241, St. Lawrence canal fines £14,10 1, storage and hydraulic rents \$1,457, ditto, ditto, Chambly Canal £33. The charges for collectors' salaries, lock tenders, masters, etc., £15,209, tolls refunded, £1,224, repairs £16,830.

Making a total of £33,264, and deducting this sum from the gross revenue, we have a net revenue of £56,625 from all the canals for the past year.

The tolls on the particular canals in the same period were: Welland £57,528; St. Lawrence £21,177; Chambly £1,907; Burlington £4,053, and the St. Anne's Lock £773.

Although the revenue from the canals is very small, there has been a gradual increase, except during the last year as may be seen from the following figures.

Net revenue in 1847, £41,139, in 1848 £36,815, in 1849 £48,038; in 1850 55,110, in 1851 \$63,939, and in 1852 £56,625. The net average revenue is £52,402.

The total number of vessels that passed through all the canals in 1852 was 20,404; the amount of tonnage 2,227,147. The vessels ranged from 50 to 864 tons.

Pittsburg and Erie Railroad.

The Board of directors of this road met in New Castle, on Monday last. They were in session two days deliberating upon the best plan for constructing the road. The following resolutions were handed to us for publication:

Resolved, That active measures be immediately taken to construct the main line from Erie to the Ohio river, and simultaneously therewith, such lateral roads or branches as after careful surveys, may be deemed advisable, advantageous and suitable to promote the convenience of the inhabitants of the respective counties and the interests of the company.

Resolved, That the proposition this day made by Jos. Chamberlain & Co., for the construction of the entire main line and lateral roads, and furnishing the same, be accepted.

From the above it will be seen that this important work will go on, and that the construction of the main line from the mouth of the Beaver to Erie and the branches have been allotted to Messrs. Chamberlain and company, who are well known as gentlemen competent to perform the undertaking.

The road has been located from New Castle to Beaver Point. From this place the road will pass down the east side of the river, until it reaches a point near Hardscrabble, when it crosses, and keeps down the west side until it reaches the Ohio river at the mouth of the Beaver. This, in our opinion is a very important point as it will here connect with the Wellsville road, and all the roads running south and west of the Ohio and Pennsylvania railroad. This company has also surveyed the route, and taken the ground from the mouth of the Beaver to Pittsburgh, which will lengthen the road and make it more profitable to the stockholders, by which means they may secure the entire trade and travel of the Wellsville road. Much difficulty has been thrown in the way to impede the construction of this road; but, the committee of investigation, in the legislature have reported that their charter is good, and the gauge law having been repealed, we can see no cause for any further delay. We are told that the work will be commenced on this road within sixty days.—*New Castle Journal*.

Terre Haute and Alton Railroad.

The *Tribune*, of Monday, contained a commendatory notice of an article upon the Terre Haute and Alton railroad; but the next day it backed square out, influenced by the following letter from the President of the road:—

NEW YORK, May 9, 1853.

SIR: A portion of the Money article in your paper of to-day is devoted to the affairs of the Terre Haute and Alton railroad company. I regret that its statements are so erroneous as to compel me to appear personally before the public, and I appeal to your sense of justice to give the same degree of publicity to my reply as you have given to the statements to which I refer.

Your authority for the remarks is found in an article of *The American Railroad Journal*. That article must have been written in entire ignorance of the real facts of the case. I make no charges of intentional wrong against *The Journal*; its editor doubtless supposed he had good reasons for his course in respect to the Alton and Terre Haute railroad, but his statements of facts could not have been derived from any one at all acquainted with our affairs. We are prosecuting our work with diligence and economy. We are sustained by the legislature and the people upon all occasions when their support is necessary: and if a rapid prosecution of our work, and the construction of a first-class railroad, shall entitle us to their confidence, we shall continue to enjoy it.

In the course of the present year, we expect to have at least one hundred miles of track laid, all the iron for which is purchased and paid for, including all charges to the time of delivery upon the line of the road. It is now going forward. The track for most of the distance is graded and ready

for the immediate reception of the rails, a large quantity of which are now on the way there, having been shipped some two weeks since from this port by way of the canal. The contractors are Phelps, Mattoon & Barnes, of Springfield, Mass. These gentlemen have recently finished the Rome and Watertown railroad, are now constructing the Buffalo, Corning and New York railroad, and several others in the state of New York, and they are well known to possess the energy and pecuniary means necessary to carry them successfully through this undertaking, and they are urging the work forward with a view to its early completion. A large force is now at work upon the line, and the progress of the work is satisfactory to all our friends.

It is annoying in the face of all these facts to be compelled to notice such mis-statements as those of the Journal to which I refer. I am entirely at a loss to account for them. The statement in reference to our bonds spoken of as having been offered some months since and withdrawn, is entirely incorrect. They were neither offered nor withdrawn. They were prepared last Fall in the regular course of our business with a view to offering them whenever the proper time should come; and during the present Spring they have been all sold by the company by private negotiation, to Eastern parties who fully understood the condition and prospects of our road, and who, I believe, are abundantly able to hold them. If they choose to resell any portion of them they have the right to do so; and they may justly complain of such unfair assaults as I have referred to. You and the public may rest assured that no better security than is offered by these bonds will be furnished by any Western road. They are a first mortgage security, for less than \$6,000 per mile, upon a first-class road, having 10, 15 and 20 years to run, and convertible into stock at any time before their maturity; and I have no doubt they will be sought for as a most desirable investment. In reference to "State Policy," as it is called in Illinois, we believe we in Illinois understand it; nor shall we receive instruction on this subject from those who are endeavoring to build up rival roads, and are thus interested in breaking it down.

Yours, Respectfully, SIMEON RIDER.
President of the Terre Haute and Alton Railroad Company.

We are always happy to give both sides of a controversy, especially when both equally support one position; and we ask whether any evidence furnished by the company itself, could have more fully convinced the public of the correctness of the views and statements in reference to this road contained in the article published in the *Journal* of last week, than the foregoing letter of the President.

Our article was *not* written "in entire ignorance of the facts of the case." If it were, it would have been very easy to have pointed out our errors, or to have controverted our statements; not one of which are, in fact, *denied*. We took the ground that the expenditure of one dollar is not sufficient security for a loan of fifteen, and we *know* in the present case that the whole expenditure upon the road, to a recent date, was only claimed to be in the neighborhood of 70,000, and we have good reason to believe that a considerable portion of this aggregate did not represent *work* actually done upon the road.

Neither are our statements in respect to the manner in which the stock subscriptions are made up, controverted; and we assert that where contractors take stock in *weak* Western projects, the presumption is, that such subscriptions are made under a belief that the amount can be cleared out of the profits of the contract. If so, such stock adds *no strength to the concern*.

When a company come before the market for money, it should show what its means are. This company makes no such exhibit, and in failure to do so, the legitimate presumption is that no *satisfactory* exhibit can be made.

When a company seek to borrow money to construct their road, the public must have the means of knowing what it will cost, which can only be supplied by the report of some competent and respectable engineer. The exhibit of this company contains no evidence that an engineer has ever been in the employ of the company. Suppose a road to be let at \$30,000, which will cost only \$15,000 per mile, and one half of this can be raised by the sale of bonds.—Is there necessarily any basis for the issue of such bonds? Ought not all such modes of doing business to be discouraged; and if persisted in, will they not lead to the most extravagant speculations and all their disastrous results?

The Terre Haute and Alton railroad will cost something like \$4,000,000. At least one-half of this sum will have to be raised on bond and mortgage of the road. Such being the fact, it is the most improvident act possible to divide the aggregate into two sums, with two distinct mortgages.—Were there a sufficient stock subscription on which to base a loan of \$2,000,000, or in other words the sum necessary to be borrowed to complete the road, the larger the loan, the security being sufficient, the better would it sell. But in most cases a *first* renders the bonds secured by a second mortgage comparatively worthless. Suppose in the present case it should be found impossible to borrow any more, how is the road to be completed? We cannot tell. But unless the road be completed is not the safety of the first bonds periled. We have uniformly urged upon companies, when coming into the market for money, the importance of adopting some well devised scheme which shall supply them with all the money they need, instead of resorting to temporary expedients, or to small loans, which create encumbrances upon their property, but which in fact are too inconsiderable to be of any real value. We now urge the same course upon this company.

Mr. Rider speaks as if the work of construction had been going on for some time past. Will he please inform us how many assessments upon the stock have been called for and paid?

We have previously discussed the "State Policy" of Illinois. It is one we *detest*, and when, as in the present case, a company attempts to maintain this doctrine to the manifest inconvenience and injury of the great body of railroads in this country, they must not expect any particular favors from us.

Mr. Rider also states that the bonds were *not* offered for sale last fall. We had good reason to suppose otherwise. The company published an exhibit, setting forth the proposed loan, which was generally circulated. It was certainly reported that they were sold for iron. We had good reason to suppose under the circumstances, that they were upon the market, but as they were not offered, we were mistaken in saying that our article had any influence in preventing their sale.

We see nothing to change in the *principles* we have laid down in reference to the sale of railroad bonds. We believe them to be correct. The *main* question is, whether the Terre Haute and Alton project is obnoxious to them. This must be determined by the *facts*. Let us have them. Let us

have a statement of the *exact* condition of the Co. in *minute detail*. Let us know how much the road is to cost; how much stock is subscribed; how made up; how much paid in, and how much probably collectable. Let us know also how much will have to be *borrowed* to complete the road. We shall take the greatest pleasure in giving these details to the public. If they justify the proposed loan we shall be very happy to recommend it. If the company be in fact intrinsically strong, our *opinion* cannot injure them, and we only injure ourselves by expressing an adverse one. We disclaim anything like hostility toward the project. The company have, to be sure, in a great measure forfeited our sympathies by a wanton attack upon the rights of others, and by their support of an exploded and most pernicious policy, of which they are the acknowledged champion. But the main thing is the *value* of the securities of the company. Let us have the "documents."

The Model Locomotive for Japan.

We learn from the Philadelphia Ledger that the order given in January last by the United States government to Messrs. Richard Norris and Son, for the building of a model locomotive, tender and passenger car, to be presented to the emperor of Japan, has been filled and in a few days will be forwarded to this city, preparatory to being shipped to Japan. The model will be accompanied by Mr. Charles Montgomery, a practical engineer, who has been delegated to explain to the Japanese the power of steam as applied to locomotives, and the great revolution brought about by means of this agency throughout this and other countries wherein it has been introduced.—The locomotive is complete in every particular, as also the tender and passenger car. The capacity of the locomotive is estimated at nine tons, the tender is 4 feet long, two feet two inches wide, and is placed upon double trucks. The passenger car is ten feet long two and a half feet wide, and two feet ten inches high. It is constructed of rose wood and finished in the most exquisite manner, with revolving seats covered with crimson. Every other feature about the car is in keeping with the best taste and judgment. A railway track will also be sent to Japan with the locomotive and its appendages.

Effect of Railroads.

We copy the following from the St. Louis News:

Yesterday, three hundred coils of No. 1 bale rope were brought into this city by a Louisville dealer, at 6½ per lb, and shipped on board the steamer Editor.

The business of rope spinning in this State is increasing fifty per cent. every season, and perhaps forty thousand coils will be shipped from this city during the present year. Some estimate that 10,000 or 12,000 bales of hemp, or one-fifth of the entire crop, will be consumed in manufacturing bale rope and bagging.

A few have purchased hemp, provisions, corn, rope, and hides; and within the week a large amount of bulk meats and lard, and some limited lots of barreled pork have been taken by one or two parties from Louisville. Two manufacturers from the same place have bought together between 400 and 500 bales of hemp, and from 300 to 500 coils bale rope. Yesterday 130 bales of hemp sold from Store to a Cincinnati manufacturer at \$95 per ton. A large quantity of corn has gone forward to Cincinnati and even to Pittsburg, during the month—perhaps as much as 20,000 sacks, or 50,000 bushels. Hides go forward in unlimited numbers, and the time is near at hand when a large proportion of all the produce intended for eastern markets will be forwarded in the same direction.

The cause of an increased demand for produce along the Ohio river cannot be attributed to short supplies alone. There is another, and perhaps a more permanent reason. It is the comparatively

cheap and easy communication now enjoyed with the Atlantic seaboard, by means of railroads. The demand for most of the staple products of the country has increased in a very great degree, and any deficiency on the Ohio must, of course, be supplied from other sections. Hence it is that many articles, heretofore abundant, have fallen behind the actual demand for export and home consumption. Tapping the Ohio river at Wheeling and again at Cincinnati with railroads leading direct to the principal markets of the Union, cannot fail to work great and permanent changes in the travel and transportation of Western people and Western products. The beginning is now, the consummation hereafter.

American Railroad Journal.

Saturday, May 14, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

To Railroad Companies and Contractors.

A SUPERINTENDENT, who has the very best testimonials from some of the most celebrated Engineers, having had charge of very large and difficult works, on which he gave the greatest satisfaction, wishes to make an engagement with some Company or responsible Contractor. He has the reputation of being a very skillful manager of large numbers of workmen, and, by reference to his former employers, it will be found that he will be a profitable man, although he expects a fair salary. A letter addressed to the Editor of this Journal will meet prompt attention.

Columbus Piqua and Indiana Railroad.

We publish this week an advertisement of sale of \$400,000 of the first mortgage bonds of this company.

This road extends from Columbus to Union, its point of junction with the Indianapolis and Bellefontaine road, a distance of 102 miles. The upper division of the road, extending from Columbus to Urbana or Mad River road, is nearly completed, and will be opened for business in a few days. The balance of the line is well advanced and will be completed during the present year.

When completed, a continuous line of railroad will be formed between Columbus and Terre Haute, a distance of 257 miles. From Terre Haute this line will be extended to St. Louis and Springfield, the capital of Illinois, within two years, by roads now in progress.

On the east the connections of the road will be equally favorable. From Columbus a road is already in operation to Cleveland. Roads are also in progress to Wheeling and Pittsburgh; the former looking to a connection with Baltimore, and the latter with Philadelphia. The Ohio Central road, aiming at Wheeling, is already completed to Zanesville, a distance of about sixty miles, and the balance is making rapid progress. At Wheeling

outlets will be opened both to Philadelphia and Baltimore.

By reference to a map of the U. S., it will be seen that this road forms an important link in one of the great lines of road reaching from the Atlantic to the Mississippi, and the only one presenting a uniform gauge for the entire distance. Upon the completion of the various roads that compose the grand line, the means for all which may be regarded as provided, a loaded car may go from Philadelphia to St. Louis over the same gauge, a fact which is regarded of the utmost importance in railway economy.

The portions of this line already completed, the Pennsylvania Central, the Ohio Central, the Indianapolis and Bellefontaine, and the Indianapolis and Terre Haute, are enjoying a very lucrative traffic, and the stock of all are at a premium. If the isolated links can earn a good income upon their cost, what may be expected when the whole chain is completed? The country traversed by the above road is not exceeded by any portion of the west in fertility and productiveness. It is covered with a dense population, and filled with numerous important and flourishing towns, the most considerable of which are upon the line of this road. Upon this line all the conditions of a lucrative local traffic exists, in addition to the through traffic which one of the most direct and convenient routes from the Atlantic to the Mississippi, must command.

Lake Erie, Wabash and St. Louis Railroad Company.

The La Fayette Journal states that this company has been newly organized, and that an addition of one million three hundred thousand dollars has been made to the cash stock subscription. The new board is composed of seven directors, residents of New York, and six who are residents of Indiana. Mr. White remains as president, and Mr. Colton, of Lockport, as vice president of the company.

A contract has been entered into with Messrs. Boody, Ross & Co., of New York, to build, furnish and equip the road by the first of May, 1855. The Journal says, "it is to be a first class road, equal to the Rochester, Lockport and Niagara Falls railroad, and its length in Indiana, 165 miles.

The same parties have become corporators in the road from Toledo to Fort Wayne, which is to be a road of similar character with the Indiana line, and is to be built and equipped within the same periods and by the same contractors. The two companies will undoubtedly soon be consolidated."

The same paper informs us that "Mr. Durbin, the able chief engineer of the company, has resigned to take charge, we are informed, of the La Fayette and Indianapolis road as superintendent. Warren Colburn, Esq., of the Rochester, Lockport and Niagara road, will be chief engineer of the whole line, from Toledo to Danville."

"The new directory is composed of the following gentlemen: Albert S. White, LaFayette, Ind.; James Spears, LaFayette, Ind.; Jos. Ristine, Covington, Ind.; John W. Wright, Logansport, Indiana; Hugh Hanna, Wabash, Ind.; Allen Hamilton, Fort Wayne, Ind.; A. D. Patchin, Buffalo, N. York; Elias B. Holmes, Brockport, New York; Azariah Boody, Rochester, N. Y.; Joel Rathbone, Albany, N. Y.; Joseph B. Varnum, New York city; Ed.

Whitehouse, N. Y. city; and John F. A. Sanford, N. Y. city."

Pacific Railroad, South Pass.

The following letter, published in the St. Louis Intelligencer, will, considering the source from which it comes, be read with interest at this time, when the question of the most eligible Railroad route to the Pacific is occupying so large a share of the public attention.

Santa Fe, March 27, 1853.

SIR, I find the following sentence in a letter addressed by you to the Santa Fe Gazette:

I see a writer in the New York Tribune, who professes to have visited Fort Laramie in 1849, and then and there saw Mr. Kit Carson, quotes that gentleman as in favor of the South Pass. I have ventured to doubt the statement that Mr. Carson prefers the route through Utah, and have claimed him as a friend to the New Mexican route. I wish he would write to me as soon as may be, and give me his opinion, with all the testimony which his valuable experience and sagacity on such subjects can supply.

You are perfectly right in claiming me as a friend to the route through New Mexico. I consider it as far, far preferable to the route through Utah Territory. I know but one route across the continent which can be traveled both winter and summer, and over a remarkably level country, and that one must cross the Rio Grande del Norte within 50 or 60 miles of Santa Fe, and from thence as direct to the California Mountains as the nature of the country will allow. The pass known as "Walker's Pass" through the Mountains, is a good one, and has no very abrupt ascents or descents. There is another pass higher up, which is nearly if not quite as good as "Walker's." That comes in some where about one of the "Four Creeks," and Dr. Nagle, of Santa Fe, has mentioned to me the fact that a reliable and intelligent man, an old Mountaineer, and whose statements I know are to be depended upon, having passed from the Vegas of Santa Clara, and after making his course due west, reached the Tulare Valley, passing over a country which, to use his own words, you could drive a ten mule team through any where.

There is no manner of doubt that the trail from Albuquerque by Zuni, along the head waters of the streams that run into the Gila, and then crossing the big river about the "Mohave" and so on is the easiest road that can be found. The only objection that I know of is that a greater part of the country along there is very barren, in fact so bad that the wolves can't make a living, and then it comes into the Tulare valley at its very southern extremity, and you have to run up 300 or 400 miles to strike the bay of San Francisco—so that if you could make a little more nothing it would be better. Mr. Fremont had always expressed a wish to me to examine the country along the southern limit of the basin, and if his explorations had not been stopped, that would have been his next enterprise.

On the other hand, I do consider the road by the "South Pass" as almost impracticable. I have no faith in it. The snows lie early and late in both the "Rocky" and "Snowy" mountain countries. It is easy enough the ascent of the Snowy mountains going up from the eastern side, but on the west it falls right off, and it is like going up a ladder to get out of the California valleys to the top of the mountains anywhere that I know of so far north. As to the snows, you folks, that live in the States know nothing about them. Why, sir, it snows harder and longer, and faster and more of it high up in these California mountains, than perhaps in any other place in God's world. I am not alone in my opinions on the subject about which you have written to me. Any old mountaineer that knows anything about it will say that the southern route through New Mexico is the best.

I am, Sir, yours very truly,

C. CARSON.

To Wm. S. ALLEN, Esq., St. Louis.

Indiana Junction R. R.

This Company has been organized by the choice of John Woods of Hamilton, John D. Jones of Cincinnati, Samuel W. Parker and Wm. M. Smith of Connersville, J. M. Redenous of College Corner, George Hibben of Rushville, and James Blake of Indianapolis, as Directors. Mr. Woods has been chosen President.

Work has already commenced between Connersville and Hamilton, and the contract for the whole line will soon be made.

The stockholders in the Cincinnati, Hamilton and Dayton road have subscribed \$200,000 for the Junction road, and take a deep interest in its construction.

W. H. & Serrell's Compound Railway Bar

We take occasion to call the attention of those interested, to the advertisement and representation of the Compound Railway bar, invented by Messrs Welles & Serrell, which may be found in another column.

The Bar appears to be new in the general arrangement of the parts; it consists of an interior and exterior rail, so arranged that the joints are broken, that is, that the parts lap over one another.—No revits or bolts are used, and an ordinary workman can lay or repair it. The rail may be used with or without chairs.

Another advantage which is claimed for the rail is, that where the exterior is worn out it can be renewed while at least two-fifths of the entire bar, which is not subject to wear, is saved.

The proprietors, some time ago, made application for their patent, which is likely to be granted.

They are now ready to enter into arrangements with parties for making and using the rail.

Chicago and Mississippi Railroad.

In the Vermilion timber, in the region of Pontiac, Livingston county, there are at present about three hundred men at work getting out ties for the Chicago and Mississippi railroad, from Bloomington northward. The road is nearly all graded and ready for the rails to Bloomington, and from Springfield north the rails are being laid at the rate of half a mile a day. Between Bloomington and Joliet there are about twenty squads of men at work, so that the whole road promises to be graded by fall.

Pontiac, the country seat of Livingston county, through the centre of which the road passes, is at present about the liveliest place this side of California. Some five hundred laborers make it their head quarters, and with the numerous other strangers there, looking for locations, &c., were they all piled in three deep, there would not be room enough in the village to sleep all. Many, therefore, abide in tents. The hotel men, of course, are coining money, grocery keepers ditto, and storekeepers stand aghast at the crowds of customers, whose various wants their shelves can make no pretence to supply.

Until within a year or two, half the land in Livingston county has belonged to the general Government. Within a year there has been quite a rush that way by the land speculators, and a handsome operation they have all made of it. The Illinois Central railroad company got in a little head of the crowd, and secured many beautiful tracts that have more than doubled in value in a year, and promise to keep on doing so for some time to come.

We have always regarded Livingston as one of the finest counties in the State, her only drawback being the want of an outlet. The Illinois Central and the Chicago and Mississippi railroads will remove this, and then the county must go ahead at a railroad speed, and Pontiac, a village scarce known on the map of the State, will astonish our

lawmakers in a few years by applying for a charter. There is no better opening in the country for a man with a small capital, than just that same village of Pontiac.—*Ottawa Free Trader.*

Westernport and Alexandria R. R.

The object of this road is to connect Westernport with the Manassa Gap road at or near Strasburgh on the Shenandooh river, thus affording, it is said, the most certain and direct route for the coal region to tide water. A party of Engineers are now engaged in a survey of the route, under the direction of the Manassa Gap railroad company, and it will be brought before the public at no distant day upon real and not conjectural estimates. The distance from Alexandria to Westernport by this route is believed to be not more than 140 miles, with grades at least equal to those of any other. It is also contemplated to straighten the curves of the present Manassa Gap road, as can readily be done, so soon as the business thereof will justify.

Pacific Railroad.

We learn from the engineer's office of the Pacific railroad, that the track has been laid to a point near Kirkwood, and that it will be entirely completed during the present week to enable cars to commence running by the first of May. The distance is thirteen miles from the termination of the road in Fourteenth street, and already the depot has been completed in anticipation of the event of the cars reaching that point. By the 1st of July we hope to be able to announce the completion of the road to the country line.—*St. Louis Intel.*

Chicago and Cincinnati R.R.

We are gratified in being able to state that the stocks of the Cincinnati, Logansport and Chicago, and the Logansport and Chicago railroads have been consolidated, and that two are to constitute, hereafter, one Company, as far as their earnings and profits are concerned. As they form complements of a whole, their consolidation cannot fail to be mutually highly advantageous.

Upon the first division of this line, from Richmond to Logansport, a distance of 107 miles, the work is now well advanced. The Company have just commenced laying the iron from Richmond.

They have on hand sufficient for about forty-two miles. The balance is to be purchased and forwarded immediately. The entire road bed from Richmond to Logansport will be in readiness for the rails in a few months, so that the iron can be laid as soon as it can be received from England.—This portion of the road is in the hands of energetic and practical men, and as the company are in possession of sufficient means, the work will be carried forward with all the dispatch consistent with an economical expenditure of money.

The division from Logansport to Chicago is about being placed under contract. The whole line has been thoroughly explored, and an excellent route obtained. The distance is but little, rising 100 miles. The greater part of the way is a wide plain, to construct a road over which, requires only an embankment sufficiently high for good drainage. There cannot be found in the United States probably a more favorable route for a road. It is the intention of the parties having this road in charge to press its construction with despatch for the purpose of opening it with the least possible delay. We learn that stock subscriptions are now being made to this project, which will provide sufficient means for this purpose.

The line connecting the cities of Chicago and

Cincinnati is one of the best routes for a railroad in the U. States. Independent of its through traffic, which must be very large and constantly increasing, the route of this road is one of the best in the country for a lucrative local traffic. Both united cannot fail to make the above one of the most productive works in the west.

Stock and Money Market.

There has been but little change in the market for the past week. Money, if there has been any change, is becoming more plentiful. The stock market, as a general thing, is dull. The prices of sound stocks and securities however, are well maintained, and a good demand exists for best class railroad bonds, of which the supply is small.

The earnings of our roads continue to show a large increase over the corresponding period for the past year, and the whole season promises to be one of extraordinary productiveness.

The receipts of the Norwich and Worcester road for April prove to be larger than was anticipated.

The figures are:

April, 1853.....	\$25,365 99
April, 1852.....	21,233 07
Total.....	\$4,132 92

The receipts of the New York and New Haven road for April were:

Passengers.....	\$60,309 78
Freights.....	10,500 00

Total.....	\$70,809 78
Paid Harlem railroad.....	4,327 18

Net receipts.....	\$66,482 65
April 1852.....	56,317 89

Increase.....	\$10,164 76
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The receipts of the Michigan Central road were about \$100,000. Of the Michigan Southern there was an advance of the estimate, being:

Passengers and Mail.....	\$77,977 65
Freights, etc.....	34,877 69

Total.....	\$112,855 34
April 1852.....	48,472 00

Increase.....	\$46,383 35
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The receipts for the first four months of the year have been:

January.....	\$50,022	March.....	\$86,866
February.....	58,621	April.....	112,855

Aggregate.....	\$408,354
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The receipts of the Cleveland and Pittsburgh railroad for April, 1853, were:

Passengers.....	\$19,792 34
Freight.....	19,587 82

Total.....	\$39,380 16
April, 1852.....	23,804 01

Increase.....	\$15,576 15
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The receipts of the Little Miami railway company for the month of April are \$71,206.78. This is an increase of 14,291 18 over that of the same month last year.

The following are the receipts of the Louisville and Frankfort railroad for the month of April:

Passengers.....	\$8,823 68
Freight.....	6,956 86
Mail service.....	464 27

Total.....	\$16,243 76
Receipts for April, 1852.....	14,713 63

Gain for April 1853.....	\$1,530 13
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Journal of Railroad Law.

HOW FAR MAY DISTINCT CORPORATIONS COALESCE?

This question and the two annexed decisions which closely relate to it, will be found, we think, at the present time especially interesting.

The doctrines of a District court of Ohio, and that of Judge McLean, of the United States Circuit court, in reference to this matter, are substantially in harmony. The true rule to be elicited from these cases is the following: "*Corporations may combine in order to effect their legitimate objects, and not otherwise.*"

In the case first to be cited, the defendants were enjoined against uniting with another company for the mere purpose of evading a previous injunction and changing their route as legally established.

In the next case the company, who by their charter have power only to extend their road from Sandusky city to Fremont, and thence to Toledo, were forbidden to abandon and diverge from this route, and to construct a bridge far below Fremont across Sandusky bay, by combining with another company or otherwise.

While on the other hand, the Port Clinton company, incorporated expressly to construct a road from Sandusky city, by Port Clinton, over Sandusky bay, at Toledo, and proposing to build a bridge over the said bay, with a draw of 144 feet, to be opened and shut by a central pivot, are held in view of the evidence to be at liberty to proceed in their undertaking.

The case first above mentioned is that of the *Mad River and Lake Erie Railroad Company* in which the decision was given by Chief Justice Bartley, with the assent of his three associates.

The complainants in this case claimed to have made contracts with the Mad, River and Lake Erie railroad company, which that company was about to violate. A contract was made by debt's with complainants to locate said road through the town of Bellevue, the complainants having a right to side-tracks, and two ware houses connected with the track for continued use. Complainants are still in possession of the property, and the Co. was about to change its location. In answer to the original bill, respondent admitted the facts, and set up that the new route offered greater facilities and advantages than the line through Bellevue. A provisional injunction was allowed. After the allowance of the injunction the Mad River and Lake Erie railroad company professed to abandon its plan of changing the route, and the officers of said road commenced an organization under the Sandusky city and Indiana charter. Respondent claimed that there was an organization under this charter. A supplemental bill was filed by complainants setting up that said organization was a mere pretence. Respondents answered that they were not interested in building this road; but claimed the right of connection therewith.

The court decided, in substance as follows: The organization of a company must be bona fide, in order to render the proceedings valid. Is there any such company as the Sandusky City and Indiana? The alleged company was organized shortly after the allowance of the provisional injunction. The amount of its bonds was \$350,000, but only \$51,000 stock subscribed, and apparently none of this paid up. Stockholders gave their notes without interest, and do not appear to have paid them. The treasurer of the Mad River company held the

the notes and bonds, and advanced the means necessary for the company. The new company lease their road for 99 years to the Mad River company with the privilege of renewal, and the Mad River company are to pay all expenses.

Here is evidently a device to evade an injunction, by colluding with the nominal company.

The complainants are entitled to a decree:

1st. That said Mad River and Lake Erie railroad Co. shall not change the location of the main route of their road from Tiffin to Bellevue.

2nd. That said Mad River and Lake Erie railroad company shall not use the railroad of said Sandusky city and Indiana railroad company in any way either by connection or otherwise as a railroad, except for the purpose of gravelling the road of the said Lake Erie and Mad River railroad company.

3d. That said Lake Erie and Mad River railroad company shall not use any of their means towards completing, or running or otherwise using the road of the Sandusky city and Indiana railroad company, or apply their means towards paying their bonds in the lease in the pleadings mentioned, which lease is hereby declared void, or any other liabilities of the Sandusky and Indiana railroad company.

4th. That the injunction hereby granted, shall not take effect until the complainants give bonds and security in the sum of \$10,000, to be approved by the clerk of this court, and that this cause be reserved on the motion of the defendants for final decision to the next Supreme Court of Ohio.

The above mentioned decision of Judge McLean, was rendered in the case of *Works, vs. the Junction Railroad company and Port Clinton railroad company*.

It was on application for an injunction to restrain defendants from constructing a bridge across Sandusky bay, for the purpose of a projected railroad.

The complainant, a citizen of N. Y., states that he owns a large amount of real estate at and near Fremont, on the Sandusky River, in the county of Sandusky, State of Ohio, which comprises a Tannery, half of a Flouring Mill, a Saw Mill, a store and Warehouse, a Wharf and Water Lot; that the Sandusky River, from Fremont, is navigable for steamboats, schooners, and other vessels, and that a commerce is carried on from Fremont down the river and bay to different ports on the Lakes; that he has Plank road Stock, which pays a profit by the transportation of produce to and from Fremont; that shipments are made of Flour and Lumber from his Mills, and Leather from his Tannery, &c.

He represents that the defendants are about constructing a railroad from Sandusky city to Toledo, crossing the Sandusky Bay by a Bridge on a line to Port Clinton, in Ottawa county; that the Bridge, if made, will materially obstruct the commerce of the Bay to his individual and irreparable injury; and he prays for an injunction to restrain the defendants from the construction of their proposed Bridge.

The "Junction Railroad Company" answers, that it is engaged in building a railroad between Cleveland and the Maumee River, connecting with Toledo, and extending from that city to the West line of the State, under various Charters, which authorize them to prosecute the work.

The Port Clinton Railroad Company demurs generally to the complainant's bill, and answers denying the fraud and collusion with the Junction Road, as charged in the bill. It denies that it has any connection with the Junction Road, either to aid or receive aid from it, and there seems to have been produced no evidence of such connection.

The navigableness of Sandusky Bay above the proposed Bridge, and also of the Sandusky River to Fremont, is admitted by the parties and the pleadings. The General Government has recognized this fact by making Fremont a port of entry, and the State of Ohio, by appropriating funds in removing certain obstructions in the Sandusky river.

The following are the prominent points decided:

1st. The Junction Company cannot justify their departure from the route to Fremont on the ground that they are authorized to make branches; for they evidently design to cross the Bay, and extend to the Maumee. And they cannot, by their Charter, extend branches from one county to another. The Company do not design, hereafter, to make a road from Fremont to the Maumee,—such a road would not benefit them. The Port Clinton road cannot, in any way, be brought within the charter of the Junction Railroad, and said charter, by no means authorizes the Junction Company to construct the Bridge in question. The Port Clinton Railroad Company was duly organized under the Act of May, 1852, in October, 1852,—beginning their route at Sandusky city, and extending it by Port Clinton over Sandusky Bay to Toledo.—Their plan of a bridge for crossing the Bay, was submitted to the Commissioner and approved by him. Although the Board of Public Works subsequently reversed this decision, they, in so doing, exercised a power not belonging to them, and that reversal was void.

The Junction Railroad Company was not authorized to construct a railroad bridge over the Sandusky Bay, for such a right can only be conferred by the sovereign power, by a special or a general act, like that under which the Port Clinton Company was organized.

The approval of the commissioner cannot be impugned on the ground that Sandusky Bay is not "a public work,"—and as such subject to his jurisdiction. "The acting Commissioners" it is said, "must have charge of the public works where such crossing is proposed, and where there are no public works his approval cannot be given." Having charge of the public works where such crossing is proposed, only means that such place shall be within the jurisdiction of the Commissioner.

A corporation formed under this general law is vested with all the ordinary powers to accomplish the purpose intended. It may appropriate private property, and do all other things necessary in the construction of a Railroad. The general act is as specific in its details of the right and duties of the Company, as can be found in special acts of incorporation. The Legislature of Ohio has been cautious, as all other Legislatures have been, in special acts for Bridges and railroads, to guard against obstructions to navigable waters. And the twentieth section of the General Law was intended to preserve this great public right. The plan of a Bridge over any navigable water must be approved by the Board of Public Works, or by the acting Commissioner.

On the whole, there is no doubt that the Port Clinton Company may construct a bridge over the Sandusky Bay, provided it shall not obstruct commerce.

4th. The public right consists in an unobstructed use of every navigable water connecting two or more States. The local right is in crossing such waters. The public right is paramount to all States authority; and its operation in this case must be determined by the evidence submitted.

The draw proposed is 144 feet, to be opened and closed by a central pivot.

The testimony upon the question of obstruction to navigation being very nearly balanced, and consequently neutralized, the Court concluded that the present was not a case to grant an injunction against the Port Clinton Company.

SALE OF BONDS.

Columbus, Piqua & Indiana Railroad Bonds.

I SHALL sell at auction on Wednesday the 8th June, at 12½ o'clock, at the Merchants' Exchange, \$300,000 7 per cent. Convertible Bonds of the COLUMBUS, PIQUA AND INDIANA RAILROAD of Ohio, being the balance of \$600,000, secured by a First Mortgage on the property and franchises of the company, and issued for the purchase of the iron for the road. These Bonds are in sums of \$1,000 each; they mature in 1862, and bear coupons for semi-annual interest, payable at the Ohio Life and Trust company in this city. This railroad extends from Columbus, the capital of Ohio, 102 miles westward to Union, on the Indiana State Line, where it connects with the Bellefontaine and Indianapolis railroad, placing it in full communication with all the railroads branching from Indianapolis to the Ohio and Mississippi rivers. At Columbus it joins with the Ohio Central and the Steubenville and Indiana railroads, which, through Wheeling and Pittsburgh, connect with the main railways to Baltimore and Philadelphia, making altogether the shortest line of roads that can be constructed from those seaboard points, through Ohio, to the Great West.

The Counties bordering on the Columbus, Piqua and Indiana railroad, contain 175,000 inhabitants, with taxable property amounting to over \$40,000,000. They are rich, even for Ohio, in railroad traffic.

The cash subscriptions to this road secured, and nearly all paid up amount to..... \$967,500
The First Mortgage Bonds..... 600,000
The Second Mortgage Bonds have been nearly all sold at and over 90, am't to..... 400,000

\$1,967,500

which will cover the whole cost of the road, being under \$19,000 per mile.

The work is in rapid progress of completion—a section of twenty miles of the track is laid down—26 miles more are being laid down, and will be running early in June. The rest of the road is nearly ready for the superstructure, and the whole line will be completed during this year. The whole iron for the track is purchased, and at prices far below present rates. A glance at the map will show at once the important central position occupied by this road. No other road in Ohio will command so large a portion of the through traffic from the whole seaboard to the west. New York, Philadelphia and Baltimore will all find this a valuable link in the respective avenues which lead from the Mississippi to these cities. The prospects of this road are such as to make the convertibility of the bonds of great value to the purchaser.

SIMEON DRAPER.

New York, May, 14, 1852.

CAR, LOCOMOTIVE, AND TENDER SPRING MANUFACTORY.

PHILADELPHIA, March 1, 1852.

We beg leave to present the following Certificates to the consideration of **Railroad Companies and Car Builders**, for the quality of **CAR, LOCOMOTIVE, AND TENDER SPRINGS** manufactured by us.

At the same time we would inform Railroad Companies and Car Builders that we have extended our works, and will be happy to execute any orders for Steel Springs for Cars, Locomotives, or Tenders, of any design or pattern which they may see proper to intrust to us, at the lowest prices, and on terms which will prove satisfactory.

From our long experience as Spring manufacturers, we are enabled to supply Railroad Companies with **Spring Steel**, of superior quality, converted from *Swede Steel Iron*.

The iron being imported direct from Stockholm by ourselves, and Converted and Rolled under our supervision.

Yours respectfully,

JAMES JEFFRIES & SON,
REAR OF GIRARD HOUSE.

Philad'a, Feb. 27, 1852.

MESSES. JAMES JEFFRIES & SON,

Gentlemen: In reply to your inquiries as to the character of the Springs furnished by you for Locomotive Engines and Tenders, I take pleasure in saying that I have found them, both in material and workmanship, superior to anything else of the kind that ever came under my notice. I have occasionally tried the Springs of other manufacturers, but in testing their elasticity and strength with the apparatus I have for that purpose, I have found none combining the requisites of a good spring, viz., lightness, elasticity, and durability, in so eminent a degree as yours.

I am using them exclusively under the Engines and Tenders of my make, and can safely recommend them to others.

Yours truly, M. W. BALDWIN.

Office, Penn's Rail Road Co.
Philad'a, Feb. 26, 1852.

This is to certify, that James Jeffries & Son manufactured nearly all of the Steel Springs used on the Georgia Rail Road while I had charge of that work, and have also furnished those that have been used on the Pennsylvania Rail Road. The character of their work has always given entire satisfaction, and I cheerfully recommend their Springs to the patronage of Rail Road Companies and Car Builders.

J. EDGAR THOMSON,
Chief Engineer and President Penn's Rail Road Co.

Office, Phil'a, Germantown & Norristown R. R. Co.
February 28, 1852.

This is to certify, that I have used the Steel Springs manufactured by Messrs. Jax. Jeffries and Son, for the Locomotives, Passenger, and Freight Cars of the above Road, during the last 12 years, and have always found them good and efficient Springs, giving general satisfaction.

R. FRENCH.

Philadelphia, Feb. 23, 1852.

This is to certify, that we have used Car Springs made by James Jeffries & Son, for the period of twelve years, and find them a very superior article, so much so, that we shall always continue to use them.

DUTILL, HUMPHREYS & CO.,
Proprietors of Union Line of Trans. from Phila to Pittsburg

Philadelphia, Feb. 27, 1852.

MESSES. J. JEFFRIES & SON,

Gentlemen: We have been using your Steel Springs under our Cars for a number of years, they have given entire satisfaction, and have proved themselves superior to any other that we have used. Their good qualities should commend them to any who have need of an article so difficult to obtain perfect.

Yours truly, HARRIS & LEECH,

Proprietors of Leech's Trans. Line from Phila to Pittsburg.

Richmond, Jan. 6, 1852.

MESSES. JEFFRIES & SON: It affords me pleasure to say, that after some six or seven years' trial of your Springs, I find them superior to any other Springs we have used on our road, and are so well satisfied with their merits as to continue the use of them.

I am, very respectfully yours,

THOMAS SHARP,

Superintendent R. P. & P. R. R.

Office, R. & P. R. R. Co.

Richmond, Va., Jan. 6, 1852.

TO MR. THOMAS JEFFRIES,

Dear Sir: I take pleasure in stating that the Springs made by the firm of which you are a member, and which I have been using for the last eight years on Locomotives and Tenders, and also, on Passenger, Freight, and Coal Cars, have given the utmost satisfaction, and I consider them superior to any I have received from other establishments during the above period, and shall still continue to send you our orders for all we may want.

Very respectfully yours,

THOMAS DODAMEAD,

Superintendent R. & P. R. R.

Superintendent's Office, C. R. R.

Savannah, Ga., Jan. 21, 1852.

This will certify, that Car and Locomotive Springs made by Messrs. James Jeffries & Son, of Philadelphia, have been in use on this road for a number of years, and have given entire satisfaction.

W. M. WADLEY,

Superintendent.

Office, Petersburg R. R. Co.
Petersburg, Jan. 8, 1852.

The house of James Jeffries & Son, of Philadelphia, has made us a good many Car and Engine Springs, and I take great pleasure in stating that they have always turned out well, and I believe their work can not be surpassed by any in the country.

H. D. BIRD,

President.

Office, Sup't T. & M. Power, So. Ca. R. R. Co.
Charleston, Jan. 21, 1852.

This is to certify, that the South Carolina Rail Road Company have for a number of years been using the Steel Springs manufactured by Messrs. J. Jeffries & Son, of Philadelphia, for their Locomotive Engines, and for both Passenger and Freight Cars, and I take pleasure in stating that they have given entire satisfaction, and recommend them to the patronage of all Rail Road Companies requiring such articles.

J. D. PETCH,

Sup't Trans. & Motive Power So. Ca. R. R. Co.

Philadelphia, Feb. 27, 1852.

This is to certify, that I have used Springs made by James Jeffries & Son for the period of five years, and consider them equal, if not superior to any others that I have had in use.

JOSEPH S. LEWIS,

Pennsylvania & Ohio Line.

Georgia Rail Road,

Augusta, Ga., Jan. 1, 1852.

To whom it may concern.—We have used Springs manufactured by Messrs. James Jeffries & Son, for the Locomotives and Cars of our road for the last ten years, and have no hesitation in recommending them as having given general satisfaction.

P. C. ARMS,

General Superintendent.

Macon & Western Rail Road,

Macon, Ga., Jan. 25, 1852.

MESSES. J. JEFFRIES & SON,

Gentlemen: This Company has for several years purchased and used, under Cars and Engines, Steel Springs manufactured by you. We have also purchased from other manufacturers and made Springs ourselves.

You have given entire satisfaction, and have proved themselves equal, if not superior to any we have used. Their excellent qualities should commend them to all who have need of an article so difficult to obtain in perfection.

Yours, very respectfully, EMERSON FOOTE,

Superintendent.

Macon, Ga., January 24, 1852.

MESSES. JAMES JEFFRIES & SON,

Gentlemen: In reply to your inquiries in reference to Steel Springs, I take pleasure in saying, that I have been in the way of observing Springs in use on Cars and Locomotives, on various Rail Roads, for seventeen years past, more particularly on the Central Rail Road of Georgia for eight years past, and during said seventeen years have been practically acquainted with your make of Springs, and I have no hesitation in saying, that your Springs with open work are the best Steel Springs I have ever used or seen in use.

Yours, respectfully, GEO. W. ADAMS,

Superintendent S. W. R. R. of Georgia.

Transp. Office, W. & A. R. R.

Atlantic, Jan. 31, 1843.

MESSES. JAMES JEFFRIES & SON,

Gentlemen: This road has used the Springs made by your firm since its first opening, under both Engine and Cars, and they have given entire satisfaction to all.

Very respectfully, W. M. D. FULTON,

Superintendent.

Montgomery & West Point R. R. Co.

Montgomery, Ala., Feb. 23, 1852.

This may certify, that this Company have been for years using, both under their Engines and Cars, Springs from the manufactory of James Jeffries & Son, of Philadelphia, and are so well satisfied of their superiority that we can confidently recommend them to all companies in need of Springs.

SAMUEL G. JONES,

Engineer and Superintendent.

To Railroad Contractors.

NEW ORLEANS, JACKSON & GREAT NORTHERN RAILROAD.

SEALED PROPOSALS will be received at the Engineer's Office, (or through Post Office) in Aberdeen, Miss., until the 1st day of July next, for the Graduation, Masonry and Bridging of fifty miles of that portion of the Second Division of the New Orleans, Jackson and Great Northern Railroad extending from the Tombigbee River (1½ miles north of Aberdeen) to the Valley of the Besa Chitto Creek (a tributary of the Rockanockamy, in Choctaw County, Miss.

Plans and Profiles will be ready for inspection on and after the twentieth day of June; also after said time the character and magnitude of the work can be fully comprehended by passing over the line and reading the depth of cuts and height of embankments from the centre stakes.

Contractors will be furnished with specifications and blank proposals on application to the office.

Testimonials as to character and ability as Railroad Contractors, must accompany the proposals from all persons or parties not personally known to the officers of the company.

The line will be divided into sections of about one mile each, and bids will be received for one, or more, or the whole.

There is about 13 miles of very heavy earth work in crossing the ridges between Trim Cane Creek, and the head waters of the Besa Chitto; which being all in an elevated and healthy locality presents attractions for the grading Contractor. The balance of the distance will be average work. No rock of any importance is encountered in the whole distance.

The Masonry consists chiefly of eleven brick Culverts, with spans varying from 15 to 35 feet, and Brick Abutments and Piers for the Tombigbee River Bridge.

For further particulars apply to Geo. H. Hazlehurst Esq., Principal Assistant Engineer, personally or by letter,—directed to Snowsville Post Office, Choctaw County, Miss., or to the undersigned.

By order of the Board of Directors.
JAS. H. GRANT, Chief Engineer.

ENGINEER DEPARTMENT, Aberdeen, Mass.

Notice to Contractors.

PHILADELPHIA, EASTON AND WATER GAP RAILROAD.—Proposals will be received until noon, MAY 25th, for the Graduation and Masonry of said Railroad, from a point on the Wissahiccon, about fourteen miles from Philadelphia, to Hellertown, a distance of thirty-six miles. Seventeen miles more will be ready for contract in a short time.

The part now offered, includes a Tunnel 1800 ft. long, and a large amount of Earth and Rock Work and Masonry. The route occupies a very fertile and healthy country, accessible at all points. The line will be ready for examination, May 10th, and the Profiles, and Specifications, and forms of Proposals, may be seen at the Engineer's Office, No. 88 South FOURTH Street, Philadelphia, after May 15th.

EDWARD MILLER,
Chief Engineer.

Railroad Iron.

3000 TONS in port and to arrive during April and May—weighing 58 and 60 lbs. per lineal yard, of excellent patterns and of Guest and Crawshays best make, for sale on favorable terms by
DAVIS, BROOKS & Co.
28 Beaver Street, New York.

May 10th.

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

4t 12

WM. BAILEY LANG.

\$3,000,000 LOAN ON THE MORTGAGE BONDS OF THE ILLINOIS CENTRAL RAILROAD COMPANY.

This Company will receive proposals from the 10th to the 15th day of June next, for Three Millions of Dollars of its Construction Bonds, to be issued in sums of One Thousand and Five Hundred Dollars each, payable at the office of the Company in the City of New York, on the 1st day of April, 1876, with coupons attached for the payment of interest, at the same place, semi-annually, on the 1st of April and 1st of October, in each year, at the rate of 7 per cent. per annum.

These Bonds are secured by a first and only mortgage to Trustees of the whole road and branches, 704 miles in length, and of two millions of acres of land in the vicinity of the road, granted by Congress to aid in its construction.

The whole road is under contract, and a large force is now employed in its construction. It is expected that 350 to 400 miles will be completed by the 1st of January next, and the remainder of the entire line during the year 1884. About 72,000 tons of rails will be required, of which 67,000 tons were contracted for at the low rates ruling one year since, and is now constantly arriving at New York and New Orleans.

The whole amount of Bonds which can be issued under the mortgage is seventeen millions of dollars, of which have been already negotiated—

London loan, 6 per cent Bonds \$5,000,000
In United States, and on iron and other contracts, 7 per cent Bonds 5,785,000

\$10,785,000

none of which have been disposed of at less than par.

The Company will give to each subscriber to this loan, whose bid shall be accepted, the right to subscribe for three shares of the ultimate capital stock of the Company (170,000 shares of \$100 each) for each Bond of \$1,000 subscribed and paid far by him, and a like proportion for a larger or smaller amount, and a proper Provisional certificate will be given as evidence of such right to subscribe when the stock shall be issued, upon payment of such instalment as may be required by the Directors, not exceeding the instalments then called in from other stockholders, which probably will not exceed \$5 per share.

The Company reserve the right to redeem any of the Bonds at any time before maturity, on payment of the amount thereof, with 20 per cent premium and any accrued interest.

No proposal will be received at any rates less than par, and the company reserves the right to accept proposals for all or any portion of the amount.

Ten per cent of the amount allotted to each subscriber will be required on notice of the acceptance of his proposals, and the balance as called for by the directors, not exceeding ten per cent. monthly. Any subscriber, may, however, at his option pay up in full, and receive his bonds at any time. If any subscriber whose bid is accepted, shall prefer in lieu of the 7 per cent bonds hereby offered, to receive six per cent Bonds of the same character in every respect as those issued for the London Loan of \$5,000,000 of which interest and principal will be payable in London at the rate of four shillings and two pence sterling to the dollar, such bonds will be issued, but in such case the subscriber will be required to pay the instalments in London at the same rate, to wit: £208,6ss 8d for each bond of \$1000. The stock appropriated to such subscription will be also registered in London upon the same terms and conditions as that now registered there, if preferred, instalments and dividends thereon being payable there at the same rate of exchange.

Interest in all cases will be adjusted on payment of the final instalment.

Proposals will be received by W. P. BURRALL, Treasurer, at the office of the Company, No. 50 Wall street, New York, enclosed, sealed and endorsed, "Proposals for Loan of \$8,000,000 of Illinois Central Railroad Company."

Reports and documents showing the financial condition of the company, the progress of the work, and all necessary information relative to its affairs and prospects, may be obtained on application to the treasurer, personally or by letter.

By order of the Board of Directors.

ROBERT SCHUYLER Pres't.
DAVID A. NEAL, Vice Pres't.
W. P. BURRALL, Treasurer,
GEORGE GRISWOLD,
MORRIS KETCHUM,
JONATHAN STURGES.
Executive Committee.
New York, April 14, 1883.

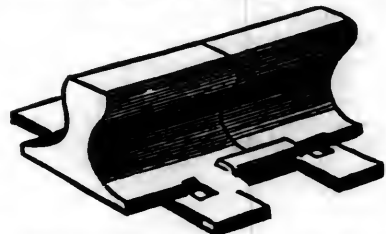
Alden J. Hale,

COUNSELLOR AT LAW, NOTARY PUBLIC,
COMMISSIONER FOR THE DIFFERENT STATES,
TRINITY BUILDING,

No. 111 BROADWAY, NEW YORK.

A. J. H. will attend to taking Acknowledgments, Depositions, Affidavits, etc., for the States of Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, Pennsylvania, Ohio, Indiana, Wisconsin, Iowa, Virginia, Tennessee, Alabama, South Carolina, Florida, Texas, Mississippi, Missouri, Kentucky and California; Loaning Money on Bond and Mortgage, Negotiating Sales of Real Estate in New York and other States; Examining Titles and Drawing Deeds, Powers of Attorney, and other instruments in writing.

Office Hours, from 9 A. M. to 5 P. M.

Cincinnati Railroad Chair Manufactory.

THE Subscribers are prepared to make to order, on short notice, Wrought Iron Railroad Chairs, in any quantity that may be desired, which they warrant in every particular.

W. H. CLARK & CO.,
Cincinnati, Ohio.

Office 128 Vine street, (opposite Burnet House.)

N. York and N. Haven R. R. NOTICE OF SUMMER ARRANGEMENTS,

Commencing Monday, May 9, 1883.

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation for New Haven.	5.30 A.M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A.M.—Commutation from New Haven.
9.10 A.M.—Special for Port Chester.	6.15 A.M.—Accommodation from New Haven.
11.30 A.M.—Accommodation for New Haven.	8.15 A.M.—Accommodation from New Haven.
3.00 P.M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A.M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P.M.—Accommodation for New Haven.	1.07 P.M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P.M.—Express for Boston, stopping at N. Haven.	4.00 P.M.—Special, from Port Chester.
5.35 P.M.—Commutation for N. Haven.	4.00 P.M.—Accommodation from New Haven.
6.30 P.M.—Special for Port Chester.	9.30 P.M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Supt.
New Haven, May, 1883.

Notice.

LOST or stolen from the owners in London a package containing \$25,000, of 7 per cent convertible Bonds of the New York and Erie R.R. Co., redeemable in 1862.

Nos. 186, 916, 1,269, 1,375, 1,628, 1,634, 1,635, 1,603, 1,727, 1,729, 1,436, 1,347, 2,054, 2,055, 2,056, 2,505, 2,506, 2,507, 2,590, 2,694, 2,695, 2,876, 3,294, 3,295 and 3,460. \$1,000 each.

All persons are hereby cautioned against negotiating said Bonds, until further notice.

2t. p. CARMANN & Co., 56 Wall street.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
March 2d, 1853. 90 Beaver st.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
April 1, 1853. 90 Beaver st.

O. A. NORRIS,

American Railway Agency,
FOR THE PURCHASE, ON COMMISSION, OF
ALL ARTICLES REQUIRED BY
RAILROAD COMPANIES.

Office, 12 Farquhar Buildings,

Philadelphia.

Notice to Contractors.



PROPOSALS will be received at the Office of the Fort Wayne and Chicago Railroad Company in FORT WAYNE, until noon on Friday, the 20th of May next, for the Bridging, Grading, and delivering of Cross-ties for said Road.

PLANS, PROFILES and SPECIFICATIONS will be exhibited at the Office three weeks prior to the day of letting.

This line, One Hundred and Fifty miles long, embraces much heavy work, is well suited for prosecution in winter, and is divided into sections of from one to six miles in length, and may be bid for singly, or for the entire work.

J. R. STRAUGHAN,
Chief Engineer.

R. GROVES & SONS, SHEFFIELD, ENGLAND, Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Bister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
- 58 Malden-lane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Hoole, Staniforth & Co., MINERVA WORKS, SHEFFIELD,

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by RICHARD MAKIN,
Agent for the Manufacturers,
43 24 Broadway.

Pease & Murphy, FULTON IRON WORKS, FOOT of Cherry st., E. R. Office, 27 Corleais, corner of Cherry at. Manufacturers of Land and Marine Engines. N. B. Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,
Apr 1m 50 South Third street.

NEW YORK Lubricating Oil Manufacturing Co. 12 BROADWAY,

PROPRIETORS AND MANUFACTURERS OF
DEVLAN'S PATENT LUBRICATING OIL,
FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon Slides and Journals, by the use of bad oil. It will wear longer than 3penn, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.
ap20 2m

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidly, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.
June 28, 1851.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Grank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.
Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
Sole Manufacturers,
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States. The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.
November 3, 1849. 1v

Gerard Ralston,

21 TOWN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE
PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore. 3s

CAUTION.

India-rubber Car Springs.

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA—Awarded by the American Institute to F. M. RAY, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed, JAMES TALLMADGE,
President.
N. MILES, Recording Sec'y.
ADONIRAM CHANDLER, Cor'g. Sec'y.
New York, Oct., 1851.
New England Car Spring Co., No. 104 Broadway
New York. 7tf.

To Contractors.



SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.
Portland, April 9, 1853.

PATENT Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.
THIS Machine enables the Cylinders to be re bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

Notice to Contractors.



SEALED PROPOSALS will be received at the office of the Clinton line railroad company, in Hudson, Ohio, until the 20th day of May next, for the grading, masonry, bridging and superstructure of their entire road, from Hudson to the Pennsylvania state line.

Plans, profiles, and specifications will be exhibited, and all requisite information given, at the office of the company, in Hudson, on and after the 10th day of May next.

By order of the board of directors.

H. N. DAY, president.

W. B. BRINSMADE, engineer.

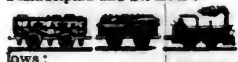
Hudson, March 29, 1853.

Toledo, Norwalk and Cleveland Railroad.

OPEN through, completing the last link in the chain of Railroads between New York, Boston, Philadelphia, Baltimore and Washington City and Chicago.

The only route by which the dangers of Lake Navigation are entirely avoided.

The quickest and best route between New York, Boston and Philadelphia and St. Louis.



On and after Monday, April 11, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

THROUGH TRAINS.
Leave Toledo at 8.00 A. M. and 10.00 P. M.
Leave Cleveland, 9.20 A. M. and 8.30 P. M.

BELLEVUE TRAINS.
Leave Norwalk for Bellevue at 8 A. M.
Leave Bellevue for Cleveland at 2 P. M.

Night Trains will not stop at Townsend, Camden or Clyde, except to leave Passengers.

CONNECTING DIRECTLY

AT TOLEDO—With Trains of Michigan Southern Railroad for Chicago and the West, and forming a line in connection with the Chicago and Rock Island Railroad and Steamers on Illinois River, to St. Louis.

AT BELLEVUE—With Trains of Mad River and Lake Erie Road for Sandusky City, Dayton, Cincinnati, etc.

AT MONROEVILLE—With Sandusky, Mansfield and Newark Railroad, for Sandusky City, Shelby Junction, Columbus Newark and Zanesville.

T GRAFTON—With Cleveland, Columbus and Cincinnati road, for Cleveland, Shelby Junction, Columbus and Cincinnati.

T CLEVELAND—With Lake Shore Road, for Pittsburgh, Wheeling, Philadelphia, Baltimore and Washington City.

Freight forwarded promptly at fair rates.

E. B. PHILLIPS, Sup't.
Superintendent's Office T., N. & C. R.R.,
Norwalk, O., April 8, 1853.

Railroad Iron.

THE undersigned, from their late long engagements with one of the most eminent Houses in the Iron Trade of Great Britain, considering themselves well qualified to assist Railway Companies and others in making purchases in the English market, tender their services free of any charge to such as will favor them with communications, either personal or by letter.

Address **JOHN H. AUSTIN & CO.,**
2 Ingram Court,
Fenchurch street,
London.

May 2, 1853.

Railroad Iron.

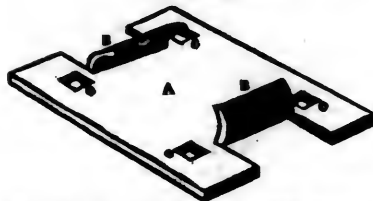
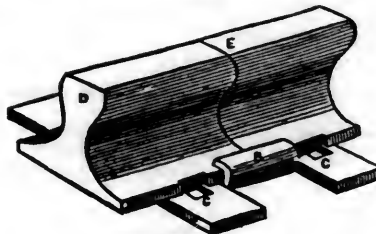
THE "Montour Iron Company" is prepared to execute orders for Rails of the usual patterns and weights, and of any required length not exceeding 30 feet per rail. Apply to

THOS. CHAMBERS, President,
68 Beaver st, N. Y.,

Or to the Agents,
CHOUTEAU, MERLE & SANFORD,
NO. 51 New st., New York.

September, 1850.

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica, Chester Valley, Penn.,
Buffalo and Rochester, Tioga, "
Northern, Norwich and Worcester,
Montreal and New York, Kings Mountain, S. C.,
Kennebec and Portland, Columbia and Granville,
Plattsburg and Montreal, Buffalo, Bayou Brazos and
Chicago and Rock Island, Colorado, Texas,
Milwaukee and Miss., Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

January 1, 1853.

BRIDGEWATER PAINT, FOR WOOD, BRICK AND IRON BUILDINGS, Steam and Canal Boats, RAILROAD CARS, & C.

OR

For all kinds of Work above and under water.

PERFECTLY SPARK AND CINDER PROOF,

On Roofs of Houses, and Decks of Steamers, Railroad and other Bridges.

For sale in Bbls, 300 and 400 lbs., and Kegs, 25, 50 and 100 lbs.

R. BOGERT, General Agent,

Depot: 125 Pearl and 78 Beaver sts, New York.

To Railroad Companies, Car Builders, Machinists, etc.
SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc.

15t7*

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

Payable in

7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Poona and Oquawka.	" 1863
6 per ct.—Maysville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington.	Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862
7 per ct.—Troy and Boston.
7 per ct.—Muscoogee Railroad.
7 per ct.—Huron and Oxford.
10 per ct.—Mansfield and Sandusky R. R. Co.
7 per ct.—Township of Portland, Ohio.
7 per ct.—City of Dayton, Ohio, guaranteed by

Mad River R. R.	" 1861
-------------------------	--------

10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
--	--------------

7 per ct.—Town of Huron, Erie county, Ohio.	Huron, 1861
---	-------------

7 per ct.—Town of Newark, O.	New York, 1860
--------------------------------------	----------------

7 per ct.—City of Sandusky, convertible into
--

Junction R. R. Stock.	" 1866
-------------------------------	--------

7 per ct.—State of California.	" 1862-72
--	-----------

7 per ct.—Mortgage bonds of the Atlantic
--

Steamship Co.	" 1855
-----------------------	--------

12 per ct.—Improvement Scrip of the State of
--

Wisconsin for improvement of

Fox River.	" 1862
--------------------	--------

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.

Stock in the Western Vermont R. R. Co.

Stock in the Mad River R. R. Co.

Stock in the Buffalo, Corning and New York R. R. Co.

Stock in the Mansfield and Sandusky R. R. Co.

Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

The Cold Spring Iron Works INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL,

with which their Axes are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to; and executed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinsman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.

E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder,

Address **HENRY MELLUS, Agent,**
Boston, Mass.

or, **GEO. W. PRESCOTT, Sup't,**
Otis, Mass.

November 12, 1852.

Anthracite and Charcoal Pig Iron.

800 Tons No. 1 Glendon Anthracite Pig Iron.

1000 " No. 2 " " "

1000 " Forge " " "

200 " No. 1 Stockbridge Charcoal " "

100 " No. 2 " " "

500 " Forge Katahdin " "

For sale by

GEORGE W. A. WILLIAMS,
5 Liberty Square, Boston.

December 11, 1852.

FOR SALE.

TWO Sixty Horse Power Beam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia, (where they may now be seen.)

Apply to **A. & P. ROBERTS,**
No. 80½ Walnut Street, Philadelphia.

Notice to Contractors.

Mississippi and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUGH, President.
S. DWIGHT ELTON, Engineer.

Terre Haute, Ind., March 1, 1853.

Engineering.

THE Undersigned is prepared to furnish Specifications, Estimates and Plans, in general or detail, of Steamships, Steamboats, Propellers, High and Low Pressure Engines, Boilers, Mill Work, etc., etc. Particular attention given to the procuring and superintending of Locomotives, Tenders, Cars, and Railway Machinery of every description.

General Agent Ashcroft's Steam Gauge, Allen & Noyes' Metallic Self-adjusting Conical Packing, Dudgeon's Hydraulic Jack, Sewall's Salmometers, etc., etc.

Acts as Agent for the purchase or sale of, and has always on hand, Steamers, Locomotives, Engines, Boilers, Machinery, etc.

CHAS. W. COPELAND,
Consulting Engineer,
64 Broadway, N. Y.

1y17

**Krupp's
BEST CAST STEEL.**

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions, not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines.

Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

—Particularly applicable for—

Engravers' Transfer Rollers and Plates; Die-sinkers', Tool-makers, Reed and Lace Makers' use; Dredging Chains, etc., etc. Manufactured at Essen, in Rhenish Prussia, by FRIED. KRUPP

Agents, **THOMAS PROSSER & SON,**
ap30 28 Platt street, New York

RAILROAD IRON.

THE Cambria Iron Company are now prepared to contract for Rails for future delivery, at their Works, Johnstown, Penn., or upon the Allegheny River at Pittsburgh or Freeport. Office, Johnstown, Penn., and 46 Pine st., New York. May 2, 1853.

Railroad Iron.

3000 TONS superior quality, delivery from April forward, with 5 to 600 tons per month, for sale by
NAYLOR & CO.,
124 99 & 101 John street.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
50 South 3rd Street,
Philadelphia.

May 1st, 1853.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

**Blake & Parkin,
MEADOW STEEL WORKS,
SHEFFIELD,**

INVENTORS OF
CORE-ANNEALED CAST STEEL,
A most Important Improvement in CAST STEEL, originating with B. & P., for SCREW TAPS, PISTON RODS, ENGRAVERS to CALICO PRINTERS, SILVER and GOLD ROLLERS, etc., etc., warranted to harden by ordinary process without breaking, being soft in the centre to any required diameter, and hard to any specified depth from the outside.

HARD CENTRE CAST STEEL,
For DIES, LATHE CENTRES, MINT PURPOSES, etc., etc., warranted to harden the inside without breaking, (the outside remaining soft.)

HARD AND SOFT SURFACE CAST STEEL,
In Bars and Sheets, hard on one or both sides, and soft in the centre; or soft on one or both sides, and hard in the centre, and adapted for a variety of purposes, as MACHINE KNIVES, SLIDE BARS, FLOW KNIVES, PLANING KNIVES, ROLLER BARS for Beating Engines for Paper Makers, etc.

† This peculiar Steel is quite SOLID, and it is quite malleable, and draws down under the Hammer, still retaining the difference of hardness. When hardened, the hard part is left very hard, while the soft is left just harder than common iron.

THE REPORT OF THE JURY OF THE
"EXHIBITION OF ALL NATIONS."
Class 21, Page 486:

"The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE & PARKIN, of SHEFFIELD, consisting of the union of Two qualities of Cast Steel, hard and soft, in the same article; manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors."

A PRIZE MEDAL WAS

AWARDED TO

MESSRS. BLAKE & PARKIN.

N. B.—The Inventors mark all their Goods with their CORPORATE MARK—X. L. ENT.

Also, Cast Steel, German and Spring Steel, warranted Cast Steel Files, Saws, etc.

GEO. SANDERSON,
248 Pearl st., N. Y.

February 9, 1853.

New Works on Civil Engineering.

THE Field Practice of laying out Circular Curves for Railroads.—By JOHN C. TRAUTWINE, Civil Engineer—2nd edition in pocket-book form.

A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates.

Price One Dollar each—postage on the Curves Three Cents—on the Excavations and Embankments, Six Cents.

For sale by

WILLIAM HAMILTON,
Hall of the Franklin Institute,
Philadelphia.

May 4, 1853.

Railroad Iron.

5000 TONS Best Staffordshire Rails for sale on early delivery in Liverpool
by 124f NAYLOR & CO.,
99 John street.

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer. Address "H. W." this office. 3*12

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS and DEALERS IN
IRON AND STEEL,

HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE and CAR BUILDERS, AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,
Feb. 16, 1853. 90 Beekman st., N. Y.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

\$300,000 PERU and INDIANAPOLIS RAILROAD FIRST MORTGAGE CONVERTIBLE SEVEN PER CENT BONDS.

We offer for sale, at reasonable rates, \$300,000 of the 7 per cent 1st Mortgage Convertible Bonds of the Peru and Indianapolis Railroad Company, Forty miles of this road, lying between Indianapolis and Tipton, is now completed and in operation. The Madison Road operates the same. The residue of the line to Peru, 32 miles, will be completed and in operation by the 1st of November next.

The entire Road will cost, when completed and equipped, about \$1,200,000.

The available stock subscription is \$29,000. The mortgage debt is but \$600,000 in all, the above being a part thereof. The Road owes no other debt.

This Road is advantageously located, connecting at Indianapolis with the Madison road (of which it is a direct extension northwardly) and the other roads there centering.

At Peru it connects or intersects with the Wabash and Erie Canal, and it will shortly be extended to the Fort Wayne and Chicago Road at Warsaw.

It traverses a region of great fertility and productiveness, having no other outlet to a market. Its local business alone, will, it is thought, yield a handsome support.

Pamphlet exhibits, with maps of the work, and any other more detailed information desired, will be furnished on application to the subscribers.—New York, April 7, 1853.

WINSLOW, LANIER & Co., No. 52 Wall-st.

To Contractors.

PROPOSALS will be received at the Engineers' Office of the Cleveland and Mahoning Railroad Company, in Warren, Trumbull County, Ohio, until Tuesday, May 17th, 1853, for the Grading and Masonry of about Fifteen Miles of said Road, from Warren to Youngstown. The line runs along side or within sight of the State road, and the Pennsylvania and Ohio Canal, the whole distance.

Plans and Specifications are now ready for inspection at the office in Warren.

Estimates will be made monthly, and payments in cash.

By order of the Board of Directors.
EDWARD WARNER, Chief Engineer.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

BUFFALO EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. Y. City R. R., without change of baggage or cars.

CHICAGO EXPRESS, at 6 a. m. for Dunkirk.

DAY EXPRESS, at 7 a. m. for Dunkirk.

MAIL, at 9 a. m. for Dunkirk, and all intermediate stations.

WAT, at 3.30 p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7.45 p. m. for Dunkirk and all intermediate stations.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, and thence direct to Cincinnati; also, Sandusky, Toledo, Monroe, Chicago and St. Louis; also, with first class splendid steamers for Cleveland, Toledo and Detroit.

CHAS. MINOT, Sup't.

Superior Cast Iron Gas and Water Pipes.

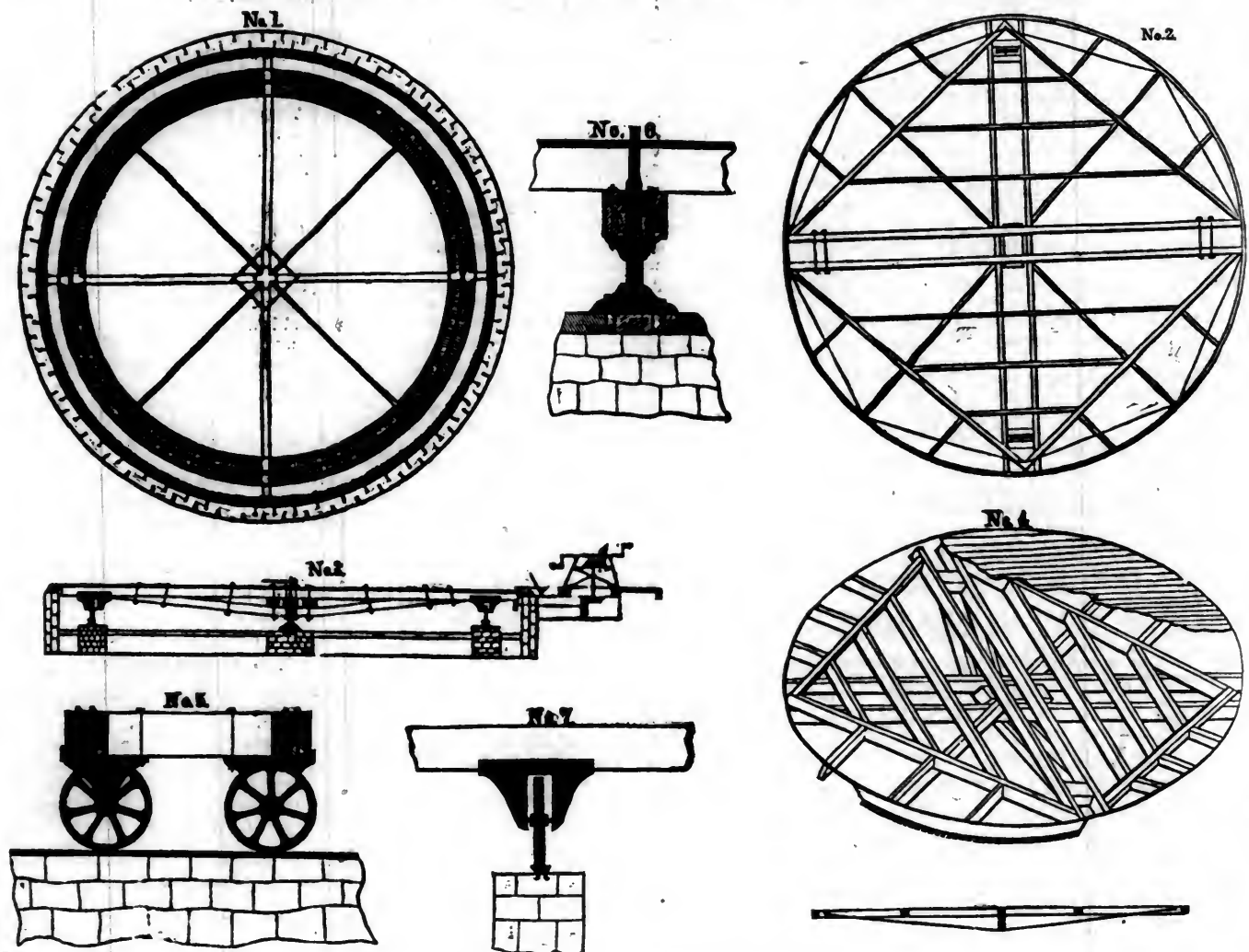
THE Subscriber is prepared to contract for the supply of CAST IRON PIPES required by Gas or Water Companies, Corporations, etc., delivered in any Seaport in the Union, on reasonable terms. These Pipes are cast on the most approved principle by the best Founders in Scotland, from a superior quality of Pig Iron remelted, are guaranteed to resist a pressure of 300 lbs. to the square inch, or greater if necessary, and to be soft enough to drill easily and freely. Full information regarding price, and references to parties in the United States now using the Pipes, can be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Renfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st., New York.

1y50

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in 25 SECONDS.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES.

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent - WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. ly*

E. DaWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use. JAS. PRENTICE, 315 Broadway, N. Y. Feb 9 1853.

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ESTABLISHED A. D. 1743.

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KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 21.]

SATURDAY, MAY 21, 1853.

[WHOLE No. 892, VOL. XXVI.]

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American Railroad Journal.

Saturday, May 21, 1853.

Covington and Lexington Railroad.

We give in our present number the recent exhibit published by this Company, to which we invite attention.

As far as Cincinnati, the great city of the Ohio, is concerned, the road holds the key to the trade, not only of Kentucky, but of a very considerable portion of the States lying to the South. It will also form the principal link between the most important point on the Ohio River and the Gulf of Mexico, and the South Atlantic coast, by a line coinciding with the *convenient* route of travel, between those widely separated portions of the Union.

Lexington, its southern terminus, is surrounded by what is termed the garden of Kentucky, which is probably exceeded by no portion of the west, either in the quality or careful cultivation of its soil, nor in the extent of production. The State had 1,000,000 inhabitants in 1850, and is rapidly gaining in population. It has an equal area with Ohio, and with an equal amount expended in works of improvement, there is no reason why it should not number an equal population. Lexington is destined to be the focus of numerous lines of railroads, radiating toward every part of the State. At this point must concentrate a very large amount of business, which, as far as the Cincinnati market is concerned, must be thrown upon

the Covington and Lexington road. There can be no doubt that this road, as soon as it is opened, must command an amount of business from local traffic alone equal to the capacity of a first-class work. It has a very considerable portion of the best part of this great State, from which to draw its business.

The lines of road now in progress and completion, will add vastly to this area. Already the work of construction on the Lexington and Danville has commenced, with ample means to secure its early completion. From this point surveys are now going on for lines of roads in the direction of Knoxville and Nashville Tennessee, and Huntsville Alabama, which last is to be extended first to Selma on the Alabama River, and eventually to Mobile. The first of these projects will realize the scheme for a railroad from Cincinnati to Charleston, S. C., which excited so much interest, and upon which a large sum of money was expended on surveys some fifteen years since. Only a short link is now to be provided for to complete this grand chain of railroad, 900 miles.

Measures are also in progress for the construction of a railroad from Danville to Nashville.—From the latter city railroads are in progress with ample means provided for their construction, to New Orleans and Mobile. For the third Southern extension through Central Tennessee, means are, so far provided as to warrant the belief that its construction will be immediately commenced.—Of the early construction of the three lines radiating from Danville, there can be no doubt. Independent of the local feeling in their favor, is the necessity everywhere felt for their construction. They will be sure to enlist foreign aid in their favor as soon as they can be reached by works now in progress.

What adds additional value to the connections to be formed by the above road is the fact, that all the connecting lines will have an uniform grade of five feet, which (with one or two exceptions) is the grade of all the roads south of the Ohio river and throughout the Southern States.

The Covington and Lexington railroad, from the position it occupies, will become the carrier for its entire length not only for the trade of the interior of the State, but for the business developed and secured to it by the other roads.

The cost of the road will exceed somewhat the average of roads in Ohio and Indiana. This is owing to the character of the country traversed.—It is well known that the South bank of the Ohio is skirted by a range of high and lofty hills, through which it is extremely difficult to find a favorable route for a railroad, except by following the valleys of the streams, which have cut their way through the opposing barriers. The increased cost in the above case is counterbalanced by the advantage which the monopoly of route, when obtained, enjoys. Nearly every road constructed in Ohio and Indiana is exposed to a rival. The even surface of the country invites the construction of these works in every direction. It is not practicable to construct a road between Covington and Lexington except upon the route already occupied by the above company.

The people immediately interested in this work have contributed liberally towards its construction. They have already provided one-half of the cost of the road, a great portion of which has been *paid up and expended* in construction. The liberality of the subscriptions shows at once the manner in which the project is appreciated where best known, and offers a good guarantee that the construction and management of this work will be properly looked after.

We see no reason to doubt the entire safety of the security offered by the Company. With the convertible clause attached to the bonds, we know of no security more attractive. Its stock is now selling at Cincinnati at a very respectable figure.—There is but a little upon the market, and we have no doubt it will command its par value so soon as the road is open for business.

Virginia Central Railroad.

Mr. Chas. Ellet, Jr., the recently appointed Chief Engineer of the Virginia Central railroad, has been on a reconnoitering tour in company with the President, along the entire length of the line. Mr. Ellet is of opinion that the whole of the company's work can be completed during the next year, with the exception, perhaps of a heavy piece of bridging on the last twenty miles, which may be supplied with a temporary structure until the main bridge is finished.

Remunerating forecast on the Hudson River Railroad.

It was obvious, from the beginning, that the managers of this road had the task of gaining the confidence of the public as to the safety of running along the brink of the river, and doing so at the highest speed in this or any other country.—They have done their task effectually. The mode of doing it was costly and bold, especially on a road which had no prospect of dividends for several years after its opening; but it was a clear forecast, and will prove in the end a wise economy.—Public favor has turned unmistakably upon this road. We gladly give place to a full and most gratifying account of the preventive and protective system of guards by which the managers of this road have avoided the destruction of the life of any one passenger, and have triumphed in a most doubtful conflict with steamboat competition. We would encourage them to get rid of every draw bridge except the one at Spuyten Duyvil, and to employ no man henceforth who ever tastes intoxicating drink.—

FLAGMEN AND SIGNALMEN.

At all road crossings, brickyard crossings, and other crossings on the level of the track, adjoining draw bridges, in steep rock and earth cuts, and at all places where there is not a clear view of the track and where it is liable to be obstructed, flagmen and signalmen must be stationed.

The flagmen and signalmen must have a copy of the time table, and know the time of passing of all the trains.

They must be provided with a crow-bar, shovel, sledge, spiking maul, spikes, red and white lanterns, and with a flag-staff eight feet long, and have a white flag three feet square at one end and a red flag of the same size at the other end.

Flag men and signal men must be at their posts at least fifteen minutes before the passing of each regular train, and whenever a train is due or expected, unless otherwise directed by the general superintendent.

When a train is due, if the track is clear, the flag men must show a white flag, and hold it where it can be easily seen until the train is passed, and is never to stand it up and leave it.

If any obstructions are on the track, or any train engine, or car running too close to, or approaching another train on the same track, or from any cause the safety of this train is endangered, the red flag must be distinctly shown, and great pains taken to warn the train in time.

Whenever the signal is shown at the drawbridge that it is open, the adjoining flagmen will repeat the signal by showing a red flag or red light, and will continue to do so until they see the drawbridge closed and the white signal shown, which they can then repeat.

At intervals between the trains, the flagmen must examine the track under their charge, and see that it is clear, and must, in no case, show the white signal, unless they know that all is right, and they must do such work on their track, in the way of keeping the wedges and chairs right, and the spikes well driven as the road-master may direct.

At night a white or red light must be used instead of flags.

Any flagman or signalman absent from his post during business hours, without the consent of the superintendent, will be forthwith discharged.

DRAWBRIDGES.

Each drawbridge must have at least two tenders, who must be constantly at their post, and use great care and watchfulness in their signals. They must have a copy of the time table, and know the time of passing of all the trains, and always have their signals in order.

They must be provided with sign boards, with large and plain black letters on a white ground of 80 rods to drawbridge, also with red and white

signal boards at least six feet square, strong padlocks, red and white flags, red and white lights and torpedoes.

The signs must be securely placed at least 80 rods from the draw, in such a way as to be easily seen and read by the engineer on the right of the train approaching the draw.

The red and white signal board must be placed in such a position that the engineer when approaching, can see it plainly at least half a mile off, and uninterruptedly, until reaching the draw. One of the signal boards must be on the draw-bridge.

If the draw is closed and locked, and all is right, the Bridge Tender will show the white signal.

When the draw is unlocked or open, or anything wrong, they must show the red signal.

They must never unlock or open the draw until the signal boards are opened to show the red signal, and they see and know that the flagmen and station men have their red signals displayed.

After the draw is closed and locked, and all is right, then the signal boards may be shut to show the white signal.

At night red and white lights are to be used in a similar manner.

In foggy weather, at dusk, or whenever flags or lights cannot be distinctly seen, the draw must not be opened until a man is sent to the fog station, each way with torpedoes and a red signal to warn approaching trains.

The draw must not be opened at any time when a train is due or expected, but the vessel must wait until the train has passed, but if the train is twenty minutes behind its regular time, and the master of the vessel is unwilling to wait longer, then the draw may be opened, but not until the red signal and torpedo are sent at least a mile to warn the approaching train.

SWITCHMEN.

Every switch not in regular use must be firmly spiked down.

At every switch on the line of the road, on main tracks, or in stations, not spiked, a man must be stationed to stand on the passage of every passenger train.

Every switchman or tender, must have a copy of the time table, and must know the time of all the trains and understand the running arrangements of the road.

He must also be provided with strong oak wedges, good and strong padlocks, spiking maul, red and white flags, and red and white lanterns.

Every switch tender will be required to be at his post at the time of passing of all the regular trains and when any train is due or expected, and at such other times as may be required.

If any switch is out of order, or any obstruction on the track endangering the approaching train, the switchman must send the red flag a mile to warn the train.

The switches are to be exclusively under the control of the switchman, and he shall not suffer any one to interfere or meddle with them in any manner; and all the switches shall be provided with good locks and oak wedges, and when left at night or other times, the switch shall be locked by the switchman, and the oak wedges securely driven in and kept in their places on the passage of every train, and at all times, except when necessary for shifting the switch.

The wedges and locks and bolts of no switch must be moved, or the switch opened when any train is due or expected, and no gravel, freight, or subordinate train must be let out of the pit, branch or side track, until the train due and having the right of track has passed.

He is responsible for the switch being in the right position for the trains, and any neglect of duty or violation of orders will cause his immediate discharge.

He must see that the branches are kept clear at the stations where trains are liable to meet, and that no cars or other obstructions are permitted on the tracks to be used by the meeting or passing trains.

Any switchman absent from his post during business hours, without the consent of the superintendent, will be forthwith discharged.

Exhibit of the Covington and Lexington Railroad Company.

The first act of incorporation of this company was granted by the Kentucky legislature in 1847, but was so unacceptable that no organization was effected under it. In 1849 an amendment was obtained repealing the obnoxious provisions, and granting powers which made the charter one of a very liberal character. The capital was \$1,000,000, with the privilege of increasing to an amount sufficient to complete the road.

The charter authorized the construction of a railway, with single or double track, from Covington to Lexington, and to any town or place in any of the counties through which the road might pass, or in any adjoining county, and to charge on all goods, merchandise and other property transported thereon, a sum not exceeding 1½ cents per mile for toll, 5 cents per ton per mile for transportation, and 3 cents per mile for each passenger—to acquire and hold real estate, make all necessary contracts, to borrow money on the credit of the corporation; and in declaring dividends no prohibition is imposed except such as is prescribed by the above rates. The charter is perpetual.

The company organized under the charter as amended, and proceeded to have the line surveyed and located, and in the latter part of 1850, let 18 miles of the road. In 1851, let the contracts for preparing the road for superstructure to Paris and Lexington.

ROUTE OF THE ROAD.

Commencing at Covington on the Ohio river, at the mouth of Licking river, opposite the central part of Cincinnati, the road pursues the valley of Main Licking to Falmouth, 38 miles—thence up the South Fork of Licking 26 miles, to Cynthiana, and continuing up the same to Stoner Creek, a tributary, and up that thirteen miles to Paris; thence up Huston Creek, another tributary, to the dividing ridge between the waters of Licking and Kentucky, crossing the ridge, and down the waters of Elkhorn to Lexington, 19 miles—in all 96 miles.

The topography of the country on either side of Licking for many miles, is of such character as to unerringly point to the valley of that river as the only practicable route for a railway from the Queen of the West to the interior rich lands of Kentucky.

The road occupies this valley, and while the hills constrain the track to conform to the meanders of the river in a considerable degree, they constitute an insurmountable barrier to all competition. No short nor other line can be laid in the same valley or vicinity so as to connect the same points. The line is so laid as to make the curves easy, which for the most part exceed 2000 feet radius. At a considerable cost the grade has been reduced so that the maximum ascent is only twenty feet to the mile at any point between Covington and Paris—and only thirty feet between Paris and Lexington, which will not only ensure good speed, but enable the company to transport heavy trains at little cost.

The cost of the road will exceed the first estimates, arising from a determination of the direction to make it a superior first class road of the most durable character, and from the great increase in price of labor.

Fortunately, the company had purchased the iron rails and chairs, and a portion of the spikes before the late advance of iron, thus saving a very considerable sum in the cost of the road of at least 26¢ per ton on the present prices or \$260,000 in gross.

The whole cost for the entire work, put into complete order, with all necessary depots, buildings, turnouts, turning tables, cattle guards, fences, wood sheds, water stations, etc., and a full complement of machinery and cars will be \$3,156,228 89—about \$32,877 per mile.

The country on the southern side of the Ohio

river is bordered by ranges of hills reaching some miles into the interior, the bowels of which are filled with limestone and the surface covered with valuable timber for the city market—most especially ship timber. And though these hills are not of that rugged character which prevent their sides from being easily tilled, yet they present serious obstacles to railway builders.

There can be no route selected on the Ohio river to central Kentucky without encountering them. When the character of the country through which this road is required to pass to reach the table lands of the interior, is taken into consideration, as also the easy grade adopted, the above cost cannot be considered a high figure.

The grading, masonry, bridging and tunnelling only amounts to 16,476 per mile—about one-half of the whole cost of the road and equipments. The superior finish of the road with the ample equipments and extensive depots preparatory for the business awaiting its completion, makes the cost as above shown.

Of the work yet to be done, the contractors take from 20 to 25 per cent in the stock of the company.

MEANS OF THE COMPANY.

Individual stock.....	\$850,150	
Less for unavailable subscriptions and losses.....	40,000	
		\$810,150 00
Stock of counties and cities.....		620,000 00
Cincinnati loan.....		100,000 00
Subscription which Kenton, Pendleton and Harrison counties are authorised to make, and every confidence is reposed in their voting the subscription, each.....	100,000	300,000 00
Bonds of the company issued for the purchase of iron.....		400,000 00
Bonds issued to borrow money.....		200,000 00
Bonds to be issued to borrow money.....		500,000 00
		2,930,150 00
Leaving to be made up....		226,078 89
		\$3,156,228 89

This amount will have to be made up by temporary loans, unless the earnings of the road be found sufficient to finish up the work after it is brought into use. Only 400,000 of these bonds are embraced in a mortgage upon the whole road—100,000 to Cincinnati, covering a part, will soon be removed.

The road will be put into use before expending the above named sum by some \$350,000 to \$400,000.

Should, however, these counties fail to subscribe—of which there is no reasonable grounds of fear—then that amount will have to be raised by other means. The company contemplate an application to the legislature, to be made at the ensuing session for authority to increase the amount that may be borrowed by the company, and to provide for all contingencies, as well as firmly to secure all their issues.

The character and interests of the stockholders in this company, should be abundantly satisfactory reference for any capitalist to be assured that the enterprise cannot fail. Near half a million of the stock is held by, and in the counties of Bourbon and Fayette, whose territories contain untold wealth, and are blessed with a population who are so jealous of their plighted faith, that no crisis could ever induce to falter. The same characteristic distinguishes the population of the other counties engaged in the enterprise.

The taxable property, as valued for taxation (which is not over two thirds of its real value,) of the counties through which this road passes, is over \$50,000,000; and of the counties contiguous, and whose local position and dependence make them tributary to it, exceeds \$100,000,000.

Covington is a stockholder to the amount of \$300,000. This city is most advantageously situated in the delta of Licking, on the banks of the Ohio, upon a plain of sufficient elevation for security, health and beauty, and of competent area for a city of the population of London. At this time she possesses as much or more of the elements of a healthy prosperity as any town or city in the west.

Her population is characterised for industry and enterprise, and her favorable location for manufacturing is inducing capitalists to select this site, and there are several iron, glass, and other manufacturing establishments now being erected and prepared for operation, in addition to those in successful use. She has three turnpike roads leading to different parts of the state, Licking and the Ohio rivers, to which she is now adding a railroad for transportation and trade.

Some idea of the rapid growth of Covington may be learned from the following statistics, taken from the city record:

	Value of real estate.		Revenue.	Population.
1845.....	\$1,065,245	1845.....	\$5,500 00	3,567
1846.....	1,420,962	1846.....	6,042 00	4,030
1849.....	2,759,837	1849.....	47,685 00	7,014
1852.....	4,934,455	1852.....	85,073 95	....
1853, January.....	5,359,650	1853, January.....	....	12,154

CONNECTIONS, BUSINESS OF THE ROAD, ETC.

This road is a trunk line, and main connection of the Northern, Eastern, and Western roads concentrating at Cincinnati, with the roads in the south and west. By reference to the accompanying map, gotten up under the supervision of the able editor of the Railroad Journal, H. V. Poor, Esq., and upon which the lines of this road have been accurately laid down, with its connections, its relative importance may at once be seen. It is happy in the undisturbed possession of the Licking Valley, and feels securely enclosed from all intrusion, for nature in arranging the "hills round about her," seemed to say "no harm (from other roads) shall come nigh thee!" Passing through this valley the road emerges into one of the fairest and most productive regions on the continent. The superabundance yielded by the unsurpassed, if not unequalled rich land of the counties of Harrison, Bourbon, Scott, Fayette, Clarke, Montgomery, Jessamine, Boyle and Mercer, will find a market over this road, whether destined for Cincinnati, Covington and Newport, the cities of the Great Basin, now constituting the first produce market direct from the farms, in the world, or down the Ohio and Mississippi rivers, or by railway to the eastern cities.

By the extension of the road to Danville and the Tennessee line through the agency of the Danville and Lexington company, the fertile region farther south is likewise offered through the same channel, the enjoyment of the same markets.

The road to Danville from Lexington, 33 miles, is under contract, and the work is progressing to a speedy completion.

The whole of the stock is secured. Thence to the Tennessee line 84 miles, the line is now being surveyed for location and letting.

Over a half million of stock has been taken, and the subscriptions are steadily increasing, with every prospect of an early realization of a sum sufficient to make up one million, which will ensure a prompt completion of the road. At the Tennessee line the extension of the road to a connection with the Chattanooga road, and Alabama and Tennessee river road, via Sparta and McMinnville and Winchester is under the charge of a company of that State with sufficient means obtained, fostered by the liberal policy of Tennessee toward railroad enterprises within her borders, to accomplish the work within the shortest practical period. The State of Tennessee, it will be remembered, pro-

vides by loan \$8,000 per mile toward the construction of railways in the State.

Thus, our road is put into direct connection with all the important Southern roads. A very important feature of this connection is, that the same gauge is adopted as those roads, hence an uninterrupted transit will be offered to travellers and shippers, an object so much desired yet so seldom attained. The travel or business destined for the South or South-west have here presented lines of railway over this track terminating at Memphis and Vicksburg on the Mississippi—New Orleans and Mobile on the Gulf of Mexico; and Savannah, Charleston, Wilmington, and other points on the Atlantic. Also another important connection is formed with the line through East Tennessee into Virginia.

This road and its connections embrace a country extending through seven degrees of latitude. and of unusual fertility for all the products adapted to the varieties of the climate.

It begins in a grain, grass and tobacco growing region, and passes through the hemp and cotton lands, and terminates in the sugar and rice lands of the South. A district of country of so varied products, presents portions so mutually dependent upon each other, as to require the use of a road of this character for the convenient and profitable interchange of commodities, and will insure it business to its fullest capacity.

The down freight will be manufactures, bread-stuff, provision, bagging, bale-rope and tobacco, while the trains will return laden with cotton, sugar, rice and groceries. In this no reference is had to the way freight, which necessarily must be a great business of the road.

The superior advantages of railway transportation over every other, will always insure the road all the carrying trade between the points of termini and of all the country along the line accessible to it. Moreover, the road will not only become the common carrier for all the regions of country of its location and of its respective termini, but it will create business. Facilities for a cheap and speedy transportation, operates as most powerful incitements to industry to produce and acquire, and invite exchange of productions.

Some conception may be had of the business of the road, when it is remembered that the beef market of Cincinnati is mostly supplied from Kentucky, besides thousands of heads of cattle are sent through Covington and Cincinnati to the South and East. Great numbers of hogs and sheep are likewise sent to the same markets, which, with all the surplus of the country along and contiguous to the line, must find a transit to market over it.

The tedious and expensive process of driving the stock and the shrinkage in weight and injury in quality of the flesh will at once be avoided, and these losses saved to the shipper. The condition of the stock will be as good as when it left the farms, which not only affords a healthier diet than when driven, but presents one of great luxury.

Kentucky is already exhibiting her fine beef in the New York market. When these avenues of trade are completed she will not only furnish the tables of the city of New York, but those of other Eastern cities, with the choicest beef known in any country. Nor will the undertaking to feed the millions East interrupt the supply to her present customers. Her resources for cattle-grazing and feeding are just opening. Let her have facilities for speedy transportation to market at reasonable cost, in a manner that the stock may be presented in market in as good condition as it leaves the farm, and the new thousands and tens of thousands of idle acres will be required to pour forth their rich abundance; and while she only now sends 1 head, she will be enabled to send 10. The superior quality and consequent value of beef fresh from the farm to that which has been hacked along the road for a month, besides the cheaper transport and saving of time, will always induce railway shipments. The Kentucky farmer may leave home by railway with his drove of beef cattle for New York, attend the market with them and return home, with the cash in his pocket, all within ten

days. This line proposes to form the link, and the only link of connection over which this wonderful achievement can be performed, and to complete it within 12 months.

From sources entitled to full credit, the business of the road at its opening is computed to be certainly sufficient to remunerate the stockholder at a most liberal rate.

The following estimate is undoubtedly of low figure, which we adopt in preference to others furnished, so as to be certainly not subject to any charge of exaggeration.

The number of passengers who will be transported over this line immediately after its completion, are estimated by some who are very competent to do so, at from 100 to 150 per day each way, including way travel; we will, however, set the number down at 75 each way, at \$3

each	\$164,250
60,000 hogs, at 60 cents	36,000
22,000 head cattle, at \$2.50	38,250
Miscellaneous down freight 30,000 tons, at \$3 per ton	90,000
Up freight 50,000 tons at \$4 per ton	200,000
Mail	10,000

The business of one year	\$538,500
Deduct 40 per cent for running expenses	\$215,400

Profit to be divided. \$323,100

Which is exceeding ten per cent. upon the cost.

There are vast quantities of hemp and tobacco, besides other products raised in the interior of Kentucky, which will find a market over this road, which is not at present sent to Covington and Cincinnati, though the trade of all central Kentucky naturally tends to this market, and only awaits the opening of a channel for transportation. Then all the goods and manufactures, groceries, salt, iron, and for a time at least, all the stone-coal, used along and contiguous to the line, will necessarily be freighted upon this road.

The article of stone-coal itself will constitute a large amount of freight upon this road. All that champaign country of Kentucky, in the centre of which Paris and Lexington are situated, is almost destitute of fire wood, or at least it has become scarce and valuable, and coal must be used for fuel. The prices of this article in the towns along this line, and at Lexington, vary from 25 to 40 cents per bushel. It has to be hauled from the Ohio or Kentucky rivers, except some small quantity may be brought from Frankfort to Lexington by railway.

The facilities of obtaining coal at Covington from the boats which bring it direct from the banks, and the easy grade of this road will enable this article to be afforded along this line at a price not to exceed 12 to 15 cents per bushel. Many thousands of dollars will be thus annually saved to the counties of Harrison, Bourbon and Fayette, and to others contiguous to the line or extension. Lime, stone and timber, for building, and wood in large quantities will be freighted down. These articles, the produce, goods and other way freight, from and for the immediate country north of Lexington, it is believed will afford sufficient business for the road to make fair dividends. But when the extension and connections are made, the business for the freight trains will be quadrupled, and the passenger trains incalculably augmented.

By this route the distance from Covington and Cincinnati to the following places, will be as follows:

To.	Miles.
Lexington	96
Danville	131
McMinnville	285
Knoxville	261
Nashville	296
Savannah	812
Charleston	828
Mobile	871

By means of the Covington and Louisville road,

(the company for the construction of which is now organized, has a large amount of stock taken, and is zealously urging forward the enterprise with every prospect of success to an early completion), the distance from Covington to Louisville will be about 100 miles. To Nashville 280 miles.

By the Cinn. and St. Louis road—to St. Louis 335 miles.

By railroad to the following places, distance will be—

To	Miles.
Indianapolis	110
Columbus	120
Cleveland	245
Baltimore, via Parkersburgh	564
Philadelphia	662
New York	750

The distance to Philadelphia and New York, via Wheeling, are about the same.

With this number of railroads converging at Cincinnati and Covington, this heretofore prosperous and prominent point of commerce and manufactures is magnified into one of the first importance. This point is conceded to be the great centre of trade in the west, and with the aid of these roads completed and in progress, it is ever inevitably destined to continue to be.

Already routes East and North are completed, and in prosperous use—reaching to the Lakes and Eastern Atlantic, and routes westward in rapid progress of construction, but no connection with or avenue of trade is yet opened to the Southern Atlantic. This road now offers this most desirable consummation. This company holds the key, as it were, to the Kentucky, Tennessee and Southern trade with the great Western mart, and through it to the Eastern markets.

No other route will likely be soon selected and occupied by a road to the North, and, indeed, none can come in successful competition.

These considerations of simple facts we respectfully submit, indubitably exhibit this company's security as being of the most certain solvent character, and that the stock must yield a handsome return to the holder.

December, 1852.

M. M. BENTON,
President.

Georgia Railroad.

REPORT OF THE DIRECTORS TO THE STOCKHOLDERS:

The business operations of the Company for the past year and its financial condition, will appear by the accompanying report of the Superintendent, and the statement of the Cashier hereunto annexed.

It appears from these documents that the gross and net income of the Company, for the year ending the 31st March, were as follows:

Gross earnings of the road	\$934,124 08
Expense of management, and all expenditures for and on account of road ..	477,655 23

Net profits of the road	\$456,468 85
Gross earnings of the bank	\$95,887 34
Charged with interest on Bond taxes and expenses	81,923 00

Net profits from B'nk. 13,964 34—13,964 34

Net profits of the company from all sources	\$470,433 19
From these profits two dividends have been declared, one of \$3.50 and the other of \$4.00 per share—amounting to	300,000 60

Leaving applicable to other purposes	\$170,433 19
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It has been the policy of the Company for a number of years past to declare dividends at the rate of seven per cent per annum, on its capital of \$4,000,000, and appropriate the remaining surplus profits to the permanent improvement of the road and outfit, and the payment of the funded debt—incurred principally for subscriptions to other

roads. As but a small amount of the funded debt matures before January next, and the profits of the Company seem to justify an increase of dividend to \$4 per share. Whether this rate of dividend should be continued, will depend, of course, upon the future resources of the Company. The funded debt should be punctually met, and the road and its appurtenances should be placed and maintained upon the footing of a first class road.

As the cost of the road and outfit exceeds the capital stock, the Board in its last annual report recommended that the construction account should be closed, with the exception of the cost of substituting embankment for the bridges beyond Madison, which bridges were adopted as a temporary expedient, to expedite the original construction.—It will be seen that this policy has been pursued, and even the cost of the embankments has been charged to expenses. Whilst this course adds value to the fixed property of the company by an appropriation of a part of its profits, it is more intelligible to the stockholders as exhibiting the amount of profits available for dividends. Expenditures, properly chargeable to road and outfit, and losses from unusual causes—say fire and freshet, and for new iron, amounting to the sum of \$77-346.46. The new iron and these casual losses though unusual, and partly providentially, may well be placed to expenses. The items, however, for "filling temporary bridges," and for addition to stock of cars and engines, beyond what was necessary to replace and repair old ones, would have been a legitimate charge to "road and outfit," and would reduce expenses to that amount. These charges, as seen by the Superintendent's report amount to \$44,905.27. The condensed account would then stand thus—

Gross earnings of the road for the year	\$934,124 08
" " of the Bank	95,887 34

Earnings from all sources	\$1,030,011 42
Charged with interest on bonds, taxes, and ordinary expense of management	514,672 96

Net profits deducting ordinary expenses	\$515,338 46
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The Board presented the statement in this form, only for the purpose of exhibiting to the stockholders a comparative view of net profits in the ordinary mode of keeping the accounts. It will be seen by this exhibit, that the net profits have increased over those of the preceding year, the sum of \$84,350.53

Though the expenses in proportion to business done have, in many important items, been reduced, the great and unexpected increase in the price of iron, and other metals and materials usually consumed by railroads, have increased other items much beyond calculations made at the beginning of the year. When, however, the large amount of damage from fire and high water, and a few other unusual charges are taken into account, the ordinary expenses will be found to compare very favorably with those of other roads.

How the profits of future years may compare with the past, the Board will venture no decided opinion. Our stock is not a "fancy stock," and the Board have heretofore been careful to hold out no extravagant promises to the stockholders, that probable results would not fully realize. In discussing the future prospects of the Company, opposing considerations will evidently have their influence. On the one hand, it will be admitted that the crop of the last year has been a large one, and the whole country has been in a very high state of prosperity. It may be admitted to that other roads are progressing, that may injuriously affect our income. But on the other hand, others are near completion that will add largely to our receipts. Of the latter class may be ranked the Nashville and Chattanooga, and the Atlantic and LaGrange railroads, both of which will be completed about the close of the present year. Without enlarging upon the subject, the Board will further state that, since our last meeting, an amicable arrangement has been made by the South Carolina

railroad for the location of a depot in the city of Augusta, at a distance of about 600 feet from that of our road. From this arrangement, the Board anticipate very favorable results to our business. It is true that there is no connection of tracks, but the drayage is very short and the advantage to Augusta of removing all obstructions to a free choice between two of the best seaports of the South, must add additional attractions to this city, as an interior market, and afford additional inducements to a concentration of produce at this point. To the expense of this desirable arrangement the Board readily contributed the sum of \$30,000, and the Stockholders may be pleased to learn that this sum was paid in cash, and has been charged to profit and loss, and, therefore, no longer exists as a charge upon the Company or its income.

It will be seen by the report of the Superintendent that heavy extra expenditures will be required for the ensuing year. Eight new engines have been ordered, which will cost about \$64,000. Passenger depots at Atlanta and Augusta have also been contracted for, which will cost this company (other companies contributing to the Atlanta depot) about \$20,000; and passenger houses and new depots should be constructed at several points on the line. About \$50,000 will also be required for new iron beyond Madison.

Only a part of the engines will be required to keep up the present stock, but the whole will be necessary on the completion of the Atlanta and LaGrange and the Nashville and Chattanooga roads. The depots have been for some time needed, but have been postponed to more pressing demands upon our means. The outlay for iron has become absolutely necessary. Railroad iron of modern manufacture is generally an inferior article, and that beyond Madison, though still entirely safe, is beginning to give way, and will require renewal at the rate of at least ten miles per year. Though these extra demands upon the company are considerable, the Directors feel assured that they may be easily met from the surplus profits, without interfering with the regular accustomed dividends.

The Washington Branch will probably be completed by the 1st of August next. The Board have not estimated this as a very profitable investment, but it satisfies an early claim of the old and wealthy county of Wilkes, and will evidently increase considerably the business on the main track below its junction, and in this way, it is hoped, may fully compensate for any deficiency of profit on the business of the branch itself.

Respectfully submitted,

May, 1853. JOHN P. KING, President.

Journal of Railroad Law.

LIABILITY OF A RAILROAD CO. FOR INJURIES OF STOCKHOLDERS AND GRATUITOUS TRAVELLERS.

An important decision in regard to this matter has been rendered by the Supreme Court of the United States, in the case of *Elias H. Derby vs. the Philadelphia and Reading Railroad Company*, in affirmance of a previous decision of the Circuit Court in the same case.

Derby was a stockholder in the said company, and was travelling on their road by invitation of the president, not in the usual passenger cars, but in a small locomotive car used for the convenience of the officers of the company, and paying no fare for his transportation. A collision occurred with another engine belonging to the same company, which was by gross negligence, and contrary to express orders given to the driver, moving on the same track, in the opposite direction, and by this accident Derby was materially injured. The court held that he was entitled to recover.

The reasons upon which the decision of Judge Grier in this case were founded, seem to fully warrant his conclusions.

The counsel for the company urged, that inasmuch as no contract had existed between the parties, the defendants could not be made liable for an injury wholly undesigned on their part. But the court insisted that the company was liable in accordance with the maxim that "the superior must respond."

The master is liable for the acts of his servants irrespectively of any contract express or implied, or any other relation between the injured party and the master. If one be lawfully on the street or highway, and another's servant carelessly drives a stage or carriage against him, and injures his property or person, it is no answer to an action against the master for such injury, either that the plaintiff was riding for pleasure, or that he was a stockholder in the road, or that he had not paid his toll, or that he was the guest of the defendant, or riding in a carriage borrowed from him.

The counsel for the company also urged that inasmuch as the engineer who had charge of the conflicting engine, had been forbidden to run on the track at the time of the accident, and had in so doing acted in disobedience of orders, the company were not liable.

This point was also overruled by the court.—The law was laid down in accordance with the case of *Heath vs. Wilson*, (9 Car. & Payne 607.) In that case a servant having his master's carriage and horses in his possession and control, was directed to take them to a certain place; but instead of doing so, he went in another direction, to deliver a parcel of his own, and in returning drove against an old woman and injured her. Here the master was held liable for the act of his servant, though at the time he committed the offence he was acting in disregard of his master's orders, because the master had entrusted the carriage to his control and care, and in driving it he was acting in the course of his employment. If, without his masters knowledge and consent he had taken the carriage out of the stable and therewith committed an injury, a contrary decision would have been made, and on this ground, that the master had not entrusted the servant with the property. When the master has so entrusted the servant, it is no excuse that he has been guilty of mismanagement, otherwise the rule that "the superior must respond" would be annulled.

THE LAW OF NAVIGABLE STREAMS.

Before the adoption of the Federal Constitution the old States possessed and exercised sovereign power over tide water within their respective jurisdictions. They did not shrink from obstructing navigation when, in their opinions, the public interests demanded such a course, although the railroad was then undreamt of. And it is unquestionable that the several States still possess all the powers which they have not relinquished to the General Government—that the States may construct necessary bridges over navigable streams furnished with suitable draws, may now be considered, at least until Congress shall interfere in the matter, as established. We last week cited a decision of Judge McLean, of the U. S. Court, refusing to enjoin the Port Clinton company from constructing a railroad draw bridge across Sandusky Bay.

A State, then—or any party duly authorized by a State—may, in obedience to the requirements of public interest, partially restrict the right of free

navigation, by means of a draw bridge. If so, why may not the State determine and declare how long a draw shall be kept shut in order to meet the exigencies of railroad travel? It would be strange indeed if a State could exercise its discretion as to building bridges but not as to their management.

The law of navigable streams was elaborately discussed by Judge Woodbury in the case of the *United States vs. the New Bedford Bridge*, in 1 Woodbury and Minot page 400,—on which occasion the Judge could find no law for punishing the bridge builders, although they in some measure obstructed a navigable stream.

In connection with this subject we annex the case containing a decision of the Court of Common Pleas of Massachusetts.

RAILWAY LAW CASE.

John Graham, Appellant, vs the Old Colony railroad Corporation.—This was an action brought against the defendants to obtain damages for a detention of the plaintiff's vessel at the draw of their bridge in Boston, whereby he lost the benefit of the tide and suffered other injury. On the part of the plaintiff it was contended that the act of the Legislature which authorised the erection of the bridge, expressly exacted of the defendants that they should at all times when required open their draw for the accommodation of the vessels having occasion to pass the same. The detention in this case was about one hour—say from eight to nine o'clock in the forenoon—and was admitted by the defendants. But the defendants justified the delay in the present instance, on the ground that the arrival and departure of their morning trains occurred at that time, and that an uncertain train, the steamboat train, happened then to arrive, and that on this particular morning there was an accident which cast a car off the track and made it necessary for them to use the bridge—that the rule of the road was that the draw should not be opened within fifteen minutes of the time fixed for the arrival or departure of a train, which was essential to the public safety; and that without a violation of this rule the plaintiff could not have been let through the draw under the circumstances. The reasonableness of the rule and the propriety of its application were questions involved. Wells, J., instructed the jury, that the defendants, notwithstanding the language of their act aforesaid, were justified in keeping the draw closed a reasonable time before the expected arrival or departure of a train, and could make wholesome rules touching the same. That they were bound to look to the safety and convenience of the public, and that the accommodation which they were to furnish vessels passing their draw was only such reasonable and proper accommodation as would be consistent with the public good—and with the object and purpose for which the bridge was to be built and authorised; that the greatest good to the greatest number was the ground upon which the bridge was chartered, and must overrule any individual inconvenience. That if the jury were satisfied that the corporation had not taken more time than was necessary for the safe and proper conduct of their business over the road, and for the safety and convenience of the public, and had not otherwise impeded the plaintiff, the plaintiff could not recover in this action. The Jury rendered a verdict for defendant.

Railways in Maine.

The Portland Advertiser gives the following summary of the railroads completed, in progress, and chartered, in Maine:

At the recent session of the Legislature, charters were granted for the following railway companies:

Saco River railroad, from tide water at Saco to State line, at Fryeburg.

Belfast and Moosehead Lake railroad.

Dexter and Newport railroad.

Somerset and Kennebec railroad extension, from Waterville to Augusta.

Vassalboro' and China railroad.

In addition to the above charters for new objects, the following grants were also made:

York and Cumberland railroad company is authorized to build to the line of New Hampshire, and to amalgamate with the Nashua and Epping railroad company in that State, and form one company from Portland to Worcester, by the name of Portland, Nashua and New York railroad company; with an enlargement of the time in which to locate its line.

Atlantic and St. Lawrence railroad company is authorised to lease its road to the Grand Trunk line of Canada.

European and North American railway company is authorised to purchase or lease other lines, with right to consolidate all roads from the frontier of New Brunswick to the Kennebec river into one company, under its present charter.—Company may organize with a subscription of one thousand shares, and its capital stock is increased from \$4,000,000 to \$15,000,000, with the right to issue stock and bonds in sterling currency.

Penobscot and Kennebec railroad company has an enlargement of the time for one year in which to locate its line.

We have now in operation 412 miles of railroad belonging to Maine, including those portions of the Atlantic and St. Lawrence railroad, which extend across the northern part of New Hampshire and Vermont. Five years ago Maine had but 72 miles of railroad in operation, viz: the Portland, Saco and Portsmouth road, 51 miles; the Bangor and Oldtown road, 12 miles; and the Machias Port road, 9 miles in length. A section of the Atlantic and St. Lawrence railroad, from Portland to Yarmouth, was the next one opened in the order of time, which was run over for the first time, July 4, 1848.

The "Railroad System" of Maine has grown into strength and importance since the people of Maine embarked in the enterprise of building a railroad to Montreal. This project was entered upon in the fall of 1844—its construction was commenced July 4, 1846, and finished to Island Pond in January, 1853, a distance of one hundred and fifty miles. The Canadian portion is to be finished in June next.

We have looked over the Statute book and records of the state, for the purpose of ascertaining how far the "Railroad System" of Maine has taken root, and we give a list of railroads in operation, and all those for which charters are now obtained and in force, viz:

	Complete Length.	Uncompleted.
Atlantic and St. Lawrence	150	150
Androscoggin and Kennebec	55	55
Androscoggin	52	20
Boston and Maine	3	3
Portland, Saco and Portsmouth	51	51
Kennebec and Portland	72	72
York and Cumberland	52	20
Branch to Sebago	8	
Bangor and Oldtown	12	12
Calais and Baring	16	6
Buckfield	30	13
Franklin and Kennebec	37	
Somerset and Kennebec	38	
Penobscot and Kennebec	50	
Penobscot, Lincoln and Kennebec	50	
Penobscot (Bangor to Milford)	13	
Lewiston and Topsham	20	

Oldtown and Lincoln	40
European and N. American	96
Saco Valley	60
Belfast and Moosehead Lake	76
Newport and Dexter	16
Belfast and Waterville	38
Vassalboro and China	20
Damariscotta	7
Great Falls and South Berwick	18
Total	1097

This shows an aggregate of four hundred and twelve miles built, and 667 miles more authorised—several of which will undoubtedly be entered upon at an early day.

The 412 miles in operation have cost over *twelve millions of dollars*, and when fully completed will carry the aggregate of expenditure as high as \$30,000 per mile.

Ten millions of this expenditure has been made within the last 5 years—or a sum equal to two millions per annum, has in that time been applied to the building of roads in Maine.

Central Railroad of New Jersey.

Below we give the sixth annual report of the directory of this company to the stockholders. It is a clear, straightforward, business like document; setting forth the progress of the road, its cost, equipment, business earnings, as compared with previous years; connections, present and prospective, which will be likely to prove beneficial to its interests, and a statement of the present condition of the affairs of the company.

It is well known that this road extends from Elizabethport, New Jersey,—12 miles from New York,—to Phillipsburg, on the Delaware river, opposite Easton, Pa.

It will be seen that the whole length of the line has been some months in operation, and that the ballasting of the road, and the erection of stations, and the filling up of the equipment to the amount required by the business of the company, are going rapidly forward.

The report of the Central Co. bears date of April 27th, and commences with

PROGRESS OF CONSTRUCTION.

At the time of making the report of April 1st, 1852, the Ferry,—12 miles—from New York to Elizabethport, and the 35 miles of road from Elizabethport to Whitehouse, were in regular and successful operation; six and a half miles more of road were so nearly ready, that they were opened for travel on the 1st May, while the report was going through the press, and the remaining 21½ miles were in a good state of forwardness. On the 2nd July, the road was formally opened through to Phillipsburg, opposite Easton, on which occasion the company with their invited guests, were handsomely entertained by the citizens of Easton.

Measures are being constantly taken for the entire completion of the road. Since the opening a strong force has been kept at work in ballasting the road bed, adjusting the track and laying the side tracks. Owing to difficulty in procuring suitable materials, as well as the openness of the winter, the ballasting has been a work of considerable labor and expense, and much yet remains to be done. As soon as practicable, such portions of the road bed below Whitehouse, as have not been properly ballasted, will be completed.

Side tracks have been put in all the principal stations, and those on the lower road have been lengthened. Commodious station houses, uniform in plan, have been erected at the new stations. At Phillipsburg, an octagonal stone engine house, for 16 locomotives, and large passenger, freight, and car houses have been erected; and the main track is being extended down the railroad bridge, now erecting over the Delaware river, by the Lehigh Valley railroad company. At Elizabethport a sim-

ilar brick engine house, extensive brick workshops and a freight house have been built, a new dock constructed, the old dock repaired, the Elizabethport hotel repaired, painted and leased, and considerable progress made with the filling in of the dock, the levelling of the grounds, and the grading of the second track near the port. The tracks at the port have been partly relaid, on the proper grades and curves, and new tracks laid down. Much work remains to be done at this point in grading and filling, and additional accommodations for passengers and freight will be required. A new boat has been ordered, and will be on the ferry by the middle of June. Additional dock room in New York is indispensably required by the growing business, and arrangements are making to secure it. During the coming year, the station houses below Whitehouse will be rebuilt or altered, to correspond with those above. At Elizabethtown, the New Jersey railroad company, and this company propose to unite in the construction of a handsome building for the accommodation of the business of the road.

The Lehigh Valley railroad—late known as the Delaware, Lehigh, Schuylkill and Susquehanna railroad—has been put under contract, and considerable progress made in its construction. The whole of the money required having been secured it will certainly be completed by July, 1854, thus opening the rich Lehigh Valley and bringing the coal and iron of that region in direct connection with New York. The advantages of this road for the transportation of coal will be singularly great,—the entire distance from the mines to south Easton having descending or level grades in the direction of the traffic. The Catawissa railroad is also under contract, and constructing as rapidly as a full force can work—the managers intending to have the whole completed to its junction with the Sunbury and Erie road by the 1st of May next. The last named road is in such a position as to give a fair prospect that a direct line of 462 miles from New York to Erie, on Lake Erie, will be completed at an early day. The necessary legislation has also been obtained for a connection with Pittsburg and the Pennsylvania Central railroad, over the road of the Dauphin Coal Company.

The line from your road at New-Hampton, by the Delaware Water Gap, Scranton and Binghamton, through the Lackawanna coal region to Oswego, on lake Ontario, is also in a very forward state. The part from New Hampton to Scranton has been surveyed and located, the right of way principally secured, and the road prepared for contract. It will be completed in the fall of 1854. The remainder of the route is either in operation or nearly ready; so that the filling in this link will at once open to this company not only the Lackawanna region, but also the trade of northern New York, Lake Ontario and Canada. By the consolidations authorised in Pennsylvania and New York during the past winter, the companies owning this line are reduced to three namely: your company, the Delaware, Lackawanna and Western, and the Oswego, Syracuse and Binghamton railroad companies. An important feeder to this route will also be found in the line from Oswego to Little Sodus bay, on lake Ontario, part of which from Oswego to Ithaca, has been several years in operation, and the remainder is nearly ready for the iron.

This position of things, renders almost imperative the immediate construction of a second track from Elizabethport to Somerville, where the grading and masonry will cost but little; and that the remaining and more expensive portion, should be made at the earliest day consistent with the company's finances. As a commencement, it is proposed to proceed at once with 2½ miles from Elizabethport to Elizabethtown; to cut down the grade of 40 feet to the mile at Scotch Plains, by constructing 3 miles of second track at that point, and to replace the wooden bridges at Elizabethtown, Bound brook and Somerville, with stone structures.

These improvements will greatly expedite the business the road, add materially to the safety of the trains, and do away with the only grade over

PRESENT COST OF THE ROAD.

Grading.....	\$231,818	08
Masonry.....	45,025	75
Bridge superstructure.....	9,781	22
Railway do.....	291,812	25
Land damages.....	120,592	89
Engineering.....	42,576	06
Miscellaneous expenses.....	26,889	41
Interest.....	35,807	24

Grading.....	\$616,616	47
Masonry.....	319,464	05
Bridge superstructure.....	109,062	92
Railway do.....	253,726	01
Land damages.....	100,102	22
Engineering.....	32,421	95
Miscellaneous expenses.....	16,387	97
Interest to October 1, 1852, less earnings.....	127,802	15

A comparison of the cost of the extension with the cash estimate on the preliminary survey may not be uninteresting to the stockholders, now that the heaviest expenditures have been made. It will be found in the following table:

	Estimate.		Cost.		Excess of cost.
Grading...	\$530,215 65		\$616,616 47		\$86,400 82
Masonry..	293,966 75		319,464 05		25,497 20
Bridge superstruct..	91,237 50		109,062 92		17,825 42
Railway do	232,600 00		263,726 01		21,226 01
Land damages....	70,000 00		100,102 22		30,102 22
Engineer'g.	32,080 10		32,421 95		341 85
Miscel. expenses..			16,387 97		16,387 97
	<u>1,250,000 00</u>		<u>1,447,781 59</u>		<u>197,781 59</u>

EQUIPMENT.

They own 17 first-class passenger cars, 5 passenger and baggage cars, 73 covered freight cars, 72 platform and cattle cars, 30 gravel cars, 12 hand

RECEIPTS AND EXPENSES FOR THE YEAR.

RECEIPTS.

Passengers	\$135,904	30
Freight	117,110	17
Mail	4,552	00
Express	900	00
Rents	470	46
Miscellaneous receipts	1,962	07

Total receipts \$260,899 00

EXPENSES.	
Running expenses	\$37,879 31
Repairs of road	8,921 21
Repairs of cars, engines, &c	13,582 02
Repairs of buildings	354 05
Expense account	8,463 62
Wood consumed	22,922 66
Coal consumed	10,086 52
Miscellaneous expenses	4,419 17
Ferry expenses	29,500 01

Total expenses.....	\$136,158	57
Net earnings	124,740	43

To show the progress of the business of the road a comparison by quarters of the receipts, expenses and net earnings for the past year, with the preceding, is now given.

Receipts.		Increase.	
April 1, to July 1.....	1851-82.		
July 1, to Oct 1.....	\$40,801 82	\$38,184 83	7 per cent
Oct 1, to Jan. 1.....	67,945 60	39,754 21	"
Jan. 1, to April 1.....	66,765 17	37,384 71	"
January 1, to April 1,.....	85,686 41	38,529 41	"
Total.....	\$260,399 00	\$153,853 16	"
EXPENSES.			
April 1, to July 1.....	\$27,912 85	\$20,726 06	25 per cent
July 1, to Oct 1.....	33,223 58	15,987 26	"
Oct 1, to Jan. 1.....	40,021 64	21,009 74	"
Jan. 1, to April 1.....	35,000 50	23,792 85	"
Total.....	\$136,158 57	\$81,515 91	"
NET EARNINGS.			
April 1, to July 1.....	\$12,588 97	\$17,458 77	*4 per cent
July 1, to Oct. 1.....	34,722 02	23,766 95	"
Oct 1, to Jan. 1.....	26,743 68	16,387 97	"
Jan. 1, to April 1.....	50,685 91	14,736 56	"
Total.....	\$124,740 43	\$72,337 25	"
		\$52,403 18	*72
			*Decrease.

By this table a rapid increase in the receipts is shown, and as the expenses have not advanced in the same proportion, the increase in the net earnings is still larger. Tables appended to the report show in detail the monthly receipts and expenses, and also the increase or decrease, as compared with the preceding year. The passenger business has increased 50 per cent. The freight business has doubled. As the business of the first quarter and of a part of the second, was from the lower road only, the results are the more satisfactory.—The local business has increased very largely. The completion of the work at Elizabethport, the addition of a new boat, and reduction of the grade at

A final interest dividend of $3\frac{1}{2}$ per cent. was made on the 1st of October last, according to the terms of subscription. The interest account during the year, including this dividend, has been \$145,389 58; of which \$6,687 45 has been charged to construction account, as the balance which on the 1st of October was not covered by earnings; and \$88,702 08 has been paid from earnings. *No extra interest has been paid directly or indirectly.* The business of the past six months has enabled the Board, after paying interest, to declare a dividend of $3\frac{1}{2}$ per cent, and leave a small surplus. The whole income of the road having been applied to construction, this dividend, like the interest dividends, has been paid in stock. There is no reason to doubt the ability of the Company to continue to make regular semi-annual dividends.

The annual balance sheet is annexed to the report. As all claims were carefully collected before the books were closed, it gives a reliable statement of the present financial position of the Company.

The receipts and expenditures during the year, other than those already given as ordinary receipts and expenses, have been as follows:

	RECEIPTS.	
Full stock issued.....	\$80,700 00	
Mortgage bonds, balance issued.....	385,000 00	
Bills payable.....	188,258 13	
		\$653,958 13

Deduct Somerville mortgage bonds.....	\$11,000 00	
Deduct Somerville bonds payable.....	16,000 00	
Deduct reduction of sundry accounts.....	3,630 98	30,630 98

Total increase of capital accounts.....	\$623,327 15
Add net earnings applied to construction.....	124,740 43
Add cash on hand, April 1, 1852.....	1,815 46

Total receipts to be accounted for.	\$749,883 04
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EXPENDITURES.	
Grading.....	\$151,917 50
Masonry.....	57,790 41
Bridge superstructure.....	39,562 92
Railway do.....	73,377 08
Land damages.....	7,134 23
Engineering.....	5,931 97
Interest charged to construction.....	56,687 45

	\$392,401 56
Deduct allowance by contractors on final settlement.....	13,687 85

	\$378,713 71
Iron for side tracks on lower road....	6,804 45
Work and docks at Elizabethport....	31,553 22
Ferry interest.....	900 00
Station houses and shops.....	58,852 60
Engines, 6 first-class.....	49,330 00
Cars, passengers, freight, &c.....	88,774 64

Total increase of construction accounts.....	\$614,928 62
Workshop, increase of materials on hand.....	4,000 00
Wood and coal, increase of stock on hand.....	3,400 00
Interest paid from earnings.....	88,702 08
Dividend, No 1.....	35,031 50
Cash balance on hand.....	3,820 84

Total expenditures accounted for. \$749,883 84

The amount of disbursements on premature accounts during the coming year will be governed entirely by circumstances.

The first aim of the Board will be to avoid embarrassing in any way the finances of the Company, the next, to provide, as rapidly as possible, the facilities for trade required by the connections.

The whole of the mortgage bonds have been issued. The resources of the Company consist of 3,606 shares of capital stock, \$165,300, and of the right to increase the capital from \$1,200,000 to 2,000,000. This right it is proposed to exercise, and to use this stock to extinguish the floating debt and build a second track. Negotiations have been entered into for the issue of the whole of this stock at par, upon the allowance of a moderate commission. Before any arrangement is perfected, it will be laid before the stockholders for their approbation, or the right will be reserved for them to take their pro rata proportions on the terms of the proposal.

By order of the Board.

JOHN T. JOHNSTON, President.

Office Central R. R. Company of }
New Jersey, April 27, 1853. }

American Railroad Journal.

Saturday, May 21, 1853.

New Projects in the West.

The west is teeming with new projects. One road is no sooner fairly under weigh, than it becomes the seed from which twenty other projects spring into life. This is to be expected in many portions of the west, which are yet only poorly supplied with railroad accommodations. Every farmer wants to have one running by his own door, and they are in fact to become the common highway for the inhabitants of the great valley.

But every man cannot have his wishes gratified in a day. We must make haste slowly, if we would make the best speed. As far as the capital of the country is concerned, it would not be wise to put so much of it into railroads, as to interfere seriously with the ordinary operations of business. We shall do well only to borrow from abroad only for such projects as offer an undoubted security. As a people we can no more embarrass ourselves without suffering the penalties, than can a merchant, manufacturer, or any business man. The way to keep our credit good abroad, is to send abroad nothing that has not intrinsic value.

The construction of railroads in the west is now made the common right of all. There are but few and there should be no legal restrictions upon this right in any part of the country. It is in the hands of those who furnish the means, to impose the proper restrictions upon the excessive construction of these works. The weaker projects must all come east for money. All that capitalists have to do, is to establish their own terms upon which they will take railroad securities. Only let them adopt the maxim that companies, offering their bonds, shall present at the same time sufficient guarantee of the safety of their proposed loans, and all will go on well.

We would urge upon all engaged in the construction of new works, the importance of strengthening themselves at home. To all such we would say "put your own means into your roads. Show your faith by your works. If you can get no home basis, rest assured your project is premature, and, that instead of making money, you will lose, by going into it. By being strong in domestic means, you will secure confidence abroad, and command your own terms, instead of being at the mercy of the money lender. You cannot afford to be too dependent upon this class." A subscription of \$100,000 additional to the stock of a road may, and often does, save an equal amount, by the more favorable terms obtained on its securities.

Parties interested in getting up new works must understand, that to meet a favorable reception in this market, they must come prepared to show a reasonable basis for their loans. The observance of this rule is necessary for the protection both of borrower and lender. It is necessary to serve as a check against the over construction of roads. There are good projects on hand, sufficient to absorb a very considerable portion of the surplus capital of the country: a healthy state of things can only be maintained, by confining ourselves to such.

So long as we confine ourselves to legitimate projects, nothing is to be feared from the construction of railroad to almost any extent. Such schemes will yield a handsome increase upon their cost, and will find a ready sale abroad, if we cannot hold them at home. Railroads in this country exert such an influence on the creation of wealth, that they almost immediately supply the capital absorbed in the construction. To this fact is to be attributed the wonderful progress which these works have made without creating anything like a financial or commercial revulsion. We can continue to progress with an equal, or accelerating pace, even, provided we continue to observe the ordinary rules of caution and prudence.

The Norwalk Catastrophe.

We have forbore all comment upon the recent terrible accident at Norwalk, till we had the verdict of the coroner's jury and the explanation offered by the directors. We now have both. With the details of the accident, the public have undoubtedly been made sufficiently acquainted by the daily press. All that is left for us is to enforce the lesson which this dreadful disaster should teach.

It is some consolation, now that the accident has happened, and its causes past our control, to know that it was the result of the grossest negligence and carelessness, against the recurrence of which even ordinary caution is a sufficient protection. Were it otherwise, the public might well refuse ever to trust themselves upon a railroad again. But experience has proved that the highest degree of speed practised upon railways, is compatible with entire safety, and that accidents are but another name for neglect, unfaithfulness, or incompetency.

We are dissatisfied with the finding of the jury, because it does not touch upon the real causes of the disaster, nor place the responsibility where it belongs. It found the immediate cause of the accident to be the negligence and recklessness of the engineer.—

1st. In running round the curve at a rate no less certainly, than 20 miles an hour; when under no circumstances should it have been half that.

2d. In not discovering that the ball was not down immediately after emerging from the cut.

3d. In not looking for the ball at the highway crossing east of the depot.

4th. In relying, as he says he did, upon the flags of the switch-tenders, when he well knew that they were not in sight of the draw, and had nothing to do with it.

5th. In not running even slower than usual when the track was wet and slippery.

The jury also censure the conductor for allowing trains to be run at full speed around the curve immediately upon coming upon the bridge. They

also state that for trains going east, the drawbridge signal was insufficient.

The above is substantially the finding of the jury. The result is most meagre and unsatisfactory. The directors themselves have failed to present so adroit an apology for their negligence, as that offered by the coroner's jury.

The president of the road in his card says that the company had adopted a code of rules believed to be sufficiently comprehensive for the safe management of the road; that these rules were made known to all the engineers as far as they were concerned. That they required great caution to be observed in crossing Norwalk bridge. He also states that Tucker, who had charge of the engine, had been an "excellent engineer, and a trustworthy man; that for a duty requiring particular care, discretion and watchfulness, no person would have been sooner selected." In view of these precautions, he exclaims,—

"How easily the best arrangements are reduced to idle rules, by the thoughtlessness and inattention of a single man, perfectly acquainted with his duty and able to perform it."

We think the directors should have looked at home, before attempting to throw a large share of the responsibility upon the one perhaps the least in fault. They vouch fully for the faithfulness and vigilance of their agent. There can be no doubt that he *thought* he saw the signal in its proper place: any other supposition is impossible; for he, the most exposed of all, would not have madly plunged himself into the chasm that threatened certain destruction. We have the strongest of all reasons for supposing that he *thought* he saw the signal. He *did* see an object that he mistook for it. Of this we think there can be no doubt. All the circumstances favor such a supposition. There was a high hill in the back ground, and nothing could be more natural, in the absence of the signal, than for the engineer to mistake for it, some object on the opposing ground.

The result shows that, in crossing the bridge, the security of the train cannot be safely committed to one person. The most careful and vigilant may be subject to an illusion, under which, as in the present case, he may precipitate a train with all its freight to certain destruction. Proper precautions are only adopted where other guards are set to warn the coming train of the danger on approaching the draw bridge. An Engineer may have his attention distracted by some derangement in the machinery of his engine. He may forget that he is running upon the bridge. He may be indifferent to the safety of train under his charge. He may, at the time, be incompetent from the use of intoxicating drinks, or otherwise. Under all these contingencies, to throw the whole responsibility upon such a person so situated as to be liable to mistake, is the grossest negligence on the part of the managers of a road.

The circumstances of the case in the Norwalk tragedy seems to aggravate the general negligence and want of proper system on the above road. The express trains were accustomed to run over the bridge at ordinary speed, with the knowledge of the Directors, yet, at the very instant that one of these trains was due the bridge was opened without the slightest attempt to warn the approaching train of the fact. There is no apology for such neglect, but entire indifference as to the safety of those perilled. Other companies adopt proper precautions

in such cases. Look at the police arrangement maintained on the Hudson River railroad. The truth is the Managers of the New Haven railroad have too much other business on hand to attend to the minute details necessary to the safe running of a road. Here is the true secret of this disaster. Numerous warnings have been given by recent accidents on other roads, of a similar character.—These would have been heeded by men not too deeply interested in their own private affairs to give any proper attention to those of a more public character. The finding of the Jury should have been that "the accident was caused by the want of proper police force on the road to warn the trains of any approaching danger." The company are now, in fact, faulty to the same extent that they would have been had they constructed the road without any bridge at all. When they take a passenger in the cars they contract for his entire safety, and proper precautions running a road are just as necessary to secure his safety, as are similar ones in its construction.

There are other matters that the Jury might well have gone to. The original location of the road, which would have rendered an accident of the kind almost impossible, was subsequently altered to enable the contractors to make money. This change of location, which prevented the bridge being seen till the train was almost upon it, is as reprehensible as was any act immediately connected with the disaster. The remoteness of the wrong does not change its character. It is one for which the public have, the Company must, suffer a tremendous penalty.

We hope the accident will not be without its use upon this and upon other road. The alternatives of looking more carefully after their road, or giving place to parties that will, are the only ones left to the Directors. No man nor body of men can attend to every thing at the same time. No man can properly discharge the duties incumbent upon the President of a dozen roads, as the present instance shows. The experiment to prove this fact is too costly a one to be likely to be repeated.

Delaware, Lackawanna and Western Railroad.

The public will be gratified to learn that the long talked of project, of a railroad from the Lackawanna valley to the Delaware, is being undertaken under auspices that promise its speedy accomplishment. The delay has been owing to a desire to obtain some further privileges from the legislature of Pennsylvania, before commencing active operations. These are now secured. The right to adopt the six feet gauge has been granted, and also to consolidate the scheme with the Lackawanna and Western railroad, which has been effected. The stock for the road, from Scranton to the Water Gap, has been taken by capitalists in this city, (embracing some 60 or 70 of our most efficient and active business men,) in sums varying from \$5,000 to \$50,000. The road has been advertised for letting, and the whole work will be prosecuted with the greatest energy and dispatch to an early completion.

There is no other work in the country more needed than the above, nor one that holds out more flattering prospects of a lucrative traffic. It will connect New York by a continuous line of railroad with one of the great coal fields of Pennsylvania, to which we have access, at the present time,

for only a portion of the year, but which is the most conveniently situated to supply this city with coal. The increasing demand for this article alone, would give full employment to a double track road. In addition to this source of a lucrative and constant traffic, it will form a part of a new route to the great lakes, and to western New York and Pennsylvania, shorter than any other in operation, if not any proposed. Through its upper division, formerly the Lackawanna and Western road, it will be brought into connection with the net work of railroad in western New York, and through them with all the important points on lake Ontario, and the eastern part of lake Erie, all of which the above road will supply with coal. The coal trains will return laden with western produce destined for the New York and Philadelphia market, thus securing a lucrative traffic in both directions. That portion of the road lying within the Susquehanna valley traverses a very excellent farming country, to reach which alone, would justify the construction of a railroad.

The work will prove one of great public utility, and we are satisfied that it will be equally remunerative to its stockholders.

The Hydraulic Canal.

We are happy in being able to state, says the Buffalo Courier, that a company has been organized, consisting of gentlemen of known wealth and enterprise in New York and Boston, with a capital of \$500,000,—that a board of able directors has been chosen, and that in their hands this great work is about to be commenced, and vigorously prosecuted to completion.

This canal, for nearly its whole length, (about three fourths of a mile) will be a limestone rock excavation. It is to be 70 feet in width with perpendicular sides, and to be deep enough to ensure at all ordinary stages ten feet depth of water. This, when the uniform permanence of the supply, and the fall of 200 feet are taken into consideration will furnish an hydraulic power, which we venture to say, will, in value have no equal in this or any other country; especially when it is borne in mind that its availability will at all times be unfailing while Lake Erie endures, and that it will be wholly exempt from all ordinary disasters by floods.

New Coal Car.

The Philadelphia Ledger notices a new car for the use of coal companies, which, it thinks, will have a material effect in reducing the cost of transporting coal, and consequently its price. In appearance it somewhat resembles a large cask, and consists of two wrought iron cylinders, of sufficient length to suit the track, with the fellow or rim of a railroad wheel slipped over each end and substantially riveted to it. In the centre of each cylinder is placed a partition the whole length and depth of the same. On the head of each cylinder is fastened the journal, which rests on and works in boxes placed underneath the frame, and are thus connected together. The door extends lengthwise the cylinder, between the wheels; is in four equal parts, and hinged in the usual manner, and is secured by an iron rod passing through the wheels and over the same. The contents thus revolve with the cylinder, and their abrasion is prevented by the centrifugal force produced by the usual velocity attained on railroads, and the partition placed in the cylinder also effectually pre-

vents the same during the necessary slow motions on the road. The car has been tested with success on the Reading railroad, which fact we noticed some months ago, and more recently on the Philadelphia, Wilmington and Baltimore railroad. The saving in Myers' patent cars is in the absence of friction, dispensing almost entirely with the expensive article of oil, and in the fact that but about half the motive power is requisite to move the same amount of tonnage. The wear on and injury to the rail from their use is less than that of any other car, and while they may be driven much faster, being close to the road, are less liable to run off the track.

We understand that Mr. A. P. Robinson, former Chief Engineer of the York & Cumberland railroad, and of the City of Portland—has been appointed Chief Engineer of the Louisville and Cincinnati railroad at a salary of \$5,000 per annum.

Railroad Securities.

We invite attention to the extensive catalogue of Securities offered for sale by Messrs. Winslow, Lanier & Co. The soundness of each one offered is unquestioned, while many of them hold out the inducement of a large prospective advance in their value, over present prices.

Stock and Money Market.

Money continues to be abundantly supplied, with considerable activity in the Stock market.—Sound Securities of all kinds are in good demand, at gradually improving rates. In Bonds a large business is doing both on domestic and foreign account. The market readily takes all the first-class Bonds offering.

The earnings of the Macon and Western Railroad for April were:

Passengers	\$1,468 78
Mail	1,045 20
Freights	13,889 74
	\$20,903 72
Corresponding month last year	21,625 64

Decrease

The Ohio and Pennsylvania Railroad receipts were, in	\$721 92
April, 1853	\$43,484 52
April, 1852	18,327 38

Increase

The express trains are to commence running to Crestline on the 16th of May.

The receipts of the Baltimore and Ohio railroad for the month of April have been as follows:

Main Stem. Wash. Branch. Totals.			
Passengers ..	\$43,211 18	\$26,787 67	\$69,998 85
Freight	157,008 41	5,739 80	162,748 21
	\$200,219 59	\$32,527 47	\$232,747 06

The following is a comparative statement of the traffic of the two most important articles over this road for the past month:

FLOUR.	
April, 1853	52,970 bbls.
" 1852	46,847½ "

Increase in April, 1853

COAL.			
	Tons.	Cwt. Qrs.	Lbs.
April, 1853	13,829	18 00	00
" 1852	6,564	14 00	00
Increase in April	7,325	4 00	00

Girard Railroad Company.

The third annual report of the board of directors to the stockholders, represents the affairs of this enterprise as being in a promising condition. A large force is now at work upon that portion in progress, and it is confidently expected that the work from Girard to Colbert, will be in operation during the present year.

This road is to extend from Girard, Ala., which is opposite Columbus, Ga., to Mobile, and as it connects with the Georgia system of improvements at Columbus, its early completion would seem very desirable, especially to all those who inhabit that section of Alabama lying between the Alabama and Chattahoochee rivers. There is a large portion of this section capable of producing cotton, equal in both quality and quantity to that of any other cotton growing region, but which is now so nearly inaccessible from markets, as to preclude the cultivation of it, to any considerable extent.

Contracts for furnishing cross-ties and laying of superstructure for twenty-two and a half miles, the chief engineer informs us in his report, have been closed. Most of the wooden culverts have been contracted for, and many are in course of erection.

The portion of the line from Colbert's to Union Springs, thirty miles, is in course of construction, and it is anticipated will be finished and put in operation by April next, making in all from Girard to Union Springs, fifty-two and a half miles of road which it is expected will be in full operation by one year from this time.

The engineer recommends the early letting of the contracts on the Greenville and Mobile sections, and urges such a policy on the part of the directors as will press the whole work forward to an early completion. If those along the balance of the line, manifest that degree of interest which has been shown on other portions of the road, and lend that aid which is requisite for the success of the project, it is calculated that the cars may be running to Greenville in a little upwards of two years. As this line is a virtual extension of the Savannah roads to Mobile, it is fair to suppose that it will receive much encouragement from those interested in the earnings of those improvements. A large portion of the subscriptions are for grading and wooden superstructure, which would be nearly sufficient to place the work from the bay of Mobile to Greenville in Butler county, Ala., under contract, if provision could be made for the iron and machinery necessary to work the road.

There are now employed on the fifty-two miles in progress a force of 575 men, and it is intended to keep this force up through harvest.

The estimated business of this road, or rather the 43 miles from Gerard to Chimmennuggee, for the first twelve months after its opening is as follows:

Transportation 50,000 bales cotton at 50c.	\$25,000
" other freight.....	30,000
" passengers.....	7,300
" mail.....	3,000
	<hr/> \$65,300

The earnings of the South Western, Ga., railroad during the first year of its operation—a length of 51 miles—were, from freights \$80,878 44; passengers \$46,016 56; mail \$2,580—making a total of \$129,395.

There is little reason to doubt that the earnings of this road per mile will come nearly up to those of the South Western in the year referred to—1851.

The subscriptions to the stock of the Girard road are reported as follows:

In Money.....	\$539,850
Grading and culverts from contractors....	6,375
	<hr/> \$546,225

Subscriptions in grading 169 miles; in superstructure 68½ miles; cross ties 14,570 in number, and one million bricks.

It would appear from the general tone of the report that the affairs of the Company are in the most flourishing condition; that the operations for the construction of the road are managed with great prudence and caution; that the confidence of the public is with the Company, and the necessity of the improvement to the successful prosecution of the great interests of the section of Alabama through which it passes is so generally felt that there can be no doubt of the rapid progress and final completion of the work. That its speedy completion is an object greatly to be desired by Mobile and Savannah, as well as by all those on the line who will be brought by it into convenient proximity to a market, every reasonable person may be fully satisfied of by one glance at the map tracing its proposed connections, and if the condition and prospects of the Company were fully and explicitly set forth, and an effort made to secure funds for its speedy consummation, we do not see any reason to doubt its success.

The Lake Shore, or Chicago and Milwaukee Railroad.

The Common Council of Milwaukee, by a vote of ten to five, have passed an ordinance submitting a proposition to the people, to loan the credit of the city to this company, to the amount of \$200,000. The people are to vote upon the proposition on Wednesday the 18th inst.

To Contractors.

SEALED PROPOSALS will be received at the office of the Delaware, Lackawanna and Western railroad Company, No. 45 Wall street, N. Y., and at the office of the company, at Scranton Luzerne Co., Penna., until the 10th day of June next for the grading, bridging and masonry of the Eastern division of said road, about 55 miles to the point of junction with the New Jersey Railroads, near the Delaware Water Gap. Plans and specifications will be furnished on application to the General Agent of the Company at Scranton.

The Road will be graded and bridged for a double track.

Office Delaware, Lackawanna and Western Railroad Company.

GEORGE W. PHELPS, *President.*
New York, May 13th, 1853.

To Railroad Companies and Contractors.

A **SUPERINTENDENT**, who has the very best testimonials from some of the most celebrated Engineers, having had charge of very large and difficult works, on which he gave the greatest satisfaction, wishes to make an engagement with some Company or responsible Contractor. He has the reputation of being a very skillful manager of large numbers of workmen, and, by reference to his former employers, it will be found that he will be a profitable man, although he expects a fair salary. A letter addressed to the Editor of this Journal will meet prompt attention.

Book and Job Printing.

The undersigned have added to the **PRINTING ESTABLISHMENT** of the "RAILROAD JOURNAL," an extensive **OFFICE** for **BOOK AND JOB PRINTING**, which they are now prepared to execute in the best manner, and with **DISPATCH**. They respectfully solicit from **RAILROAD COMPANIES**, orders for the **PRINTING** of *Exhibits, Time-tables, Circulars, Tickets, &c., &c.*

J. H. SCHULTZ & CO.

New York April 9, 1853.

Railroad Letting.

PROPOSALS will be received at our office in Cincinnati, until Wednesday, the 8th day of June next, for the clearing, grubbing, grading and masonry, of the line of railroad from Cincinnati to Cambridge city, Ind., about 60 miles.

Plan and profile of the road will be ready for examination ten days before the letting.

This road passing through a dry and healthy country, where supplies are abundant, offers great inducements to Contractors. There will probably be one short tunnel, and the grading and masonry will be heavy. The work to be commenced immediately after the letting, and will be paid for by monthly estimates.

Offers for part pay in stock of the road will be favorably considered. **A. DE GRAFF & CO.**

Toledo, Norwalk and Cleveland Railroad.

FORMING, in connection with the Michigan Southern and Northern Indiana, the Lake Shore and Cleveland and Pittsburg Railroad, the only entire railroad line between the East and West.

The best and most expeditious route between Eastern Cities, Chicago and St. Louis.

SUMMER ARRANGEMENT.

On and after Monday, May 16, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

LEAVE TOLEDO—

ACCOMMODATION, at 9.10 A.M., stopping at all stations.
DAY EXPRESS, at 3.15 P.M., stopping only at Fremont, Bellevue, Monroeville and Norwalk.
NIGHT EXPRESS, at 11.15 P.M., stopping only at Fremont, Bellevue, Monroeville, Norwalk and Oberlin.

LEAVE CLEVELAND.

DAY EXPRESS, at 7 A.M., stopping only at Norwalk, Monroeville, Bellevue and Fremont.
ACCOMMODATION, at 10 A.M., stopping at all stations.
NIGHT EXPRESS, at 8 P.M., stopping only at Oberlin, Norwalk, Monroeville, Bellevue and Fremont.

CONNECTING DIRECTLY

AT TOLEDO—With Trains of Michigan Southern and Northern Indiana Railroad for Chicago and Way Stations, and through the Chicago and Rock Island Railroad, and Steamers on Illinois River, forming a line to St. Louis.

AT BELLEVUE—With Trains of Mad River and Lake Erie Road for Sandusky City, Springfield, Dayton, Cincinnati, etc.

AT MONROEVILLE—With trains of Mansfield and Sandusky Railroad, for Sandusky, Shelby Junction, Columbus, Zanesville, Newark, etc.

AT GRAFTON—With trains of Cleveland, Columbus and Cincinnati Railroad, for Columbus, Cincinnati and Way Stations.

AT CLEVELAND—With trains of Lake Shore Railroad for New York and Boston, via Buffalo and Albany, and for N. York, via Dunkirk, with trains of Cleveland, and Pittsburg Railroad, for Pittsburg, Philadelphia, Baltimore and Washington City.

E. B. PHILLIPS, Supt.
Superintendent's Office T., N. & C. R., }
Norwalk, O., May 19, 1853.

LAHAYE'S**Patent Self-acting Brake.**

THE attention of Railroad Companies is respectfully called to this improvement, used exclusively on all Passenger Cars upon the Philadelphia and Reading Railroad, and now being attached to those building for the Camden and Atlantic Railroad, and several other Roads.

Lahaye's Self-acting Brake can be attached to any Car without interfering with the ordinary Hand Brake, is simple in its construction, and reliable in its action.

By trials made with this Brake, Passenger Trains, at a speed of 30 miles per hour, have been brought to rest within a distance of 250 feet.

For Right to use, or any other information, apply to

O. A. NORRIS,
American Railway Agency, 12 Farquhar Buildings,
May 20, 1853. Philadelphia.

Railroad Mortgage, City and County Bonds.

WE offer for sale at fair rates, the following securities of the most undoubted character viz:

\$200,000 MARIETTA & CINCINNATI RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable January 1, 1868.

\$200,000 COVINGTON & LEXINGTON RAILROAD MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable March 1, 1883.

\$25,000 COVINGTON & LEXINGTON RAILROAD CONVERTIBLE SIX PER CENTS, guaranteed by the city of Covington, redeemable Sept. 1, 1872.

\$100,000 MADISON & INDIANAPOLIS RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable May 1, 1862.

\$100,000 PERU & INDIANAPOLIS RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable July 1, 1864.

\$40,000 SCIOTO AND HOCKING VALLEY RAILROAD SEVEN PER CENT. FIRST MORTGAGE CONVERTIBLE BONDS, redeemable Nov. 1, 1861.

\$50,000 OHIO & PENNSYLVANIA RAILROAD INCOME CONVERTIBLE SEVEN PER CENT. BONDS, redeemable Oct. 1, 1872.

\$50,000 CLEVELAND, PAINESVILLE AND ASHTABULA RAILROAD SECOND MORTGAGE SEVEN PER CENT. BONDS, redeemable Oct. 1, 1862.

\$100,000 WILMINGTON & MANCHESTER RAILROAD SECOND MORTGAGE CONVERTIBLE SEVEN PER CENT. BONDS, redeemable Nov. 1, 1873.

\$20,000 BELLEFONTAINE AND INDIANA RAILROAD, FIRST MORTGAGE CONVERTIBLE SEVEN PER CENT. BONDS, redeemable Jan. 1, 1866.

\$50,000 WASHINGTON COUNTY, (Ohio,) SEVEN PER CENT. BONDS, redeemable July 1, 1872.

\$50,000 ATHENS COUNTY, (Ohio,) SEVEN PER CENT. BONDS, redeemable July 1, 1872.

These two last are guaranteed by the Marietta and Cincinnati Railroad Company, and made convertible into stock at the holders' option.

\$30,000 CRAWFORD COUNTY, (Ohio,) SIX PER CENT. BONDS, guaranteed by the Ohio and Ind. Railroad Company, and made convertible into its stock, redeemable Jan. 1, 1868.

\$30,000 FAYETTE COUNTY, (Kentucky,) SIX PER CENT. BONDS, guaranteed by the Maysville and Lexington Railroad Company, redeemable Sept. 1, 1882.

\$50,000 BOURBON COUNTY, (Kentucky,) SIX PER CENT. BONDS, guaranteed by the same, redeemable July 1, 1882.

\$25,000 BOYLE COUNTY (Kentucky) SIX PER CENT. BONDS guaranteed by the Lexington and Danville Railroad Company, redeemable July 1, 1882.

\$40,000 MASON COUNTY (Kentucky) SIX PER CENTS, guaranteed by the Lexington and Maysville Railroad Company, convertible into stock, redeemable July 1, 1882.

\$50,000 CITY OF MARIETTA (Ohio,) SEVEN PER CENT. BONDS, guaranteed by the Marietta and Cincinnati Railroad Company, and made convertible into its stock, redeemable July 1, 1872.

\$25,000 CITY OF ALLEGHENY (Penn.) SIX PER CENT. BONDS, guaranteed by the Ohio & Pennsylvania Railroad Company, redeemable Jan. 1, 1877.

\$25,000 CITY OF MADISON (Ind.) SIX PER CENT. BONDS, guaranteed by the Columbus and Shelbyville Railroad Company, and made convertible into its stock, redeemable Nov. 1, 1872.

These bonds are for the sum of \$1,000 each, with Coupons, principal and interest, redeemable in New York, the latter in most cases first July, and 1st January, in each year.

The payment of the Railroad Bonds in each case is secured by a Deed of Trust to some responsible citizen of New York, with power of sale in case of default.

The Country and City Bonds are issued by virtue of special acts of the Legislature of the proper States, and by authority of the votes of the citizens of each.

The laws under which these Bonds are issued require the proper authorities to make a special levy of taxes, to be set apart exclusively to pay accruing interest, and to create a sinking fund to redeem the principal, which can be enforced through the courts of law, if necessary.

These debts operate in the nature of a mortgage on all the real and personal estate within the cities or counties respectively.

The Constitutions recently adopted by Ohio and Indiana, prohibit absolutely the creation of any further debt by counties or cities. This will prevent any further issue of such bonds.

We deem these securities good, safe and desirable investments. We recommend them to our correspondents.

Printed "Exhibits," giving detailed information in each case, can be had by applying at our office. WINSLOW, LANIER & Co., No. 52 Wall st.

500,000.

Covington and Lexington Railroad Company.

SEVEN PER CENT. CONVERTIBLE BONDS.

THIS COMPANY offers for sale, at the house of their financial agents, Messrs. Winslow, Lanier & Co., 52 Wall street, New York, 500 of their 7 per cent. convertible bonds. The interest is payable semi-annually on the 1st of March and 1st of September, at the Bank of America in this city, where the principal is redeemable in 1883.

The Covington and Lexington railroad commences at Covington, on the Ohio river, opposite the central and business part of Cincinnati, thence runs through Falmouth 38 miles—Cynthiana 64 miles—Paris 77 miles, to Lexington, 96 miles, where it connects with the Lexington and Danville railroad, which continues on South, through Danville, 131 miles, to Tennessee line, 216 miles, at which point a junction is formed with the line of the South-western railroad, which connects with the Chattanooga road, now in operation, and with the Southern railway system; the lines of which terminate at Charleston, Savannah, Mobile and New Orleans. Thus a continuous railway connection, of a common gauge of five feet, is formed between the Ohio river at Covington and Cincinnati, and the principal ports upon the Southern Atlantic and the Gulf of Mexico.

At Lexington this road meets the Louisville and Frankfort Railroad, the Maysville road, and Big Sandy railroad. At Danville with the Knoxville, Nashville, Bowling Green, Memphis and McMinnville roads—the trade and travel of all which, destined for Covington or Cincinnati, will be required to pass over this road.

This road is a main trunk line, connecting the South and the West. It is, in truth, the key to Kentucky, opening to the rich and fertile lands of the State, the Cincinnati and Eastern markets. In location it possesses the advantage of being forever secured from competition by the peculiar configuration of the country. It is being constructed in the most superior manner, with an almost level grade—there being only twenty feet ascent to the mile at any point between Covington and Paris, and only thirty feet to the mile between Paris and Lexington. The greater part of the road is entirely level.

At Cincinnati terminate nine important lines of railway, traversing Ohio and Indiana, either completed or in course of construction, with sufficient means secured, so as to ensure their being built. These roads enter the city by five tracks. Those in operation are among the most productive roads of the country, and those constructing promise to be equally profitable.

On the Covington side of the Ohio river there

are six lines traversing Kentucky from various points, all of which, to reach the Ohio river at this place, concentrate upon the Covington and Lexington railroad at Lexington, or with its connecting lines South of that city. These secure to it so much business in addition to that naturally belonging to its own line, that its stock must unquestionably equal the very best in the country.

Most of the whole line on the road is ready for the superstructure. The track laying is progressing at the rate of one-half mile per day, and will go on at that rate to completion. Ten miles are laid, and when twenty are completed trains will be put on.

The Company contemplate opening the road to Falmouth, for use, in July, and to Lexington in December next.

The preparation of the road bed for the superstructure—that is, the graduation, masonry and bridging, will cost \$16,476 per mile.

The road, when fully completed with all the necessary buildings, machinery and equipment, will cost \$32,877 per mile, which is very low, when the amount and character of the work done is taken into consideration. The Company have expended \$1,875,345 49.

Stock already subscribed and mostly paid in	£1,525,650
Stock which the counties of Kenton, Pendleton and Harrison are authorised to subscribe, and which there is little or no doubt they will do	100,000
Cincinnati loan	100,000
Bonds to purchase iron for the road	400,000
Bonds endorsed by city of Covington	200,000
Bonds now issued and offered for sale	500,000

£3,025,650

The whole cost of the road, including equipments and buildings all completed will be	3,156,228
--	-----------

(but the road will be put into operation by expending a much less sum.)

Requiring yet, before the road, buildings and equipment are all complete. \$130,578

The mortgage to secure the 500 bonds now offered is upon the whole road, property and credits and likewise secures 500 more bonds, if it be found necessary to use them, executed to JAMES WINSLOW, with whom it now is, at 52 Wall street, conditioned that he may take possession of and run the road, or sell it for the benefit of the bondholders, in case of default of the company in meeting the interest or principal of any of these bonds.

This mortgage is subject to one to secure the bonds for \$400,000 given for iron—which iron is now worth \$260,000 more than cost. The mortgage debt when these bonds are negotiated, will be \$900,000; to secure which are not only the assets shown of \$3,025,650, but also the value of the right of way—grounds given to the company, or sold to it at low rates for depots and other purposes, and the enhanced value of the iron—amounting in all to \$463,000.

Should the remaining 500 bonds authorised by the mortgage be issued (which, however, will not be necessary if the counties subscribe as contemplated,) the road will be fully complete, costing at the very cheapest rate for a first class

road	\$3,156,228
The enhanced value of material and real estate, including right of way	463,000

Then we have

\$3,619,228

to secure \$1,400,000, and one of the most durable and productive roads of the country.

Maps of the road and a full exhibit of the condition and affairs of the company are at 52 Wall street, where further information can be obtained. M. M. BENTON, President.

Railroad Iron.

3000 TONS superior quality, delivery from April forward, with 5 to 600 tons per month, for sale by NAYLOR & CO., 99 & 101 John street.

1217

To Railroad Contractors.**NEW ORLEANS, JACKSON & GREAT NORTHERN RAILROAD.**

SEALED PROPOSALS will be received at the Engineer's Office, (or through Post Office) in Aberdeen, Miss., until the 1st day of July next, for the Graduation, Masonry and Bridging of fifty miles of that portion of the Second Division of the New Orleans, Jackson and Great Northern Railroad extending from the Tombigbee River (1½ miles north of Aberdeen) to the Valley of the Besa Chitto Creek (a tributary of the Rockanockamy, in Choctaw County, Miss.

Plans and Profiles will be ready for inspection on and after the twentieth day of June; also after said time the character and magnitude of the work can be fully comprehended by passing over the line and reading the depth of cuts and height of embankments from the centre stakes.

Contractors will be furnished with specifications and blank proposals on application to the office.

Testimonials as to character and ability as Railroad Contractors, must accompany the proposals from all persons or parties not personally known to the officers of the company.

The line will be divided into sections of about one mile each, and bids will be received for one, or more, or the whole.

There is about 13 miles of very heavy earth work in crossing the ridges between Trim Cane Creek, and the head waters of the Besa Chitto; which being all in an elevated and healthy locality presents attractions for the grading Contractor. The balance of the distance will be average work. No rock of any importance is encountered in the whole distance.

The Masonry consists chiefly of eleven brick Culverts, with spans varying from 15 to 35 feet, and Brick Abutments and Piers for the Tombigbee River Bridge.

For further particulars apply to Geo. H. Hazlehurst Esq., Principal Assistant Engineer, personally or by letter,—directed to Snowsville Post Office, Choctaw County, Miss., or to the undersigned.

By order of the Board of Directors.
JAS. H. GRANT, Chief Engineer.

ENGINEER DEPARTMENT, Aberdeen, Miss.

Notice to Contractors.

PHILADELPHIA, EASTON AND WATER GAP RAILROAD.—Proposals will be received until noon, MAY 25th, for the Graduation and Masonry of said Railroad, from a point on the Wissahiccon, about fourteen miles from Philadelphia, to Hellertown, a distance of thirty-six miles. Seventeen miles more will be ready for contract in a short time.

The part now offered, includes a Tunnel 1800 ft. long, and a large amount of Earth and Rock Work and Masonry. The route occupies a very fertile and healthy country, accessible at all points. The line will be ready for examination, May 10th, and the Profiles, and Specifications, and forms of Proposals, may be seen at the Engineer's Office, No. 88 South FOURTH Street, Philadelphia, after May 15th.

EDWARD MILLER,
Chief Engineer.

Ictna Car Works.

HILLMEYER & SMALL, YORK, PA., PROPRIETORS.

WE are manufacturing to order and by contract, Baggage, Freight, Express, Stock, "Reading," and other patterns of Coal Cars. Lumber and Gravel Cars, of every variety, at short notice, and on favorable terms.

Our facilities for manufacturing are extensive, and our means for transportation to all parts of the country speedy and economical.

The Wheels we use receive our own personal attention, are made of the best Cold Blast Charcoal Iron, of both spoke and plate patterns, solid and open hubs.

All Cars built by us, and now in daily use on the Pennsylvania Central, Baltimore, Susquehanna, York and Cumberland Roads, have been appraised as first class, and carry the largest capacity allowed on any roads. We are prepared to furnish Wheels and Axles separately or fitted, Springs and other parts of Cars at short notice. Orders and Contracts for Railroad Companies solicited.
May 20*3m

\$3,000,000 LOAN ON THE MORTGAGE BONDS OF THE ILLINOIS CENTRAL RAILROAD COMPANY.

This Company will receive proposals from the 10th to the 15th day of June next, for Three Millions of Dollars of its Construction Bonds, to be issued in sums of One Thousand and Five Hundred Dollars each, payable at the office of the Company in the City of New York, on the 1st day of April, 1875, with coupons attached for the payment of interest, at the same place, semi-annually, on the 1st of April and 1st of October, in each year, at the rate of 7 per cent. per annum.

These Bonds are secured by a first and only mortgage to Trustees of the whole road and branches, 704 miles in length, and of two millions of acres of land in the vicinity of the road, granted by Congress to aid in its construction.

The whole road is under contract, and a large force is now employed in its construction. It is expected that 350 to 400 miles will be completed by the 1st of January next, and the remainder of the entire line during the year 1854. About 72,000 tons of rails will be required, of which 67,000 tons were contracted for at the low rates ruling one year since, and is now constantly arriving at New York and New Orleans.

The whole amount of Bonds which can be issued under the mortgage is seventeen millions of dollars, of which have been already negotiated—

London loan, 6 per cent Bonds.....\$5,000,000
In United States, and on iron and other contracts, 7 per cent Bonds.....5,785,000

\$10,785,000

none of which have been disposed of at less than par.

The Company will give to each subscriber to this loan, whose bid shall be accepted, the right to subscribe for three shares of the ultimate capital stock of the Company (170,000 shares of \$100 each) for each Bond of \$1,000 subscribed and paid for by him, and a like proportion for a larger or smaller amount, and a proper Provisional certificate will be given as evidence of such right to subscribe when the stock shall be issued, upon payment of such instalment as may be required by the Directors, not exceeding the instalments then called in from other stockholders, which probably will not exceed \$5 per share.

The Company reserve the right to redeem any of the Bonds at any time before maturity, on payment of the amount thereof, with 20 per cent premium and any accrued interest.

No proposal will be received at any rates less than par, and the company reserves the right to accept proposals for all or any portion of the amount.

Ten per cent of the amount allotted to each subscriber will be required on notice of the acceptance of his proposals, and the balance as called for by the directors, not exceeding ten per cent. monthly. Any subscriber, may, however, at his option pay up in full, and receive his bonds at any time. If any subscriber whose bid is accepted, shall prefer in lieu of the 7 per cent bonds hereby offered, to receive six per cent Bonds of the same character in every respect as those issued for the London Loan of \$5,000,000 of which interest and principal will be payable in London at the rate of four shillings and two pence sterling to the dollar, such bonds will be issued, but in such case the subscriber will be required to pay the instalments in London at the same rate, to wit: £208,6ss 8d for each bond of \$1000. The stock appropriated to such subscription will be also registered in London upon the same terms and conditions as that now registered there, if preferred, instalments and dividends thereon being payable there at the same rate of exchange.

Interest in all cases will be adjusted on payment of the final instalment.

Proposals will be received by W. P. BURRALL, Treasurer, at the office of the Company, No. 50 Wall street, New York, enclosed, sealed and endorsed, "Proposals for Loan of \$3,000,000 of Illinois Central Railroad Company."

Reports and documents showing the financial condition of the company, the progress of the work, and all necessary information relative to its affairs and prospects, may be obtained on application to the treasurer, personally or by letter.

By order of the Board of Directors.

ROBERT SCHUYLER *Pres't.*
DAVID A. NEAL, *Vice Pres't.*
W. P. BURRALL, *Treasurer.*
GEORGE GRISWOLD,
MORRIS KETCHUM,
JONATHAN STURGES.

Executive Committee.

New York, April 14, 1853.

Alden J. Hale,

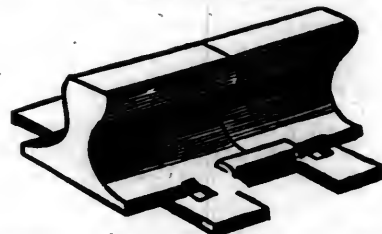
COUNSELLOR AT LAW, NOTARY PUBLIC,
COMMISSIONER FOR THE DIFFERENT STATES,

TRINITY BUILDING,

No. 111 BROADWAY, NEW YORK.

A. J. H. will attend to taking Acknowledgments, Depositions, Affidavits, etc., for the States of Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, Pennsylvania, Ohio, Indiana, Wisconsin, Iowa, Virginia, Tennessee, Alabama, South Carolina, Florida, Texas, Mississippi, Missouri, Kentucky and California; Loan Money on Bond and Mortgage, Negotiating Sales of Real Estate in New York and other States; Examining Titles and Drawing Deeds, Powers of Attorney, and other instruments in writing.

Office Hours, from 9 A. M. to 5 P. M.

Cincinnati Railroad Chair Manufactory.

THE Subscribers are prepared to make to order, on short notice, Wrought Iron Railroad Chairs, in any quantity that may be desired, which they warrant in every particular.

W. H. CLARK & CO.,
Cincinnati, Ohio.

Office 128 Vine street, (opposite Burnet House.)

N. York and N. Haven R. R.

NOTICE OF SUMMER ARRANGEMENTS,



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation for New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.

New Haven, May, 1853.

Notice.

LOST or stolen from the owners in London a package containing \$25,000, of 7 per cent convertible Bonds of the New York and Erie R.R. Co., redeemable in 1862.

Nos. 186, 916, 1,269, 1,375, 1,628, 1,634, 1,635, 1,603, 1,727, 1,729, 1,436, 1,347, 2,054, 2,055, 2,056, 2,505, 2,506, 2,507, 2,590, 2,694, 2,695, 2,876, 3,294, 3,295 and 3,460. \$1,000 each.

All persons are hereby cautioned against negotiating said Bonds, until further notice.

2t. p. CAMMANN & Co., 56 Wall street.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
90 Beaver st.
March 2d, 1853.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
90 Beaver st.
April 1, 1853.

O. A. NORRIS,

American Railway Agency,

FOR THE PURCHASE, ON COMMISSION, OF

ALL ARTICLES REQUIRED BY

RAILROAD COMPANIES.

Office, 12 Farquhar Buildings,

Philadelphia.

R. GROVES & SONS,
SHEFFIELD, ENGLAND,

Manufacturers of

WARRANTED Cast Steel of superior quality for Tools, Machinery and Engineering purposes. Single and Double Shear, Blister, German, Spring and Sheet Steel of every description; also, Cast Steel Files of high reputation, specially adapted for the use of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,
58 Maiden-lane, New York.

Stocks of the above goods constantly on hand.
January 12, 1853.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
50 South 3rd Street,
Philadelphia.

May 1st, 1853.

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

WM. BAILEY LANG.

Hoole, Staniforth & Co., MINERVA WORKS,

SHEFFIELD,

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by

RICHARD MAKIN,
Agent for the Manufacturers,
43 24 Broadway.

Pease & Murphy, FULTON IRON WORKS,

FOOT of Cherry st., E. R. Office, 27 Corlears, corner of Cherry st. Manufacturers of Land and Marine Engines.

N. B. Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,
50 South Third street.
Apr 1m

NEW YORK Lubricating Oil Manufacturing Co.

12 BROADWAY,

PROPRIETORS AND MANUFACTURERS OF
DEVLAN'S PATENT LUBRICATING OIL,
FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon Slides and Journals, by the use of bad oil. It will wear longer than Sperm, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.

ap30 3m

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidity, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Sole Manufacturers, 41

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 1, 1849.

lv

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF

AMERICAN SECURITIES,

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of

Railroad Iron, Chairs, or

any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co, London.

" Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

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CAUTION.

India-rubber Car Springs.

AN advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA.—Awarded by the American Institute to F. M. RAY, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed, JAMES TALLMADGE,
President.

N. MEIGS, Recording Sec'y.

ADONTEAM CHANDLER, Cor'g. Sec'y.

New York, Oct., 1851.

New England Car Spring Co., No. 104 Broadway
New York.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road. This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant. Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.

Portland, April 9, 1853.

SALE OF BONDS. Columbus, Piqua & Indiana Railroad Bonds.

I SHALL sell at auction on Wednesday the 8th June, at 12½ o'clock, at the Merchants' Exchange, \$300,000 7 per cent. Convertible Bonds of the COLUMBUS, PIQUA AND INDIANA RAILROAD of Ohio, being the balance of \$600,000, secured by a First Mortgage on the property and franchises of the company, and issued for the purchase of the iron for the road. These Bonds are in sums of \$1,000 each; they mature in 1862, and bear coupons for semi-annual interest, payable at the Ohio Life and Trust Company in this city. This railroad extends from Columbus, the capital of Ohio, 102 miles westward to Union, on the Indiana State Line, where it connects with the Bellefontaine and Indianapolis railroad, placing it in full communication with all the railroads branching from Indianapolis to the Ohio and Mississippi rivers. At Columbus it joins with the Ohio Central and the Steubenville and Indiana railroads, which, through Wheeling and Pittsburg, connect with the main railways to Baltimore and Philadelphia, making altogether the shortest line of roads that can be constructed from those seaboard points, through Ohio, to the Great West.

The Counties bordering on the Columbus, Piqua and Indiana railroad, contain 175,000 inhabitants, with taxable property amounting to over \$40,000,000. They are rich, even for Ohio, in railroad traffic.

The cash subscriptions to this road secured, and nearly all paid up amount to..... \$967,500
The First Mortgage Bonds..... 600,000
The Second Mortgage Bonds have been nearly all sold at and over 90, am't to..... 400,000

\$1,967,500

which will cover the whole cost of the road, being under \$19,000 per mile.

The work is in rapid progress of completion—a section of twenty miles of the track is laid down—26 miles more are being laid down, and will be running early in June. The rest of the road is nearly ready for the superstructure, and the whole line will be completed during this year. The whole iron for the track is purchased, and at prices far below present rates. A glance at the map will show at once the important central position occupied by this road. No other road in Ohio will command so large a portion of the through traffic from the whole seaboard to the west. New York, Philadelphia and Baltimore will all find this a valuable link in the respective avenues which lead from the Mississippi to these cities. The prospects of this road are such as to make the convertibility of the bonds of great value to the purchaser.

SIMEON DRAPER.

New York, May, 14, 1853.

Railroad Iron.

5000 TONS Best Staffordshire Rails for sale on early delivery in Liverpool by
12th NAYLOR & CO.,
99 John street.

To Surveyors and Engineers.

A MAN of science, and thoroughly acquainted with surveying and civil engineering, wishes a situation with some good practical engineer. Address "H. W.," this office. 3*12

Iron for Machinists.

THE SUBSCRIBERS,
IMPORTERS AND DEALERS IN
IRON AND STEEL,

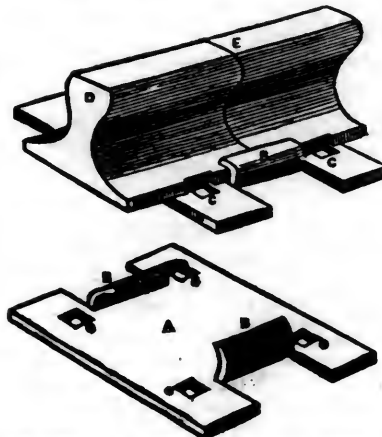
HAVE constantly on hand a good assortment of Iron and Steel, expressly adapted to the use of LOCOMOTIVE AND CAR BUILDERS, AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,

Feb. 16, 1853.

90 Beekman st., N. Y.

The American Railroad Chair Manufacturing Co. IN POUGHKEEPSIE, N. Y.,



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz: Syracuse and Utica, Chester Valley, Penn., Buffalo and Rochester, Tioga, Northern, Norwich and Worcester, Montreal and New York, Kings Mountain, S. C., Kennebec and Portland, Columbia and Granville, Plattsburg and Montreal, Buffalo, Bayou Brazos and Chicago and Rock Island, Colorado, Texas, Milwaukee and Miss., Panama, and others.

For further information address,
N. C. TROWBRIDGE, Secretary
Poughkeepsie, N. Y.

January 1, 1853.

BRIDGEWATER PAINT, FOR WOOD, BRICK AND IRON BUILDINGS, Steam and Canal Boats, RAILROAD CARS, & C.

OR

For all kinds of Work above and under water.
PERFECTLY SPARK AND CINDER PROOF,
On Roofs of Houses, and Decks of Steamers, Railroad and other Bridges.

For sale in Bbls, 300 and 400 lbs., and Kegs, 25, 50 and 100 lbs.
R. BOGERT, General Agent,
Depot: 125 Pearl and 78 Beaver sts., New York.

To Railroad Companies, Car Builders, Machinists, etc.
SINGER, HARTMAN & CO.,
SHEFFIELD IRON AND STEEL WORKS,
PITTSBURG, Pa.

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for manufacturing Car and Locomotive Axles, Piston Rods, Wrought Iron Shafting, etc., either hammered or rolled, are prepared to offer inducements as to quality and price. They also manufacture

Boiler Plate and Rivets,
Railroad and Boat Spikes,
Car and Locomotive Springs,
" " Spring Steel,
Solid Box Vices, etc., etc.

1517*

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

Payable in	
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Peoria and Quawaka.	" 1863
6 per ct.—Maysville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877

1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington.	" Troy, N. Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Muscoogee Railroad.	" Savannah, 1862
7 per ct.—Huron and Oxford.	" New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	" 1865-67
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa.	" Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio. Huron, 1861	
7 per ct.—Town of Newark, O.	" New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock.	" 1866

7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1856

12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River. 1862

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.
Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York R. R. Co.
Stock in the Mansfield and Sandusky R. R. Co.
Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

The Cold Spring Iron Works INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachusetts, manufactures CAR AXLES, and all kinds of WROUGHT IRON used in the manufacture of LOCOMOTIVES and CARS; also, BAR IRON of all descriptions. Particular attention is paid to the manufacture of CAR AXLES, and the Works being situated in a region of WOOD and CHARCOAL, with which their Axes are exclusively made, the Company feel confident they can furnish an article equal, if not superior, in quality and finish to any in the market. They solicit the orders of RAILROAD CORPORATIONS and CAR BUILDERS, and promise they shall be promptly attended to; and executed on terms as advantageous as can be had elsewhere.

They refer to—
John Kinaman, Esq., Superintendent Eastern Railroad, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.
E. T. Osborn, Esq., Superintendent of the Mad River and Lake Erie Railroad, Sandusky City, Ohio.
W. W. Wetherell, Car Builder.

Address HENRY MELLUS, Agent,
Boston, Mass.
or, GEO. W. PRESCOTT, Sup't,
Ossau, Mass.

November 12, 1852.

Anthracite and Charcoal Pig Iron.

800 Tons No. 1 Glendon Anthracite Pig Iron.	
1000 " No. 2 " " "	
1000 " Forge " " "	
200 " No. 1 Stockbridge Charcoal " "	
100 " No. 2 " " "	
500 " Forge Katahdin " "	

For sale by

GEORGE W. A. WILLIAMS,
5 Liberty Square, Boston.
3m

December 11, 1852.

FOR SALE.

TWO Sixty Horse Power Beam Engines, with eight boilers, suitable for Blast Furnace, Pumping, or Mining; formerly used by the State of Pennsylvania on the Schuylkill Inclined Plane, near Philadelphia, (where they may now be seen.)

Apply to A. & P. ROBERTS,
No. 804 Walnut Street, Philadelphia.

Notice to Contractors.



Mississippi and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUGH, President.
S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

Engineering.

THE Undersigned is prepared to furnish Specifications, Estimates and Plans, in general or detail, of Steamships, Steamboats, Propellers, High and Low Pressure Engines, Boilers, Mill Work, etc., etc. Particular attention given to the procuring and superintending of Locomotives, Tenders, Cars, and Railway Machinery of every description.

General Agent Ashcroft's Steam Gauge, Allen & Noyes' Metallic Self-adjusting Conical Packing, Dudgeon's Hydraulic Jack, Sewall's Salinometers, etc., etc.

Acts as Agent for the purchase or sale of, and has always on hand, Steamers, Locomotives, Engines, Boilers, Machinery, etc.
CHAS. W. COPELAND,
Consulting Engineer,
64 Broadway, N. Y.

1y17

Krupp's BEST CAST STEEL.

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions, not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines. Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

—Particularly applicable for—
Engravers' Transfer Rollers and Plates; Die-sinkers', Tool-makers, Reed and Lace Makers' use; Dredging Chains, etc., etc. Manufactured at Essen, in Rhenish Prussia, by FRIED. KRUPP.

Agents, **THOMAS PROSSER & SON,**
25 Platt street, New York
ap30

RAILROAD IRON.

THE Cambria Iron Company are now prepared to contract for Rails for future delivery, at their Works, Johnstown, Penn., or upon the Allegheny River at Pittsburgh or Freeport. Office, Johnstown, Penn., and 46 Pine at, New York.
May 2, 1853.

Wanted,

A MAN as Manager, or Chief Superintendent, in an Iron Manufacturing Establishment in this State. Address Iron, box 80, New York Post Office.

MAY, 21st, 1853.

Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc. 6tf

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS.
No. 139 GREENWICH STREET,
NEW YORK.

Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchasers, by
G. O. ROBERTSON,
135 Water street, corner of Pine,
November 19, 1852. New York.

Blake & Parkin, MEADOW STEEL WORKS, SHEFFIELD,

INVENTORS OF

CORE-ANNEALED CAST STEEL,

A most Important Improvement in CAST STEEL, originating with B. & P., for SCREW TAPS, PISTON RODS, ENGRAVERS to CALICO PRINTERS, SILVER and GOLD ROLLERS, etc., etc., warranted to harden by ordinary process without breaking, being soft in the centre to any required diameter, and hard to any specified depth from the outside.

HARD CENTRE CAST STEEL,

For DIES, LATHE CENTRES, MINT PURPOSES, etc., etc., warranted to harden the Inside without breaking, (the outside remaining soft.)

HARD AND SOFT SURFACE CAST STEEL, in Bars and Sheets, hard on one or both sides, and soft in the centre; or soft on one or both sides, and hard in the centre, and adapted for a variety of purposes, as MACHINE KNIVES, SLIDE BARS, PLOW KNIVES, PLANING KNIVES, ROLLER BARS for Beating Engines for Paper Makers, etc.

This peculiar Steel is quite SOLID, and it is quite malleable, and draws down under the Hammer, still retaining the difference of hardness. When hardened, the hard part is left very hard, while the soft is left just harder than common iron.

THE REPORT OF THE JURY OF THE

"EXHIBITION OF ALL NATIONS."

Class 21, Page 486:

"The attention of the Jury was particularly called to one novelty exhibited by Messrs. BLAKE & PARKIN, of SHEFFIELD, consisting of the union of Two qualities of Cast Steel, hard and soft, in the same article; manufactured with much skill, they have no reason to doubt that the process is peculiar to the Exhibitors."

A PRIZE MEDAL WAS

AWARDED TO

MESSRS. BLAKE & PARKIN.

N. B.—The Inventors mark all their Goods with their CORPORATE MARK—X. L. ENT.

Also, Cast Steel, German and Spring Steel, warranted Cast Steel Files, Saws, etc.

GEO. SANDERSON,
248 Pearl st., N. Y.

February 9, 1853.

New Works on Civil Engineering.

THE Field Practice of laying out Circular Curves for Railroads.—By JOHN C. TRAUTWINE, Civil Engineer—2nd edition in pocket-book form.

A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates.

Price One Dollar each—postage on the Curves Three Cents—and on the Excavations and Embankments, Six Cents.

For sale by
WILLIAM HAMILTON,
Hall of the Franklin Institute,
Philadelphia.

May 4, 1853.

PATENT

Locomotive Steam Cylinder BORING MACHINE

AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re-bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by
BRIDGES & BROTHER, Agts.,
64 Courtland St. New York.

January 20, 1853.

Railroad Iron.

THE "Montour Iron Company" is prepared to execute orders for Rails of the usual patterns and weights, and of any required length not exceeding 30 feet per rail. Apply to

THOS. CHAMBERS, President,
63 Beaver st, N. Y.

Or to the Agents,
CHOUTEAU, MERLE & SANFORD,
No. 51 New at., New York.
September, 1850.

\$300,000 PERU and INDIANAPOLIS RAILROAD FIRST MORTGAGE CONVERTIBLE SEVEN PER CENT BONDS.

We offer for sale, at reasonable rates, \$300,000 of the 7 per cent 1st Mortgage Convertible Bonds of the Peru and Indianapolis Railroad Company,

Forty miles of this road, lying between Indianapolis and Tipton, is now completed and in operation. The Madison Road operates the same. The residue of the line to Peru, 32 miles, will be completed and in operation by the 1st of November next.

The entire Road will cost, when completed and equipped, about \$1,200,000.

The available stock subscription is \$29,000. The mortgage debt is but \$600,000 in all, the above being a part thereof. The Road owes no other debt.

This Road is advantageously located, connecting at Indianapolis with the Madison road (of which it is a direct extension northwardly) and the other roads there centering.

At Peru it connects or intersects with the Wabash and Erie Canal, and it will shortly be extended to the Fort Wayne and Chicago Road at Warsaw.

It traverses a region of great fertility and productiveness, having no other outlet to a market. Its local business alone, will, it is thought, yield a handsome support.

Pamphlet exhibits, with maps of the work, and any other more detailed information desired, will be furnished on application to the subscribers.—
New York, April 7, 1853.

WINSLOW, LANIER & Co., No. 52 Wall-st.

Superior Cast Iron Gas and Water Pipes.

THE Subscriber is prepared to contract for the supply of CAST IRON PIPES required by Gas or Water Companies, Corporations, etc., delivered in any Seaport in the Union, on reasonable terms. These Pipes are cast on the most approved principle by the best Founders in Scotland, from a superior quality of Pig Iron remelted, are guaranteed to resist a pressure of 300 lbs. to the square inch, or greater if necessary, and to be soft enough to drill easily and freely. Full information regarding price, and references to parties in the United States now using the Pipes, can be obtained on application to the Agent in New York.

WILLIAM ROY, Junr.,
21 Renfield st., Glasgow,
Scotland.

J. M. EADIE, Agent,
26 Front st. New York
1y50

Railroad Iron.

THE undersigned, from their late long engagements with one of the most eminent Houses in the Iron Trade of Great Britain, considering themselves well qualified to assist Railway Companies and others in making purchases in the English markets, tender their services free of any charge to such as will favor them with communications, either personal or by letter.

Address
JOHN H. AUSTIN & CO.,
2 Ingram Court,
Fenchurch street,
London.

May 2, 1853.

New York and Erie R. R.

PASSENGER TRAINS
leave Pier foot of Duane street,
as follows, viz:—

BUFFALO EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. Y. City R. R., without change of baggage or cars.

CHICAGO EXPRESS, at 6 a. m. for Dunkirk.

DAY EXPRESS, at 7 a. m. for Dunkirk.

MAIL, at 9 a. m. for Dunkirk, and all intermediate stations.

WAT, at 3.30 p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7.45 p. m. for Dunkirk and all intermediate stations.

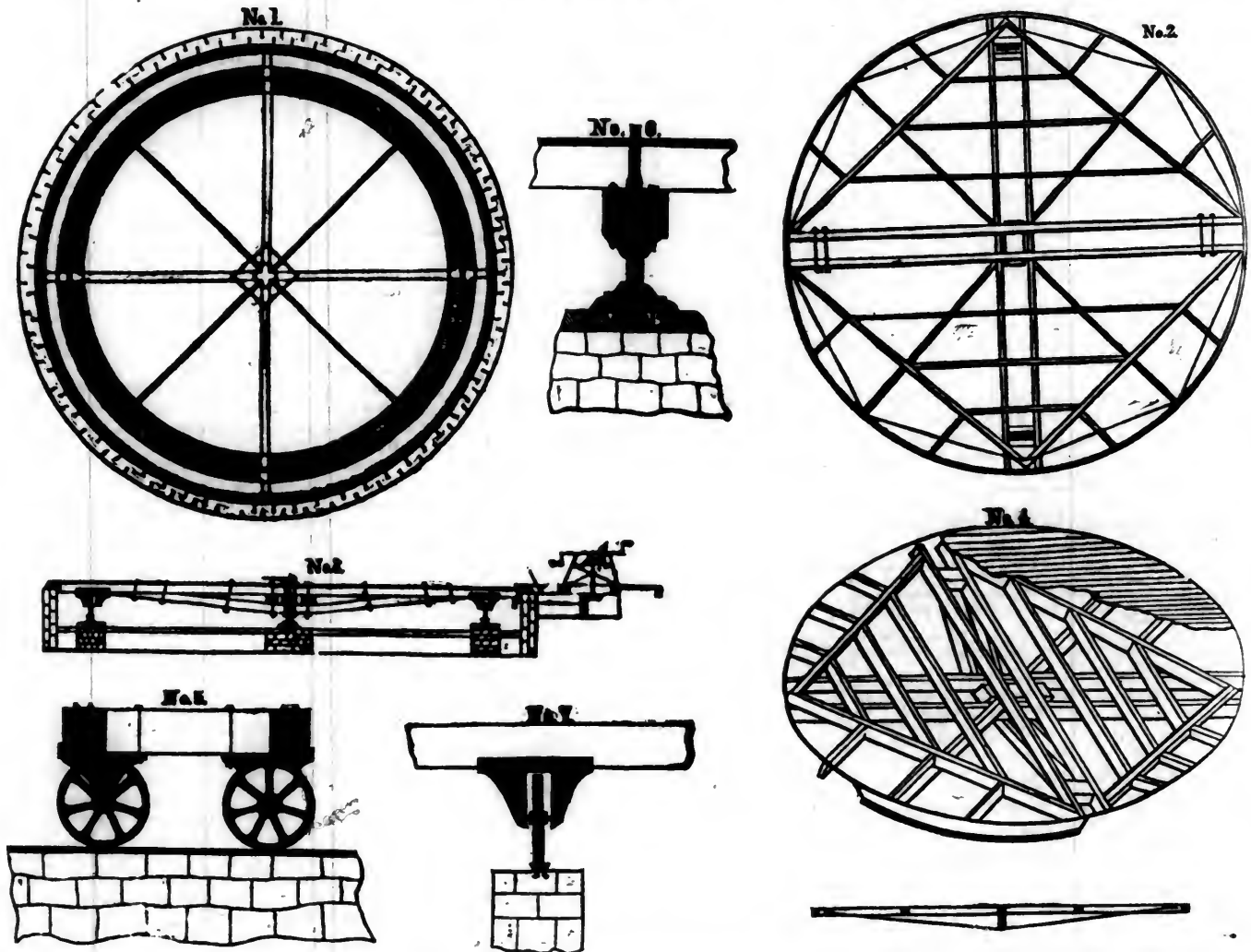
The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, and thence direct to Cincinnati; also, Sandusky, Toledo, Monroe, Chicago and St. Louis; also, with first class splendid steamers for Cleveland, Toledo and Detroit.
CHAS. MINOT, Sup't.

Railroad Iron.

3000 TONS in port and to arrive during April and May—weighing 58 and 60 lbs. per lineal yard, of excellent patterns and of Guest and Crawshays best make, for sale on favorable terms by
DAVIS, BROOKS & Co.
26 Beaver Street, New York.

May 1 10th.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in **25 SECONDS**.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Furguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.

A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcass Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. 15*

E. DWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use. JAS. PRENTICE, Feb 9 1853. 315 Broadway, N. Y.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.

Sept. 11, 1852. 15*

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes imported to order on the most favorable terms.

February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
SECOND QUARTO SERIES, VOL. IX., No. 22.] SATURDAY, MAY 28, 1853. [WHOLE No. 893, VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

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American Railroad Journal.

Saturday, May 28, 1853.

Pacific Railroad of Missouri.

The internal improvements of Missouri are assuming a high degree of interest and importance. The progress of population and commerce, and the vast system of railroads reaching into the Valley of the Mississippi from the east, rendered the projected works of Missouri a necessity. And she has gone into her system deliberately and advisedly, with the experience of other States before her, and she has planned it wisely. No other State presents a system better calculated to develop the resources of its various sections and interests, or more united and self-sustaining.

St. Louis, her commercial capital, is becoming the point of convergence for all the great railway thoroughfares between the Atlantic seaboard and the Mississippi. A glance at the railway map exhibit the striking fact, that, from Canada to the Gulf, the railway system converges toward St. Louis.

This fact must exercise a powerful influence upon St. Louis. In connection with the other fact, that she is the focus of the most extensive river navigation in the world, and is therefore, perhaps, the largest of all steamboat ports, having no less than one hundred and thirty-one steamers carrying an-

nually near four hundred thousand passengers, and being surrounded on all sides by untold territory, rich in mineral as well as agricultural resources, it seems inevitable that St. Louis is to be ultimately one of the largest interior cities of North America.

Missouri has pursued a cautious policy. She has been opposed to excessive inflations of credit, and has always maintained her own. Her bank never suspended specie payments. Her State indebtedness is chiefly for bank stock, and amounts at the present time (a portion of her bonds having been lately paid) to about \$600,000. Her population has nearly doubled every ten years, and now exceeds 750,000. Her mineral resources are varied and extensive, and her prairie and bottom lands are not surpassed in productiveness.

Though late to start, and therefore the more able and the better advised, she has projected a system of railways which radiates from her commercial metropolis on the western bank of the Mississippi, as do those which the interests of trade and capital are building on the eastern.

But her first and favorite work seems to be the PACIFIC RAILROAD. Into this work St. Louis has put her energy and capital. Its Board of Directors are among her best and wealthiest citizens, all of them deeply interested in the object. For this work the State has granted nearly every thing that has been asked for it. A favorable charter, with all necessary powers and privileges; an exemption from all taxation until the work is completed; a loan of the public credit to the extent of \$4,000,000, and an absolute transfer of the grant of lands made to the State by Congress, to aid in the construction, June 10th, 1852, amounting to about one million two hundred and fifty thousand acres. All the State asks or requires in return for these valuable grants, is the construction of the road to Jackson county, in five years from December 25, 1852, and the consolidation of the South-western Branch within ten years from the act of June 10, 1852.

The work of the company is laid out as follows: From St. Louis it passes westward into the valley of the Maramec about forty miles, where, at the border of Franklin county it forks. From thence the main line passes into the rich valley of the Missouri, and follows it about eighty miles to Jefferson city, the state capitol. From this point to

Jackson county, in the vicinity of the mouth of the Kansas river, the whole route is through a prairie country of the most fertile description, and underlaid with mines of coal, in many places known to be of the *Cannel* variety, and of unusual thickness. On this route, and within twenty miles of it, there are no less than two hundred and fifty thousand inhabitants, and not less than one million of acres of land improved.

We enumerate a few of the principal agricultural products of this strip of territory, according to the census of 1850 as follows:

Cattle & horses.	Sheep and swine.	Tons of Hemp.	Wheat, bushels.
272,977	587,641	7,643	789,039
Corn, bush.	Oats do	Tobacco, lbs.	Butter, lbs.
9,389,516	1,458,772	2,824,982	2,106,555

The length of this line of road will be about 280 miles from St. Louis to the western boundary of the state. Of this, forty miles it is expected, will be in operation on the 1st of July, and eighty-five miles further, reaching Jefferson city, is under construction, and it is expected, will be finished sometime next year.

The cost of this line completed, is estimated by the engineer, at present high rates at..\$7,483,000
Engines and cars..... 375,000

\$7,858,000
Of which is already expended..... 1,600,000

Remaining cost..... \$6,258,000

The available means of the company for the construction of this line, consist at present, as follows:

Stock subscribed and proposed, equal to.....\$2,500,000
State loan applicable..... 3,000,000
Portion of proposed loan derivable from land grant, applicable, about..... 1,375,000

Total.....\$6,875,000

This line is on the great emigrant route to the far west territories, Nebraska, New Mexico, Utah, Oregon, and the state of California, on which the travel has reached as high as 50,000 per annum. The rich valley of the Kansas, described by Bryant as the "future eden of America," lies just beyond its western terminus. The only means, at present, of transportation for this district of country, is the Missouri river. This is available but a

part of the year, and is at all times dangerous, uncertain and expensive.

Without going into all the details, we give the results of the engineer's estimates of the business upon the line, when completed, as follows:

From freight.....\$978,500
From passengers.....279,250

\$1,257,750

Deducting forty per cent. for expenses... 503,100

\$754,650

If this be true of the present state of affairs, and we have no reason to doubt its truth, it may reasonably be expected from the experience of all our railways, that this business will be largely increased, and that the stock will pay ten per cent, and indefinitely upwards.

Diverging from the above described line 40 miles westward from St. Louis, the Pacific railroad company have laid out a branch called the **SOUTHWESTERN BRANCH**, running up the valley of the Meramec, crossing the Gasconade river, and striking out upon the high and fertile plains of southwestern Missouri, and terminating upon the western boundary, on the Neosho river, opposite the Cherokee nation, celebrated for their high degree of civilization. This branch will be about three hundred miles long. For this line the company have opened no subscription for stock. With a munificent grant of lands, they have not thought it necessary. The capital along the line can be profitably employed in developing the immense resources of the country, thereby directly contributing to the ultimate profit of the company. The land granted is of alternate sections for six sections in width, on each side of the road, and has been officially certified by the commissioner of the general land office to amount to over 1,207,000 acres, and when finally adjusted will probably exceed that.

The plan upon which it is proposed to manage these lands is perhaps sufficiently developed in the communication of the president of the company to the board of directors which will be found in another column. The sales of the canal lands in Illinois, and of the lands along the various lines of railway in that and other states is a pretty satisfactory experimental proof that the calculations placed upon the ultimate value of these lands, after the construction of a railroad through them is well founded.

For the construction of the road, the Company propose to make a loan, which, in the end, may be less, but will not exceed ten millions. They seek now for four millions only, and that to be forthcoming at a rate not exceeding ten per cent per month, adjusting the interest on payment of the final instalment. The security they offer is not only the Southwest Branch railroad which they propose to build with the money, but they include in the mortgage **ONE MILLION OF ACRES** of their land on that line, and also their other main line and their capital stock, the main line subject to the lien of the State for such amount of bonds as may be loaned to the company under the laws now in force. The bonds which the company issue run 20 years, bear 7 per cent interest, payable semi-annually in New York, and are half convertible into stock of the company, and may at any time be converted into the land of the company at prices to be fixed by them. To aid the company to meet the interest they set apart their surplus lands, over the million of acres, amounting to 250,000 acres

more or less, the profits of the portion of the road in operation, which doubtless must be considerable within the next year, when 125 miles will be completed; and may also call in instalments, on their stock subscriptions, until the stock is fully paid up. As it is the object of the company to make the lands liquidate the bonds, they will sell no lands except for that purpose. Therefore, it is of some value to the bond holder to have his bond convertible into land. But it is perhaps a still greater advantage, that one half of his bond is convertible into stock of the company at par. It is quite plain that, if the main road is to be a *par* stock, or a ten per cent paying road, the Branch, built by the lands, without expense to the stockholders, being a *free gift*, must add that much to the value of the stock. There is another consideration to which we have not alluded, viz., the probability that one or the other of these lines will be the great National thoroughfare to the Pacific Ocean. Of that probability our readers must judge. The Missourians, who claim to have a more intimate knowledge of the country West of their State, by reason of their long commercial intercourse with that country than the people of other states, assert, that it is not merely probable, but it is inevitable. One thing they may claim without controversy, and that is that the lines of the Pacific Railroad Company are so situated, that, they will be able to connect with a northern or a southern route, and if a Central one be adopted, they are on it, or near it.

It must therefore be admitted under all the circumstances, that no loan of greater interest or promise has been proposed than the one under consideration. The security is better than railroad securities generally, because it adds to the road a large real estate security. Railroad securities generally are based upon the roads only. The chance, offered to capitalists seeking these kind of investments, of an interest in a large land grant as well as a good stock, is a rare one, and such as, we venture to affirm, will not be offered soon again.

The lines of the Pacific Railroad Company of Missouri are but continuations of the following:

The lines projected from Toledo and Cleveland direct to Alton and St. Louis, bring the trade of St. Louis direct to the Erie Railroad, and also to the New York Central line. By the Ohio and Mississippi Railroad, the Baltimore and Ohio and the Pennsylvania Central, are brought into almost direct connection. By the Alton and Springfield and Central railroad of Illinois a connection is made at Chicago with the Michigan Central and the Michigan Southern railways. By the road to Louisville and the southern part of the Illinois Central, immediate connection is made with the roads of Kentucky, Tennessee, Alabama, Georgia, South Carolina and Virginia.

The object of the present proposed loan of the Pacific Railroad Company is principally to put under construction their Southwest Branch running through their lands. For a more full understanding of that route we annex a description of its general characteristics from the Engineer's Report.

"The South-west Branch passes inland its whole length, developing a country that, up to this time, has had no convenient access to a market.

"The first Division extends (from the main stem of the Pacific railroad about 40 miles from the St. Louis, near the west line of St. Louis County) to the Gasconade River at the mouth of Little Piney, a distance of about ninety miles. The line is most-

ly on the ridge or divide between the waters of the Merimac and those of the Bourbeuse; it descends the valley of the Beaver Creek to Little Piney, and down that stream to its mouth.

"The country traversed by and tributary to this portion of the road is rich in iron, lead and copper. The Meramec iron works are within six miles of the road, and several mines of lead and copper are now successfully worked.

"There are two iron works on the Meramec; the Moselle, at the mouth of the Bourbeuse, and the Meramec or James', at the great Spring, near the mouth of the dry fork of the Meramec.

"James' works consist of one furnace, several bloomeries and a rolling mill. Their ore banks are inexhaustible, and their iron of superior quality. Their water power is the best in the State. Another iron furnace has been commenced on the south side of the Meramec near the Moselle works, but operations have been suspended for the present, though not because of any deficiency of ore.

"Iron ore is in sufficient abundance on other parts of the Merimac to warrant the erection of furnaces, if proper facilities were afforded for sending the produce to market.

"The lead furnaces on the Meramec are as follows: Thews & Yalles, which melts the produce of the Mount Hope and Cove leads. These leads are vertical and of good strength, and will produce a permanent yield of ore. J. N. Inges' furnace is 'Virginia lead,' the richest and strongest vertical lead vein ever opened in the United States, but not worked very much now for want of capital and mining enterprise to work it below its present level, now about 260 feet from the surface, to which depth it has been worked by horse power. There are three other lead furnaces on the Meramec; Gallagher's, Hiblers' and Chapman's. The yield of their furnaces is not known, nor are they in blast but a part of the time, as no steady mining is carried on in their vicinity for want of the requisite capital and mining experience to penetrate below the surface of the earth, and for want of transportation.

"No vertical lead veins have been discovered above the 'Virginia lead,' but nearly every hill bordering the Meramec, from this point to the Curtiso Creek, a distance of about 40 miles, will yield more or less lead, the formation being that of magnesian limestone, known as the 'lead bearing rock.' The lead ore, so far as discovered, exists in horizontal layers, beds or veins, (in this region) at different elevations, which have not been opened except in a very few instances. The mining now carried on consists in searching for the loose ore beneath the clay on the sides of the hills, where its rocky enclosure has decayed, and left the ore free and easily to be obtained by the pick and shovel of the most inexperienced miner. When capital and mining experience are enlisted in the business, it is believed the yields of lead ore on the Meramec river will be very large.

"In addition to the lead veins already referred to, there are several other mines which yield well, though not yet proved to be vertical veins. These are the Gonerelly and Bethold mine; the Thames mine; Clark and Westover mines; Green's diggings; Mineral Hill diggings; and Frank & William's mines, all of which yield well, when mined with judgment.

"There are two copper furnaces; one owned by the Stanton Copper Company of St. Louis; the other by the Meramec Copper Company. Only one, the Stanton, has been in operation the last year.—Each Company own several valuable copper mines along the Meramec. Clark and Hibler also own several, which have been only far enough explored to show that they were valuable mines. Mr. A. Park is owner of several copper mines of value, and has been opening one or two the last year on the Indian Creek, a tributary of the Meramec.—None of these mines except those of the Stanton Company have been opened deeper than can be done by a common hand windlass, yet the yield in some instances has been very promising. The Stanton Company have been working with horse power the last year, and the rich yield of their

mine has induced them to resort to steam power in order to descend to greater depths and richer ores. As an agricultural country it is not equal to the region further west, the ridges are rocky and not very fertile, but the valleys are very productive.

"The SECOND DIVISION extends from the mouth of Little Piney to Springfield, a distance of about one hundred and fifty miles. Immediately to the south, on the head waters of the Meramec, St. Francis, Big Black and Current rivers, and on the tributaries of the Gasconade are very extensive pine forests. The pine from them will find its way to market over the Southwest branch railroad, although it lies from twelve to twenty miles from the line of road. But the largest portion, for the present, will come from Piney creek and other parts of the waters of the Gasconade. It is estimated that there are from thirty to forty Pine saw-mills on these waters, the products of which, sent down the river, are from three to four million feet annually. The dangers and uncertainties of river navigation operate to the serious injury of this trade. Some of the large lumber dealers were nearly ruined last year by the loss of rafts on the Missouri. There is good reason for believing that all the lumber sent to St. Louis, will seek conveyance by the railroad, and in addition a large business be established for the broad prairie plains of the southwest.

"The line after leaving the valley of the Gasconade, lies upon the ridge between the Osage and Gasconade rivers. For the first thirty miles, the ridge is narrow, crooked and undulating. From this westwardly the character of the country begins to change, the ridge becomes broader, the declivities less abrupt, the valleys wider and a larger proportion of the land seems to be fertile and productive. I am not aware of any mineral having been discovered in this division.

"THE THIRD DIVISION extends from Springfield to the State line, about 95 miles. About thirty miles west of Springfield, the line leaves the summit between the Osage and White rivers, and passing down one branch of Spring river and up another, it crosses into the valley of Cedar creek, down that to Shoal creek, and down that to the mouth of Hickory creek, near Neosho, then up a small tributary of Hickory to the head of Lost creek, and down that stream to the Stateline, at a point about twenty-five miles north of the Arkansas line.

"The region traversed by this division is of the richest and most fertile nature; broad prairies, slightly undulating, wide valleys, gentle declivities of varied character, but all fertile, constitute the greater portion of this part of the state. Near Neosho, the line passes through an immense deposit of lead ore, which has been found to extend over an area of more than five hundred square miles! The ore is exceedingly abundant, and easily mined. It yields over 70 per cent of lead of the best and softest quality. At present only one furnace is employed in smelting the ore, and that is only worked two or three months in the year. The pigs are hauled in wagons twenty miles to the Neosho river, sent in flat boats down to Fort Smith, and thence in steamboats down the Arkansas and Mississippi to New Orleans, and thence by sea to New York. This can only be done for a few months of the spring, and though the profits are sufficiently remunerative, the great want of capital has hitherto prevented the working of these mines to any great extent. It would be difficult to estimate correctly the amount that would be made and sent to market, were there a regular, cheap and speedy communication by railroad with St. Louis.

"Coal is also found in the vicinity of the line, and Shoal, Hickory, and Spring creeks on the north, and Buffalo on the south, afford abundant supplies of power for machinery.

"Beyond the terminus lies a vast and fertile territory, now inhabited by the numerous Indian tribes accumulated there by the policy of the government. Many of these tribes are partially civilized and engaged in agriculture. Immediately beyond lay fields of salt, and thousands of acres covered with gypsum."

The following is the plan proposed by the president of the company, and adopted by the directors, for the management of the finances of the company, and to provide means for the construction of the road:

TO THE BOARD OF DIRECTORS OF THE PACIFIC RAILROAD:

The Charter of the Pacific railroad company now contains all the powers and privileges that have been asked for. The company have a right to construct a line of railroad, called in the charter "the Pacific Railroad," from the city of St. Louis via Jefferson city, to any point in Jackson county. This line will be from 260 to 290 miles long. They have also a right to build a branch railroad, called the "Southwestern Branch," from any point on the line of the said Pacific railroad, east of the Osage river to any point on the western boundary of this state, south of the Osage river. This branch will be about three hundred miles long.

The company have also the right to extend their road to any point west of the state of Missouri. This looks ultimately to the Pacific ocean.

By the Act of the legislature approved Feb. 22, 1851, a loan of state credit was made to the company not to exceed \$2,000,000.

By the Act of December, 25, 1852, an additional loan was granted to the company of \$2,000,000, and the grant of lands made to the state, by Act of Congress of June 10th, 1852, was transferred to the company by the same act. This grant of lands was made by congress to aid in the construction of a railroad from St. Louis to the western boundary of the state of Missouri, and the act of the state legislature requires the lands to be located and applied, so that this company shall construct a railroad from St. Louis to the western boundary of the state south of the Osage river. This was to cover the construction of the southwestern branch railroad and that portion of the Pacific railroad lying between St. Louis and the point of divergence of the southwestern branch. By the same act all the capital thus subscribed, the loan first authorized, and \$1,000,000 of the new loan together with such portion of the land granted as should be due to that portion of road lying between St. Louis and the point of branching should be appropriated to the Pacific Railroad terminating in Jackson county, and the road to be finished in five years. The remainder of the lands and one million of state credit to be applied to the southwestern branch. No time is fixed for completing that branch, but the act of congress requires that the road to which the lands are applied, shall be finished in 10 years or the lands unsold on the unfinished part of the road after that time, shall revert to the United States.

The company is exempt from taxation until their road is completed, opened and in operation and pays a dividend, or until two years after its completion, if it pays no dividend. The state has asked no consideration for the grant of lands but the construction of the road.

The condition precedent she affixed to the issue of her bonds to the Pacific railroad, in the first instance, was a bona fide subscription to the capital stock of \$1,500,000. This was made, and the condition complied with. A similar condition applicable to the one million loan for the Southwestern

branch, requires an additional subscription to the capital stock of \$500,000.

This can be complied with if it should be deemed important to use that loan. The total amount of capital stock subscribed at the date of your last annual report, March 28, 1853, was \$2,800,000, —partly conditional.

Of the subscribed capital, only \$1,200,000 had been subjected to assessment. On this 50 per cent had been called, and \$609,965 paid up. The amount of state bonds issued to the company as a loan, and for the payment of which, the state, by law, takes a lien on your main road, was \$650,000.

The total amount expended by the company for all purposes, to date of last annual report, is \$1,378,487 85, the particulars of which are set forth in the accompanying balance sheet of the treasurer marked A. The first division, whose length is about 40 miles, will be opened for business on the 1st of July. Contracts are awarded for about 24 miles of the second division, and the remainder of that division, extending as far as Jefferson city, 125 miles, from the point of beginning, will be under contract in May.

All the preliminary surveys are completed, and about one-half of the Pacific railroad, and the greater part of the Southwestern branch definitely located.

The grant of lands to this company, extends to the alternate sections on each side of the road for six sections in width for the entire length of the road from St. Louis via the Southwestern branch, to the western boundary of the state. This is 3,840 acres for every mile of road. The length of road to which the lands are applicable will be about 340 miles.

This gives the company 1,305,700 acres of land.

Thos. S. O'Sullivan, Esq., the engineer in chief, estimates the total cost of the two roads, at present rates to be as follows:

Pacific railroad, 290 miles.....	\$7,220,000
Southwestern branch 300 do.....	7,750,000

Total.....	\$14,970,000
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This estimate is exclusive of the rolling stock.

The means of construction consist of subscribed capital of.....	\$2,000,000
Proposed additional subscription.....	1,000,000

Capital.....	\$3,000,000
Public loan.....	4,000,000
1,305,600 acres of land estimated at....	9,500,000

\$16,500,000

In order to make the lands most available for the purposes of the grant, it is not proposed to sell them immediately as the work progresses as authorized by the act of congress, but that they should be retained in the actual possession of the company, until the construction of the railroad shall have caused such an increase of population and business as to give them a high market value. The act of the General Assembly granting the lands, expressly confers the power to mortgage them. The course successfully pursued in a similar case in another state, suggests as the most judicious plan, the issue of bonds of the company to pay the cost of constructing the road, secured in the most perfect manner in your power.

By Act of Congress, the donated lands shall be sold only as the work progresses. The work might progress simultaneously throughout its entire length. But the lands may be sold under the act

in manner following: Whenever twenty miles of the road are completed, the lands may be sold on that twenty miles, and also the next twenty miles in advance, and so on. This provision of law was doubtless intended to secure the faithful application of the lands to the construction of the road, and it is not imperative that they shall be sold absolutely as fast as each twenty miles of road are completed, but they shall only be sold as the work progresses, and not sold and the proceeds appropriated to private use, and the work left undone. And for greater security the Act of Congress prescribes that, if the road is not finished in ten years, the lands unsold lying on that part of the road unfinished at the end of that time, shall revert to the United States. The absolute fee simple title is by the Act of Congress and of the Legislature of Missouri, already vested in the Company, and no part of the lands can revert, except those lying upon that part of the line which shall be unfinished after the lapse of ten years.

We propose to raise funds sufficient to place the whole road under contract, and to mortgage the lands and the road subject to the reversionary interest of the Government in the lands only. We issue bonds, the payment of which is to be secured by the mortgage, and the proceeds of which are to be applied to the construction of the road—the bonds to bear 7 per cent interest, payable semi-annually in the city of New York, and the principal payable in twenty years after date, and a portion of them convertible into stock—but all the bonds convertible into land—such only of the lands to be taken as may be open for sale at the time, and at prices to be fixed by the Company; and the lands thus purchased must also lie upon the finished part of the road, or within twenty miles in advance of each finished part, until the whole road is completed. None of the mortgaged lands to be sold except in exchange for bonds or for cash to be applied to the payment of bonds. The bonds are supposed to furnish ample means to secure the completion of the road, and the aggregate sales of the lands to cancel all the bonds. In the purchase of land by any bond holder, the relative security of the rest is not injured, inasmuch as the proportion of land security due to each bond will remain the same until the whole are cancelled.

In furtherance of this purpose we propose to classify the lands and to fix a minimum value below which none of them can be sold as long as there is a construction bond outstanding and unpaid. Each piece or parcel of land to be appraised by our agents, and allotted to some one of the five following classes, viz:

1. First class, consisting of lands especially valuable as coal fields, quarries, minerals, water-power, or vicinity of towns, or as eligible town sites,—50,000 acres, minimum value twenty dollars per acre.....\$1,000,000
2. Second class of lands of superior agricultural advantages, 150,000 acres at minimum value \$15 per acre..... 2,250,000
3. Third class of lands of good agricultural qualities—500,000 acres, minimum value \$10 per acre..... 5,000,000
4. Fourth class of low agricultural qualities, within fifteen miles of the road, but capable of cultivation,—200,000 acres, minimum value \$5 per acre... 1,000,000
5. Fifth class of inferior lands, 10,000 acres, minimum value \$2 50 per acre 250,000

Making an aggregate valuation for 1,000,000 acres at.....\$9,500,000

The accounts to which the proceeds of the construction bonds are to be applied, are the general expenses of the Company, including pay of officers and agents, graduation, masonry, superstructure, land and damages, fencing, buildings, equipment, and all the appurtenances of the road, and also part of the interest warrants up to the time of the completion of the road.

We propose also for greater security of the interest, to set apart an interest fund to which shall be appropriated the profits of the partial operation of the south-western Branch, and the remainder of the lands over 1,000,000 acres obtained under the grant, amounting to 200,000 or 250,000 acres. The receipts from transportation on the South-western Branch, would be appropriated firstly, to the payment of all current charges, such as wages, repairs, rolling stock, &c., and then the interest until the State tax becomes payable, when that should be first paid, and after the payment of interest, to the payment of such dividends as the Board of Directors may order, or to such other purposes as they may prescribe.

THOMAS ALLEN, President.

St. Louis, April 13th, 1853.

Cincinnati, Hamilton and Dayton Railroad. THIRD ANNUAL REPORT OF THE PRESIDENT TO THE STOCKHOLDERS.

GENTLEMEN,—Since the last annual report, the business of the road has increased beyond the expectations of the Board of Directors. Each month's earnings show a large increase over the receipts of the corresponding month of the preceding year,—amounting, on the average, to an increase of 86 per cent.

By reference to the reports of the Secretary and Superintendent, which are herewith submitted, it appears that the gross earnings of the road, for the year ending on the 1st of April, amount to \$321,793 17. The running expenses were \$120,826 91.

Two cash dividends have been made since the opening of the road on the 1st of October, 1851—one of four per cent on the 1st day of July, 1852, and one of five per cent out of the earnings to the 31st of January last, leaving a surplus, at that time, of over forty thousand dollars to the credit of Income account.

But few accidents have occurred on the road during the past year. The most serious one, in point of cost, was a collision between a gravel and passenger engine, by which they were both much damaged. This resulted from the carelessness of the engineer on the gravel engine, in leaving his locomotive too near the main track. He was promptly dismissed.

Since the opening of the road no accident has occurred to any passenger, with one or two exceptions where the injury was slight.

In the management of running the road we have been very successful; and the Board feel satisfaction in bearing testimony to the faithful manner in which the several subordinate officers and employees have performed their responsible duties.

In December last we were visited by one of the great floods which occur once in every ten or fifteen years in this section of the country, doing much damage to public works generally. Our road stood the test better than was apprehended by some; and the injury sustained interrupted the running of the train above Hamilton only a few days. In constructing the work it was found necessary to change the bed of the Great Miami river at one place, and that of Mill Creek at another; and we were not without apprehension that the road, at these points, would be difficult to maintain. The result, however, of the flood in December, demonstrates that we have a safe road, which, with a small additional expenditure, will be secure against the highest floods. It will be neces-

sary this year to extend the bridge over the Miami River at Hamilton, and the one over Twin Creek, in order to give more water way.

During the year, passenger and freight houses have been completed at Lockland, Glendale, Jones, Trenton, Middletown, Post Town, Carlisle, Miamisburg, and Carrollton. The station house at Ernst's will soon be completed. It will be necessary to erect, during the present year, substantial and somewhat costly passenger houses at Dayton and Hamilton.

The large freight house in Cincinnati, one hundred and three feet wide, by five hundred in length, extending from Fifth to Sixth street, which is now used for both passenger and freight purposes, it was believed would answer the business of the road for several years; but we have already been cramped for room, and shall soon be required to erect a separate house for passengers, if not another for outgoing freight.

The large amount of real estate, purchased in the city for depot purposes, was thought to be more than sufficient for the future business of the road; but it is now apparent that additional facilities must be had, in order to accommodate the accumulating business from connecting roads.

The amount of equipment for our road, and for running the Hamilton and Eaton, and Dayton and Michigan roads, already doubles the original estimate, and before the present year closes must necessarily be largely increased to do the business that offers. So far we have not been able to obtain freight cars and locomotives fast enough for the increasing freight, and have seen much of it seeking other channels in consequence.

The necessity of a second track between Cincinnati and Hamilton is beginning to be felt. It is the intention of the Board to proceed with the grading as fast as it can be done, and maintain upon the road the necessary trains to do the business. In the course of thirty days a portion of the grading and masonry will be ready to let to contractors.

The fencing of the road is so far under way that it may be completed in a few weeks. When the road is fully enclosed, we shall be able to run our express trains through from Cincinnati to Dayton, with entire safety, in one hour and a-half.

These various expenditures for extending bridges, strengthening embankments, erecting station houses, extending workshops, purchases of real estate, additional equipment, and grading for second track, will necessarily be large, and require our construction account to be kept open, and more means provided.

During the past year our Board has agreed to extend the line from a point two miles north of Hamilton, to intersect the Junction road at College corner, on the State line. The Junction Co. have let their part of the road from College Corner to Connersville, and have consolidated with the Ohio and Indiana Co., which extends the line to Indianapolis. The building of our part of the road is estimated to cost three hundred thousand dollars; and it is believed will be profitable of itself, besides securing to us a connection with Indianapolis on a uniform gauge, and securing perpetually to our main line a large and profitable business.—It is proposed to build our extension by subscription, on a separate account, with a view to consolidating with the Junction Company, making one road, under one management, from Indianapolis to its junction with our line north of Hamilton.—The Stockholders of our Company will find it to their interest to subscribe liberally to the extension.

The prospects for the present year's business are flattering. To this time the travel upon our road has been principally local. Various roads, which have been for several years in course of construction, and with which we have formed satisfactory and permanent business arrangements, are now so far completed as to commence bringing upon our line both freight and passengers. Two hundred and thirty-six thousand eight hundred and twenty-eight passengers have been carried on the road during the past year, averaging seven hundred and fifty-nine per day.

Advantageous and permanent arrangements have been made between the several railroad companies forming the two lines between Cincinnati, Cleveland and Sandusky; by which an injurious competition will be avoided, and each line receive a fair proportion of the profits of the through business to the east. By this arrangement fair prices will be maintained, and the public will be well and safely accommodated, at reduced rates. The Companies composing the two lines (which are denominated the East and West lines) are the Little Miami, Columbus and Xenia, and Cleveland, Columbus and Cincinnati railroad companies forming one line; and the Cincinnati, Hamilton and Dayton, Mad River and Lake Erie, and the Junction railroad companies, forming the other line.

The line with which we are directly connected will be fully prepared before the commencement of the pleasure travel to the east and north, to command its share, the whole distance being now fully laid with a new rail, and two finelake steamers (the St. Lawrence and Mississippi) provided to run in connection between Sandusky and Buffalo. Previous to navigation again closing, the Lake Shore or Junction road, from Sandusky to Cleveland, will be completed, and we shall then have all the advantages of a continuous railroad connection with the eastern cities, by way of the Lake Shore roads, both east and west of Cleveland, at the same through rates to New York, Boston, &c., and be able to convey Passengers through in the same time as by any other route to the Lake.

The business from the Mad River and Lake Erie road in through freights, during the past year, was large. With the improved condition of the road, and increase of machinery, together with the large number of propellers engaged to run between Buffalo and Sandusky, a very heavy freight business may be expected this year.

The Cincinnati, Hamilton and Dayton railroad occupies the natural position to connect with many important lines of railway. Among the most important may be named the following:

First.—The line from Cincinnati to Indianapolis, a point where terminate some eight or ten roads. This line will be composed of two roads—the Cincinnati, Hamilton and Dayton, and the Junction, and will be of a uniform gauge. It is agreed that our road shall receive the whole business of this line perpetually.

Second.—The line from Cincinnati to Chicago, composed of the Cincinnati, Hamilton and Dayton, the Hamilton and Eaton, Richmond and Miami, Richmond and New Castle, and Logansport and Chicago roads, the whole distance being 276 miles. Three of the roads forming this line are nearly completed, and will be in operation to Richmond this week. Beyond Richmond the work is in rapid progress, under admirable management, and, we are assured, will be completed to Anderson, where it crosses the Bellefontaine road, in all this year. With this line of roads we have made satisfactory arrangements for a business connection. From the Hamilton and Eaton road we have already received a large amount of business. This road forms a link in the chain of roads extending from Cincinnati to Chicago; and the business done on only twenty-eight miles gives an earnest of what may be expected when it is completed through to Chicago. Heretofore the passenger business has not been done without change of cars at Hamilton. Through trains will be run from Cincinnati to Richmond, Indiana, the present month.

THIRD.—The line from Cincinnati to Ft. Wayne, composed of the Cincinnati, Hamilton and Dayton, the Dayton and Western, Greenville and Miami, and Cincinnati, Union and Fort Wayne roads. The distance from our city to Fort Wayne by this route via Dayton, is 168 miles, upwards of one hundred miles of which are now completed, and in operation to Union. The remainder, from Union to Ft. Wayne, will be let to contract this month. With this line of roads we have also mutual arrangements for permanent business. At Fort Wayne it also connects with roads leading to Chicago and the east.

FOURTH.—The line from Cincinnati to Toledo,

composed of the Cincinnati, Hamilton and Dayton, and Dayton and Michigan roads. With the latter company we have a contract, by which we are guaranteed the exclusive business of their road between Toledo and Cincinnati for twenty years. By the same contract we agree to subscribe one hundred thousand dollars to the capital stock, and to furnish the rolling machinery and run the road until it is completed to Sidney. The road was opened to Troy, twenty miles north of Dayton, a few days since. The whole work has been put under contract, and when completed, must add largely to the business of our road. At present the travel from Toledo and Chicago reaches our road via the Norwalk and Toledo, connecting with the Mad River and Lake Erie road at Bellevue. This travel is increasing, and although somewhat circuitous, adds much to our business.

FIFTH.—With the Mad River and Lake Erie Co. we have entered into a contract to run in connection for ten years, and thereafter, until one year's notice to be given by either party. This road with ours, forms a complete line from Cincinnati to Lake Erie, and in connection with the fine steamers on the lakes, will present to the public a route to Buffalo quite as desirable as any other line between the same points. A large and profitable business is anticipated the ensuing summer and fall over this route. The travel to Detroit, to Mackinaw, and other points on the upper lakes, via Sandusky, it is believed, will be greater this year than any previous one.

The subscriptions made by our company to the capital stock of other roads amount to less than one hundred and fifty thousand dollars, and are much less than those made by many companies to secure valuable connexions.

Cincinnati has now ample railroad facilities to the east, north, and west, which will be largely increased on the completion of the Ohio and Mississippi, Dayton and Michigan, the Cincinnati, Wilmington and Zanesville, and the Cincinnati, Hillsborough and Parkersburg roads. There remains to be completed a connection with the south, and our citizens should lose no time in aiding and pushing forward roads that will unite Cincinnati, Charleston, Mobile and N. Orleans.

By order of the Board of Directors,
Respectfully submitted,
S. S. L'HOMMEDIEU, Pres't.

May 28, 1853.

STATEMENT showing the receipts of money from stock and bonds, and from transportation, and the object for which the same has been expended.

Construction account.....	\$1,975,177 80
Equipment ".....	310,147 74
Real estate.....	222,686 10
800 shares Dayton and Michigan R.	
R. stock.....	40,080 00
600 shares Springfield and Columbus railroad stock.....	30,000 00
90 shares Richmond and Miami R.	
R. stock.....	4,500 00
1000 shares Eaton and Hamilton railroad stock.....	18,750 00
Paid on account of steamboats.....	32,427 06
Transportation expenses.....	120,836 91
Interest account.....	56,992 67
Taxes and insurance.....	9,234 42
Dividend No. 1, 4 per cent.....	48,380 66
" No. 2, 5 ".....	78,085 71
Reserve fund.....	41,365 99
Balance.....	1,106 73
	\$2,989,691 79

Cr.	
Capital stock.....	\$1,694,000 00
Mortgage bonds (convertible).....	406,000 00
" second loan.....	500,000 00
Transportation receipts, balance April 1, 1852.....	67,284 21
Receipts for twelve months ending April 1, 1853.....	321,793 17
Received from rents.....	81,614 00
	\$2,989,691 79

The total receipts for passengers were \$191,700.93; freights, \$122,377 25; mails, etc., 7,714 99. The total number of passengers carried were 286,828; number of tons 61,189; number of passengers carried one mile 7,678,496; tons of freight, do. 3,667,109; miles run by passenger trains, 85,585; freight do 55,207; gravel and other trains, 86,496; total miles run by all trains, 227,350.

The road was opened for business in September 1851. The following will show the comparative receipts for the last six months of then two preceding years, viz:

	Receipts 1851.	Do. '52.
October.....	\$16,838	\$03,001 60
November.....	12,441	27,615
December.....	19,333	23,833
January.....	14,745	29,545
February.....	14,270	27,389
March.....	19,067	35,678

The increase for 1852 over the preceding year it will be seen, was very nearly 100 per cent. There is but little doubt the increase for the present year over the past will be very nearly in the same ratio. The above road forms the trunk of numerous lines radiating from it, at Hamilton and Dayton, and the business of the former must increase in proportion to the progress of the latter. The connecting lines which will be tributary to the road, are already sufficiently described in the foregoing report.

This road has been constructed in the face of numerous obstacles and discouragements, and its final cost was somewhat greater than what was contemplated, owing in part to the assistance afforded other companies and the additional outlay required for equipment, depots, etc., etc., to accommodate the business of the connecting lines. Those expenses were large, and bore heavily upon the company at the time, but were undoubtedly dictated by a wise forecast. They have secured permanent and friendly relations with the connecting lines, and are now in the receipt of an ample income, which is daily and rapidly increasing, and which promises to make the above one of the most productive of western roads.

Consolidation of the Central Line.

Below will be found a synopsis of the agreement entered into by the various companies that are to compose the consolidated line, viz: the Albany and Schenectady, Troy and Schenectady, Utica & Schenectady, Syracuse and Utica, Rochester and Syracuse, Buffalo and Syracuse, Rochester, Lockport and Niagara Falls, and Buffalo and Lockport companies. The agreement is now perfected, and only wants the ratification of the stockholders to become a law. The term of the new corporation is limited to 500 years.

The directors of the new company are to be 13 in number. The first election of directors is to be held in the City Hall in the city of Albany, on Wednesday the 6th day of July next.

The directors of the new corporation are to be chosen annually, on the 2nd Wednesday of December, in each year after the present year, 1853.

The capital stock of the said new corporation being limited by the act to the aggregate amount of the capitals of the several companies consolidated, the respective parties agree and declare that the capital stock of the said corporations respectively, together with the amount, if any, of outstanding bonds, legally issued by the said several corporations, with the right or privilege to the holders thereof to convert the same into the capi-

tal stock of such companies respectively at par, on surrender of the said bonds and on the terms therein mentioned, are as follows:

Albany and Schenectady railroad company.....	\$1,535,860
Convertible bonds of the said company, outstanding.....	650,000
Schenectady and Troy railroad Co.....	650,000
Utica and Schenectady railroad company.....	4,500,000
Mohawk Valley railroad Co.....	1,575,000
Syracuse and Utica railroad Co.....	2,700,000
Syracuse and Utica Direct railroad company.....	600,000
Rochester and Syracuse railroad company.....	5,606,700
Convertible bonds of said company...	2,000
Buffalo and Rochester railroad company.....	3,000,000
Rochester, Lockport and Niagara Falls railroad company.....	2,016,100
Convertible bonds of the said company.....	139,000
Buffalo and Lockport railroad Co.....	675,000

Total.....\$23,085,600

Of which \$227,000 is bonded convertible debt.

The capital stock of the said new corporation is therefore fixed, pursuant to the said Act of the legislature, at the aforesaid aggregate sum of twenty-two millions eight hundred and fifty-eight thousand six hundred dollars, being subject to be increased, by the conversion into stock of the principal of the said outstanding bonds to twenty-three millions and eighty-five thousand six hundred dollars. The said capital stock shall be distributed ratably to and among the several stockholders in the companies, parties hereto, so that every stockholder in each of the present companies shall receive in place of the stock now held by such stockholder, the like number of shares at par in the capital stock of the new corporation.

The amount of the bond or funded debts, other than the convertible bonds above mentioned due from the said companies, the new corporation is to assume and pay as follows:

Albany and Schenectady railroad company.....	\$226,823 52
Schenectady and Troy railroad company.....	100,000 00
Syracuse and Utica railroad Co.....	126,000 00
Rochester and Syracuse railroad company.....	756,000 00
Buffalo and Rochester railroad company.....	177,000 00
Rochester, Lockport and Niagara Falls railroad company.....	476,000 00

The respective companies are to pay all the interest due or which may accrue on their said indebtedness up to the first day of May, one thousand eight hundred and fifty-three.

All indebtedness existing against either of the parties hereto, at the close of business, on the 30th day of April last, other than the debt herein before referred to, are to be paid by the respective parties, out of their own assets. This shall not extend to any indebtedness for engines, cars, machinery or supplies contracted for by any of the parties previously to the said 30th day of April last, and not then delivered.

The net earnings of the various roads after the 30th April, to be paid over to the new corporation.

The Rochester and Syracuse railroad company shall also be credited with the amount which shall have been expended by them in constructing and equipping their straight line road between Syracuse and Rochester.

The parties hereto respectively, shall be authorized to retain for division and distribution all moneys which they had on hand on the 30th day of April last, all amounts and debts due to them on that day, and all stocks and securities for the payment of money which they then held.

The new corporation take the stocks of the Great Western railroad company, Canada West, and in the Buffalo and State line railroad compa-

ny, owned by the different corporations at the following prices. For the stock of the Great Western railroad, Canada West, par; for the stock of the Buffalo and State Line railroad company, par and 20 per cent premium. The said stocks are to be paid for by the new corporation, in cash, or 6 per cent bonds before the first day of November next.

The Mohawk Valley railroad company shall pay over to the new Corporation without delay, the amount of the first instalment of ten per cent, received on the capital stock of the said Company.

The Syracuse and Utica Direct railroad company shall also pay over to the new Corporation the amount of the first instalment of ten per cent, received on the capital stock of the said Company.

The whole amount unpaid on the capital stock of the Buffalo and Rochester railroad company, it is agreed, shall be paid to the new Corporation.

The estate, property and franchises of the said companies, parties hereto, which in pursuance of the said acts of the Legislature, will vest in the said new Corporation, on its organization, being of unequal value, and the stocks of the said respective companies having heretofore uniformly sold in market at different prices or rates of premium, the parties hereto do hereby, with the view of making compensation for such differences to the stockholders of said companies, respectively fix upon the following amounts to be allowed therefor by the issue of certificates as hereinafter mentioned, to wit:

The agreement awards the following premiums to the stockholders in the various roads, in addition to share for share of stocks—

Albany and Schenectady railroad 17 per cent. Utica and Schenectady railroad company 55 per cent. The Mohawk Valley railroad company 55 per cent. Syracuse and Utica railroad company 50 per cent. Syracuse and Utica Direct railroad company 50 per cent. Rochester and Syracuse railroad company 30 per cent. Buffalo and Rochester railroad company 40 per cent. Rochester, Lockport and Niagara Falls railroad company, and Buffalo and Lockport railroad company 25 per cent.

The above premiums are to be paid in six per cent Bonds, with 30 years to run. No allowance is made for any such difference in value to the stockholders of the Schenectady and Troy railroad company, as the stock of that company is not considered to be worth its par or nominal value; but each share of stock in the new Corporation to be issued to the stockholders of that company in place of their present stock in said company, as herein before provided for, shall be made subject to the further payment of \$25 on each of the said shares.

A sinking fund to be provided by the new corporation, for the purpose of securing the payment of the principal of the said certificates at the maturity thereof, by setting apart annually out of its earnings, an amount equal to one and one-fourth of one per cent on the total amount of the principal of the certificates thus issued.

The agreement made between the Rochester, Lockport and Niagara Falls railroad company, and the Rochester and Lake Ontario railroad company whereby the former company have taken a lease of the road of the last named company, shall be fulfilled on the part of the new corporation; and the said new corporation shall issue to the respective stockholders of the said Rochester and Lake Ontario railroad company, certificates for 25 per cent on the amount at par of such capital stock, so that the stock of the said Rochester and Lake Ontario railroad company shall, in all respects, stand on an equality with the stock of the new corporation.

The several companies release to the new corporation all the lands of the companies parties thereto, on which the track of their respective roads is laid, and the lands and real estate occupied by them for their depots, engine houses, machine shops, and other buildings, and all lands and real estate occupied or held by them.

The road of the Buffalo and Lockport railroad

company shall be completed by that company at its own expense.

The unpaid and unclaimed dividends due by any of the companies to the respective stockholders, shall be paid over to the new corporation who shall pay such dividends to the parties entitled thereto, whenever the same shall be legally demanded.

Journal of Railroad Law.

A NEW ENGLISH DECISION IN REGARD TO THE OPERATION OF CHARTERS.

We some months since reported a decision of the Court of Queen's Bench in the case of the *York and North Midland Railroad Company*, who were by that court directed by virtue of a Mandamus to complete the purchase of certain lands between Market Weighton and Cherry Bruton. The said Company had been chartered in 1846 for the purpose of constructing their road, and before the Mandamus was granted their powers to take lands without the will of the owners thereof, had expired. In 1849 the Company obtained leave from Parliament to abandon their contemplated track. The petitioners for the Mandamus were owners of land adjoining the road and were disappointed and materially prejudiced by the change of measures upon which the Company had decided. A majority of the Queen's Bench Judges, deemed the charter to be a contract which it was the duty of the Court to duly enforce.

This decision, however, has been reversed by the Court of Exchequer to which tribunal it was carried up on appeal.

The Appellate Court examined the following questions in their determination of this case. Did the act of 1845 compel the defendants to make their road? If not, could the Court enforce this work by their mandate? Had a work which originally was only permissive become obligatory because it had been in part performed?

The Court was of opinion that the Act, if truly construed, could only be regarded as permissive. The Company's compulsory power to take lands had been confined to three years,—and that period having elapsed, they were no longer obliged to construct a road. A fair interpretation of the language of the charter, was regarded by the Court as showing clearly that the Charter in question was not to be regarded as a contract but only as a permission.

To have rendered the completion of the road compulsory, might or might not have been wise. But Courts must expound, not make, law.

Nor did the Court think that the Mandamus could be sustained upon the ground that the road had been partially constructed,—and that thus the Company had voluntarily incurred the obligation of proceeding in their undertaking. A Company might be authorized by the Legislature to build a bridge—and after finishing an arch might resolve to abandon their enterprise. Such a solitary arch would very probably be a nuisance—and they who erected it indictable. But they could not be compelled, at whatever sacrifice, to complete their bridge.

A like question concerning the great Western Road was also pending and was of course decided in like manner.

HEAVY PENALTIES FOR NEGLIGENCE.

In the United States Circuit Court, at Boston, in the suit of *Ryder vs. the Portland, Saco and Portsmouth Railroad Company*, a verdict has been

found for the plaintiff in the sum of \$6583. And in the case of *B. F. Williams*, against the same Company, the referees have awarded \$7000 to the plaintiff. The referees were Hon. Thos. Hopkinson, Hon. Horace Mann, and Jas. Read, Esq.

The suits were brought to recover damages for the Company's negligence in respect to a bridge, which was incautiously left insecure, at a time when a train of cars was expected, and consequently the engine and some other portion of the train were precipitated into the water. The engineer and fireman were killed, and several passengers were severely injured—the injury of the plaintiff last mentioned consisted in a concussion of the brain, of which it was apprehended by physicians that the disastrous effects would be permanent.

THE TRANSPORTATION OF MONEY.

The U. S. Circuit Court at Chicago, held by Judge Drummond has lately tried the case of *Kuter vs. the Michigan Central Railroad Company*.

In April 1852 John Kuter removed from Pennsylvania to Illinois, and carried a large dry goods box in which among other things, were from \$1700 to \$1800 in money. The box was delivered to the agent of the Michigan Central Railroad Co., at Detroit, and has since never been heard from by the plaintiff. An action was accordingly brought for the plaintiff's indemnity.

The Judge charged in substance as follows:

1st. If the box contained the plaintiff's property and was delivered to defendants, as common carriers to be brought to Chicago, and defendants failed to bring it to that place, the jury will find a verdict for the plaintiff.

2nd. In order to render the defendants liable for the money contained in the box, they must be common carriers of money.

3rd. A special arrangement between the Railroad Company and an Express Company, would not suffice to make them common carriers of money.

4th. If the defendants are common carriers of money, and the restriction of their liability was not brought home to the plaintiff—then plaintiff was not bound to disclose the contents of the box. If defendants wished to have avoided risk they should have inquired as to the contents of the box.

As a general rule, a party is not bound to disclose the contents of his box.

A verdict was rendered for plaintiff in the sum of \$1997 61.

Our Immigrant Population.

That portion of the inhabitants of the United States which is composed of immigrants from foreign countries, numbered when the census of 1850 was taken 2,210,828. Of these there were 1,618,512 from British Isles and British America, the entire number from other countries being but 692,312, of whom 578,225 were Germans. Of this strong British infusion, however, the Irish element constitutes 961,719, or more than three-fifths, leaving but 526,793 from all the other British civilized possessions, somewhat less than the aggregate of Germans. This total is made up of 278,675 English, 147,700 British Americans, 70,550 Scotch, and 29,868 Welsh. By the abstract of the census returns, we find that of the aggregate immigrant population the Irish constitute 43.04 per cent., Germans 25.09 per cent., English 12.06 per cent., British Americans 6.68 per cent., Scotch 3.17 per cent., French 2.44 per cent., Welsh 1.34 per cent., and miscellaneous 4.47 per cent.

Pennsylvania had a total foreign population amounting to 294,871, while New York had 651,801, Ohio 218,512, Massachusetts 160,909, Illinois

110,593, Wisconsin 106,565. Thus the foreign element is 3-14ths of the population of New York, 1-8th of Pennsylvania, and 1-9th of Ohio; showing that it enters less into the composition of our State population than either in Ohio or New York. The largest number of nearly every class of foreigners is to be found in New York. That State contains 84,820 English, 343,111 Irish, 23,418 Scotch, 118,398 Germans, 12,615 French, and so on. There appears to be one exception—the Welsh,—of whom the largest number, 8,820, are to be found in Pennsylvania among the mines. Our foreign population in Pennsylvania is composed of 38,048 English, 151,723 Irish, 7,292 Scotch, 8,290 Welsh, 78,592 Germans, 4,083 French, 101 Spaniards, 34 Portuguese, 126 Belgians, 257 Hollanders, 2 Turks, 172 Italians, 49 Austrians, 914 Swiss, 139 Russians, 27 Norwegians, 97 Danes, 183 Swedes, 413 Prussians, 7 Greeks, 1 Chinese, 42 other Asiatics, 40 Africans, 2,500 British Americans, 42 Mexicans, 4 Central Americans, 83 South Americans, 656 West Indians, 3 Sandwich Islanders, and 361 natives of other countries, besides 2,296 of unknown nativity. New Jersey contains 58,364 foreigners, and Delaware 5,211.—*North American and U. S. Gazette*.

Indianapolis and Springfield Railroad.

The directors of the Indiana and Illinois companies representing the projected line of railroad from this city to Decatur, Illinois, met at Montezuma on Wednesday of last week, and effected a consolidation of the capital stock and interests of the two companies, and will hereafter be known as the *Indiana and Illinois Central Railway Company*. The route, as will readily be seen by glancing at the map, is through a country as richly favored in soil and other advantages, as any in the west. The engineers are now on the line, and will soon report the result of their surveys to the Board. It is designed to make as near an air line road as the face of the country will allow, connecting the two capitals, and passing through or near the towns of Danville, Bainbridge, Rockville, and Montezuma, in Indiana; thence through the rich and level prairies of Illinois to Decatur; from which point to Springfield a railroad is nearly completed, and will be running by January. At the time of the meeting of the Board the stock taken amounted to about \$170,000, by persons residing along the line. Arrangements were made to canvass the field for the balance of the stock necessary to grade the entire line, which is to be let and completed simultaneously in both states.—*Indiana State Sentinel*.

Kentucky.

MAYSVILLE AND BIG SANDY R. R.

The Philadelphia American, in advocating a subscription to the stock of the Maysville and Big Sandy Railroad, says—

This road, as projected and now in course of construction, extends from Maysville, Kentucky, to Springfield, opposite Portsmouth, on the Ohio river, a distance of fifty-one miles. It will unite the Lexington and Maysville to the Sciota and Hocking Valley road, and thus supply the only link needed to complete a continuous line of railway, of uniform gauge, from Philadelphia, by way of the Pennsylvania, the Hempfield, and the Marietta and Cincinnati roads, to Lexington and Danville, Kentucky.

One fact in connection with the completion of the series of roads leading hence to Lexington and Danville, Kentucky, has just come to our knowledge, and, for the reason that it shows how entirely the whole line, under its several managements, will be in the interest of this city, it ought to induce our citizens to make up the desired subscription to the stock of the Maysville and Big Sandy Railroad Company at once. We have learned, from an official source, that on the 7th instant, an arrangement was concluded between the Marietta and Cincinnati and Maysville and Big Sandy Railroad Companies, which secures the running of the trains on both roads in conformity with the time-tables of the Pennsylvania Railroad, besides providing that the rates per mile for freight and passengers to be charged by the said companies shall not exceed those adopted by the directors of our Central road.

ies shall not exceed those adopted by the directors of our Central road.

We learn further, that a similar agreement has been entered into between the officers of the Maysville and Big Sandy and the Maysville and Lexington railroads. The practical operations of these engagements to our business interests cannot be overvalued. They will add to the great advantage of a uniform gauge on a continuous iron highway into the heart of Kentucky, the even more important facility of one common schedule as to running time and rates of transportation on the whole route from Philadelphia to Lexington. The Hempfield road, we should add here, is not yet a party to this union of roads and interests, but its concurrence may certainly be relied upon in due season.

Auburn and El Elver Valley Railroad.

A railroad, under the above title, has recently been organized in Northern Indiana, for the purpose of constructing a road from Auburn, in De Kalb county, where it will connect with a Branch of the Northern Indiana road, to Logansport, in Cass county, where it will connect with the extension of the Evansville and Terre Haute railroad.—It will also connect, at Logansport, with the Chicago and Logansport road, and with the Logansport, Peoria and Burlington road. This road will form a very important link in the connection of the Northern Indiana and the Terre Haute and Evansville roads. It also forms the connecting link between the Eastern and Lake Shore roads, with the lines from Terre Haute to St. Louis. Its length will be about ninety miles, running through one of the most fertile sections of the State. The whole line has recently been put under contract. The Directors are Cyrus Taber, Stewart B. Kendrick, of Cass County, Ind.; Hon. Wm. Beach, Cayuga County, N. Y.; John H. Constant, Miami County; John Comstock, Wm. Thorne, Wabash County; and Wm. Swazey, of Whitley County, Ind. Hon. Wm. Beach, of Auburn, N. Y., and is President, and S. B. Kendrick, Esq., of Logansport, Ind., Vice President.

Evansville, Indianapolis and Cleveland Straight Line Railroad.

This company having filed their articles of association last month, and given notice of their election, were permanently organized on Thursday, by the election of the following directors for the ensuing year: Oliver H. Smith of Indianapolis, W. Carpenter, of Evansville, Jeremiah Smith, of Randolph county, John Love, of Delaware county, Gideon Johnson of Morgan county, John H. Johnson, of Owen county, Wm. Mason of Greene county, Jonathan Wilson, of Pike county, Elisha Hyatt, of Davies county, Henry D. Allis, of Vanderburg county, James W. Cockrum of Gibson county. The new board met and unanimously elected Oliver H. Smith, president, and Wm. J. Ball, chief engineer. The board ordered books to be opened, and to remain open ninety days, for subscriptions at Evansville, Petersburg, Washington, Bloomfield, Spencer, Monrovia, Mooresville, Indianapolis, Greenfield, Newcastle, Winchester and Union.

The by-laws of the Company were passed, authorising, among other things, stock to be taken in cash, stock and bonds in other dividend paying railroads, at cash value, and real estate lying within six miles of the line, at cash value, exclusive of perishable improvements, payments in cash, and railroad stocks and bonds to be on seven per cent interest, and real estate subscriptions six per cent interest, until the road shall be completed, payable in stock. The whole line from Evansville to Union is to be immediately run and located. The construction to commence (so soon as the Engineers can prepare it for letting) at Evansville and Indianapolis, and the 150 miles between those cities to be made ready for the iron, before the con-

struction of the section of 75 miles, from Indianapolis to Union be commenced. The track is to be the Ohio gauge, so as to make a through line without transshipment from Evansville to Cleveland.—The address of the President will appear hereafter.—*Indianapolis Sentinel.*

American Railroad Journal.

Saturday, May 28, 1853.

Bangor, Oldtown & Milford Railroad.

The line of this road extends from Bangor to Milford, at the head of the Falls on Penobscot river, a distance of 13 miles. It follows immediately upon the river, and passes through all the important villages upon its bank. Between its terminus the river, which is the largest in Maine, falls nearly one hundred feet, and is extensively used for hydraulic purposes at different points. At these places 200,000,000 feet of long lumber are manufactured yearly besides an immense quantity of other kinds. This lumber after it is manufactured, for the want of suitable means of conveyance, is again put into the river and floated down to the tide water at Bangor, which can be reached by navigation. The latter process seriously impairs its value, to avoid which is one of the objects of the above road.

It will be readily seen that it would require the conveyance of only a small portion of the lumber manufactured on the route of this road to give a lucrative business to it. In addition to the constant supply of a large local freight business, the travel upon the line occupied by this road is immense. The river bank is lined with a succession of villages having intimate business relations with each other and with Bangor. At Milford the river becomes navigable for some 60 miles for light draught steamboats, of which there are a number now running. There is not only a large amount of travel up and down the river, occasioned by the movement of the local population, but the great mass of travel between the lower Provinces and the eastern States take this direction. Nearly the whole travel and business connected with the lumber operations on the head waters of the river, pass over the same route; all of which, taken together, will supply an ample traffic for a railroad. In fact we do not know of a better unoccupied route for a railroad in New England than the one upon which the above Company are engaged.

From some acquaintance with the route and its resources, we are satisfied that the proposed road must prove a profitable investment. We learn that the grading of the road is making satisfactory progress, work to the amount of \$75,000 having been already done. It is the intention of the company to push the work forward, so as to have the road opened for business in the Spring of the year 1854.

The road is to have the gauge adopted in Maine and the Provinces, of 5½ feet. As the route occupied by it coincides with the proposed route for the European and N. American railroad, it must eventually form a part of that great work, the early construction of which is now rendered certain by the events which have recently transpired in the upper and lower British provinces. The European and North American railroad will be necessary as a connecting link between the elaborate systems proposed for the widely separated Provinces of Canada, New Brunswick and Nova Scotia, and

we presume that immediate steps will be taken to secure its early construction.

Bellefontaine & Indiana Railroad.

We understand that this road will be completed and in active operation by the 1st day of July next.

The completion of this road will be an event of no inconsiderable importance in the railroad movement in the West. It will be the first to open a direct outlet from the central portions of Indiana toward the Lakes and Eastern cities. Connecting with the Cleveland and Columbus, the Indianapolis and Bellefontaine, and the Indianapolis and Terre Haute roads, it will open a continuous line of railroad from Cleveland in direction of St. Louis, more than three hundred and fifty miles in extent. As far as the Lake trade and travel is concerned, this line cannot probably be even superceded by any bearing a Southern direction. This great line will not only command the trade of central Indiana, but will be fed throughout its entire length by numerous important tributaries. A number of these are already in operation, so that an immense business is already developed, and awaiting the opening of the grand trunk.

The two extremes of this great line, the Cleveland and Columbus and the Terre Haute and Indianapolis roads, the only portions of which have been opened for any considerable length of time, are both earning a very large income upon the cost. The stocks of the former are selling at 130, and the latter at 110. The former is earning at least 15, and the latter 12 per cent upon the cost. If the extreme links in this great line can make so flattering an exhibit, the intermediate one will certainly be able to make as favorable a one, while the completion of all must largely increase the business of each. There can be no doubt that the entire line will prove one of the most productive in the West.

Mississippi Valley Railroad.

We learn from the Little Rock Democrat, that Arkansas has granted a charter to a railroad Co. to construct that portion of the Cairo and Fulton road, which lies within the limits of the state and for this purpose, has given to it the lands donated by Congress. Louisiana is also moving in this matter, and is rapidly pushing northward her part of the great trunk of the Mississippi Valley road. The opinion is expressed, that in less than six months this road will be in progress of construction from N. Orleans, through Little Rock, to connect with the Illinois Central at Cairo.

The organization of the "Cairo and Fulton railroad company," took place at Little Rock on the thirteenth ult. Roswell Bebee, was elected president; W. B. Wait, treasurer, and John M. Ross, secretary. These officers and the board of directors, are represented to be able, industrious, and efficient men, and will take immediate steps for making the surveys.

The Act of Congress granting the lands, provides that the surveys shall be made by the authority of the legislature of Arkansas, and that copies of these surveys shall be forwarded to the proper land offices both in Arkansas and at Washington, where the lands will be selected and reserved from sale. The charter of the "Cairo and Fulton railroad company," designates that the road shall be surveyed and located "from Cairo to a point at or

near Fulton." This provision without any doubt will control the location of the road, in spite of the efforts of Missouri, to have it leave Cairo and run directly to St. Louis. The legislature of Arkansas seems to be altogether in favor of the road to Cairo, and the press of that state is giving it every encouragement.

Toledo, Norwalk and Cleveland Railroad.

MR. EDITOR,

SIR: It appears from a brief statement in a late number of the Railroad Journal, that the cost of the Toledo, Norwalk and Cleveland railroad—87 miles in length,—when fully completed and equipped, will be only about \$1,600,000, being a little less than \$18,400 per mile; and that its earnings for the first seventy-one working days after its opening for business, were at the rate of \$432,000 for the year. From these data you estimate the gross earnings for the first year at \$450,000, and the running expenses at \$150,000, or 33½ per ct. of the earnings. Your estimate for the earnings appears to be a very moderate one, but that for the expenses of working the road is materially less, I think, than most other railroads are worked for.

Do the actual expenses for the above named period justify so low an estimate? Will you also advise your readers what portion of the cost of the road is represented by bonds? And what amount of those bonds, if any, is convertible into stock, also the amount of stock issued?

On account of the cheapness of its construction, and its large earnings thus far, this road is beginning to attract much attention.

Full and reliable information upon all material points, and especially upon those above indicated, is therefore very desirable. When your readers are fully posted up in regard to the matter, they will be much better qualified to judge as to the dividends the road is likely to earn, and the consequent value of its stock and bonds. *

May 24, 1853.

The stock in the above road is about \$600,000. The bonded and floating debt, when the road shall be completed, will be about \$1,000,000. No part of the indebtedness of the company, is convertible into stock. Assuming the interest on the debt to be \$70,000, expenses, \$130,000, which, we believe, will exceed the fact, and putting the earnings at only \$400,000 per annum, there would be left \$200,000 for dividends, equal to 33 per cent., enough, certainly, to gratify the ambition of any reasonable person.—Ed. B. R. JOURNAL.

Knoxville and Danville Railroad.

"We are gratified to learn," (says the Knoxville Register) "from Mr. Prichard, who was in town the other day, that he is progressing finely with the survey of the route for the Knoxville and Danville railroad. He informs us that the road can be built with an ascending grade of forty-seven feet to the mile, and sixty feet descending towards Kentucky. This shows a much more favorable route than it was supposed could be found. This survey demonstrates the fact that the road can be built at the average cost of railroads.

We are also gratified to learn from Mr. Prichard that the best feeling exists in Anderson and Campbell counties in regard to the subscriptions proposed to be made to this road by their respective County Courts. He thinks the proposition will be

carried by a very handsome majority in each county."

Sinking Piers for Bridges by Pneumatic Process.

The first trial of the kind ever attempted in this country, has just been made by the Wilmington and Manchester railroad company, in the construction of a bridge for their road over the great Pee-dee river. This river runs over a bed of loose, shifting sand, which renders it very difficult to obtain the ordinary foundation for a bridge. The Company therefore concluded to attempt the construction of piers by sinking iron tubes by atmospheric pressure, by a process which has previously been sufficiently described in the *Journal*. We learn that the first experiment has proved entirely successful. The time occupied in driving the first cylinder to the depth of eight feet was less than two hours, including 23 minutes in creating a vacuum in the chamber.

The vacuum chamber is made of two sections of cylinders, and is 18 feet in length and 6 feet in diameter. The air pumps were worked at forty strokes per minute.

After the vacuum was created in the chamber, the valve, which forms the communication with the cylinders, was opened, and the cylinder went down so rapidly that it was closed. The air let in by this operation was pumped out, and by opening and shutting the valve it was ascertained that the descent of the cylinder could be regulated with as much ease and certainty as the movement of a piston rod under the action of steam. With a perfect vacuum and the valve fully open, it would sink as rapidly as the ordinary wooden pile under the action of the hammer.

The intelligent Engineer of the Company writes us, that the whole is a simple and beautiful process, and that he is more firmly convinced than ever of its adaptedness to places where suitable foundations are difficult to be obtained in the ordinary manner.

Georgia.

Waynesboro' Railroad.—This road is now opened to a point six miles north of Waynesboro'. The Savannah News says: "The road is one of the finest in the country, well graded and substantially built, the cars running with an evenness and smoothness delightful to the traveller. The only fault that we heard alleged against the road was, that it was unfinished."

New York Central Line.

The several Boards of the Directors of the roads that are to compose the consolidated line, met on the 17th instant in accordance with the provisions of the act, to confirm and execute the contract which forms the basis or charter of the new company.

The Directors of the Albany and Schenectady, Utica and Schenectady, and the Troy and Schenectady Companies met at Albany. The Directors of the other companies at Syracuse. The contract, which is clear, minute, and well guarded in all its particulars, was unanimously adopted and placed upon the minutes, and duplicate copies executed by the President and all the Directors present of each Co.

By the Act, one copy of the contract is to be filed with the Secretary of the State, the other with the new Company.

Covington and Lexington Railroad.—Correction.

In an article upon this road, in our last paper, the word *grade* is used incorrectly for gauge. Our readers will please make the proper correction.

We learn that the work upon this road is making very rapid progress, and also that the recent loan brought out by the company has been very favorably received in this market.

New Hampshire.

Northern Railroad.—The annual report of this Corporation is just published.

Earnings for 11 months to 1st of April. \$328,782 84
Expenses, repairs, &c..... 165,706 92

Net earnings in 11 months.....\$162,975 92

After paying two dividends, amounting to five dollars per share, there remains in the treasury \$28,850 to be added to the former contingent fund of \$31,277 51.

Rutland Railroad Receipts.—Earnings in the month of April, 1853.....\$40,367 08
Corresponding month last year..... 20,385 48

Gain this year (near 100 per cent)...\$19,981 65

Notice to Contractors.

SEALED PROPOSALS will be received at the Engineer's Office of the Cincinnati, Hamilton and Dayton Railroad Company, until noon the 10th of June, for the Graduation, Masonry, Bridging Track-laying and Ballasting of the Second Track of the Cincinnati, Hamilton and Dayton Railroad, between Cincinnati and Hamilton. Proposals to state at what time the work will be completed.

Profiles and Specifications can be seen, and other information obtained at the Engineer's Office in Depot Building, Cincinnati, Ohio.

Per order of the Board of Directors.

S. L. SPAFFORD,
Chief Engineer.

May 14, 1853.

Cleveland and Wheeling Railroad.

The Wheeling extension of the Cleveland and Pittsburg railroad was let to contractors at rates considered very favorable for the company. Each contractor takes 25 per cent in stock.

Stock and Money Market.

Money continues reasonably abundant, with a good demand for first-class securities of all kinds. Fancy Stocks, however, are very dull, and prices for these are slowly but steadily declining, with no very good look for the future.

This fact is by no means to be regretted. The abundance of money for two or three years past, and the gradually increasing favor with which railroad securities have been regarded, have encouraged the bringing before the market every kind of scheme that promised to impose upon popular credulity; coal stocks, lead stocks, copper stocks, gold stocks, stocks in marble and granite quarries, stocks in railroads and canals; schemes entirely worthless, as far as any useful end was concerned; land stocks, wharf stocks, or in anything to which a sounding name could be given, or about which a plausible story could be invented. The manner of bringing these stocks before the market is the following: A. and B. buy a piece of land assumed to have within its bowels a deposit of coal or copper. They organize themselves into a joint stock association, and put the aforesaid piece or parcel of land into the concern as the capital, the value of which is represented by an issue of 100,000 shares of stock, which are divided among the respective parties.—To give gravity and weight to the affair, some high-

ly respectable capitalist allows his name to be used as *Trustee*, or in some other capacity, (for compensation, of course.) The money articles in the daily papers are at once put in action by a *doceur* in stock, or something more substantial. The object to be accomplished is to put this stock upon the *outsiders* at the highest possible price, and the gains of those interested being measured by the price obtained, all pull in harmony, and by dexterous management and bold assumption, often contrive to work off considerable quantities of their bogus stuff. The general abundance of money which has prevailed for some time past has not only given the means, but has begotten a strong disposition to run into hazardous contracts, where the profits promised to be large, and the danger of any considerable loss, small. Great numbers are tempted to dip, to a greater or lesser extent, into such speculations, flattering themselves that they can always anticipate the time to sell, and rid themselves of the stock in case every thing does not look right; or hold on to realize, should the speculation turn out well. But as usual in such cases, those who dabble in such trash have overreached themselves. They have bought, and bought, and bought, till they are perfectly overloaded. There are in Wall street millions upon millions of worthless stocks, which have cost the holders the hard dollars, but which are not worth a penny. The public are getting tired of such securities. Money lenders are beginning to refuse to loan upon them. It cost a great deal to carry them, while they produce nothing; in the mean time the interest is eating up the capital. The fancy market consequently is gradually setting down. Operators have no heart to touch any thing. The market has no vitality nor elasticity. Outsiders can no longer be brought in to carry the load. The result will be that the greater number of the schemes which have been among the most prominent, will utterly break down, and be taken out of the way as so much useless rubbish.

The earnings of the Rutland and Burlington railroad company for the month of April were.....\$40,367 08
In same month last year..... 20,385 43

Gain this year (nearly 100 per cent)...\$19,981 65

The earnings of the Mad River railroad for March, 1852 and 1853 have been as follows:

RECEIPTS FOR APRIL, 1852.

Passengers.....\$11,739 45
Freight..... 17,544 28
Mail, etc..... 1,107 90—80,392 68

RECEIPTS FOR APRIL, 1853.

Passengers..... 17,306 66
Freight..... 22,228 60
Mail and incidental..... 1,390 00—40,925 29

Increase.....\$10,532 68

The following statement will show the receipts of the Pennsylvania railroad for the month of April and the total receipts since the first of January, compared with the same periods last year:

Receipts for the month ending April 30, 1853.....\$270,126 62
Same month last year..... 204,808 97

Increase.....\$65,317 23
Receipts from January 1, 1853, to April 30, 1853..... 1,099,080 19
Same period last year..... 696,406 28

Increase.....\$402,673 91

Municipal Subscriptions to Railroads.

There are certain diseases which every individual must pass through; which demand a *personal* expense, and which can be avoided by no *vicious* suffering. So there seem to be certain questions of legal construction which no precedent can settle, but which must be agitated in each state, before the body politic can be quieted and put to rest. Our neighbors in Pennsylvania are now passing one of these phases or crises, which is no less than the competency of municipal bodies to be judges of the propriety of their own actions; or in other words to aid in their collective capacity, the construction of railroads.

It would seem to be a late day to raise this question in any state, more particularly in Pennsylvania, where this mode of raising money for railroads has been resorted to on an extensive scale. Corporate subscriptions have built the great work of the state, the *Central Railroad*, and to decide such aid to have been unconstitutionally given, is to knock out the basis upon which that magnificent work rests. Of the entire stock of the road, six of the ten million of dollars, were corporate subscriptions. This stock has been made the basis of a loan of five or six million dollars more, so that the question really before the courts of that state is not so much the competency to do a proposed act, as the effect of such a decision upon acts already done. Independent of what seems to be well settled law in other states, we do not think that Pennsylvania will be disposed to set up the doctrine of repudiation, especially after the lessons that a failure to pay for a few years taught her.

The question of the ability of corporate bodies, such as cities and counties, to subscribe to railroads or to lend their credits to these works, is an old one elsewhere, though it may be a *legally* new one in Pennsylvania. These subscriptions may now be said to be universally used. We do not know of but two or three states in which they are not commonly resorted to; so much so, as far as our more important cities are concerned, that it would be much easier to name such as have *not*, than such as have lent their aid to railroads. In the New England states, we may name Portland, Hartford, Providence, Bridgeport, Middleton, Augusta, Bath, and numerous other towns. In New York, Troy, Albany, Rochester, Buffalo, Auburn, Binghamton, and others. Pennsylvania presents numerous instances of the kind, in addition to the one already referred to. The credit of the city of Baltimore has built the Baltimore and Ohio railroad, and is largely loaned to other projects. In Virginia, not only have all the large towns, such as Alexandria, Wheeling, Richmond, Petersburg, and Lynchburg, but numerous smaller ones and a great number of counties become parties of railroad projects. In North Carolina this has been done to a less extent only because there have been but fewer roads constructed within the state. The city of Wilmington has, however, voted her credit to two roads, we believe. In South Carolina the city of Charleston has connected herself with a number of roads. So have Savannah, and a number of other cities and counties in Georgia. The same may be said of Mobile, Ala., New Orleans, Louisiana, Vicksburg, Miss., Nashville and Memphis, Tennessee, Louisville, Kentucky, and a great number of cities and counties in these states. In Kentucky nearly every city and county in the state

has either voted or is preparing to vote upon the question of aiding railroads, and very seldom is a negative given.

Nearly every city and county in Ohio have loaned their credits to railroads. The same may be said of all the western states. In the newly settled, or in agricultural communities, it is difficult, if not impossible to raise the means for these works in any other manner, and they will continue to be resorted to so long as we are obliged to use credits in the construction of these works.

But it may be readily supposed that there have not been wanting in each state parties who did not like this manner of building roads, and who raised questions of the constitutionality of such measures. One of the earliest, if not first cases which tested this question, was the refusal of the city of Bridgeport to pay the interest on bonds issued by that city to aid the construction of the *Housatonic* railroad. The supreme court of that state, after a long litigation decided that the city in its corporate capacity was not only competent to make such subscription, but that the private property of each inhabitant was liable to be seized and sold to pay the debt so incurred.

In this case the creditors obtained judgment, and execution, and levied the same upon the property of certain merchants within the town, by seizing the goods in their stores which were *forcibly* entered by the officer for this purpose. It was in testing the validity of this seizure that the question was finally settled. This is now regarded as a leading case in all similar questions, and is undoubtedly law in every state in the Union. The principles of this case have been recently affirmed in the states of Missouri, Ohio, Kentucky, and Mississippi, and the law is now considered as so well settled both by the common practice, as well as by numerous precedents applicable to every variety of circumstance that we learned with surprise the question was again raised in Pennsylvania in the case of the proposed subscription of the city of Philadelphia to the Sunbury and Erie, and other projects. Of course we can anticipate in this no different result than the one universally obtained, wherever these questions have been raised.

We have thus not only the legislative and judicial sanctions of nearly every State in the Union, but the highest possible one, in the authority granted by Congress to the cities of Washington, Alexandria and Georgetown, to take stock in the Chesapeake and Ohio canal.

The expediency of these subscriptions is quite another affair. That they have thus far secured the most beneficial results, cannot be questioned. Without them, a great number of our best roads could not have been built. It is difficult to see how the roads of Ohio, for instance, could have been started, but for the aid obtained from towns and cities. The great object of these subscriptions having been gained, and the road secured thereby having created the means by which others could be constructed without resorting to such credits, the people, and we think very properly, inserted an article in their Constitution forbidding the use of these credits after a certain date. The State of Indiana has done the same, and other Western States will undoubtedly follow these examples of Ohio and Indiana, when they shall have secured the result, which the credits of corporate

bodies enabled the States named to realize. There is a general disinclination on the part of our people to use these credits, when their use is not absolutely necessary to accomplish a highly desirable object, so soon as private capital shall be equal with the task of building our roads.

We are aware that the correctness of this last remark is contradicted by the proposed subscriptions by the city of Philadelphia. There is abundant capital in that city for the construction of all the works in which she has an immediate interest. But the people of this State have, unluckily, never been taught to exercise their own strength, and rely upon themselves in the construction of works of internal improvement. What they have were contracted chiefly on the State account.—When the central road was proposed, the mischievous precedent, of connecting the city to the work, instead of leaving it entirely to private enterprise, was adopted. This precedent is now being followed in case of other works, which would have been more speedily and economically built and prudently managed, had it been known in the outset, that nothing was to be expected from the city in its corporate capacity. But it is too late in the day to deny the the competency of the city to aid in the construction of railroads if she desires. The Courts are not to determine questions of *propriety* or *expediency*, but the *Law*, and this, we apprehend, is too well settled to admit of a doubt as to the result in the case before us.

Railroads.**THEIR IMPROVEMENT FOR SAFE TRAVEL.**

The many sad accidents which are occurring, almost daily, in our country on railways, demand that some efficient means may be put in operation to check the great sacrifice of human life on these roads, and the ruin of so much property. The railroad system is widely extending throughout our country, and except in their planned construction we can insure safety to passengers, we shall be only increasing the evil, and trifling with human life. The fearful speed attained on railroads adds to the risks now run by the passenger, in case of meeting any obstruction, however slight, which would cause the wheel to fly the track.

The exposed state of these roads makes them liable to injury, and the facility of producing a ruin is a strong temptation to the unprincipled highwayman.

Before our railroad Companies enter upon any new work of the kind, they should institute an inquiry, whether there is any improved plan of railroad which combines safety of travel with economy of construction. Any plan which would secure and insure the wheels from running off the rail, under any degree of velocity given the train.—Any plan which would be free from the common accidents including collisions, which now occur on railroads; that will do away with the necessity of railroad guards, signals, switches, and such like attendance, and last, but not least, a plan which will not cost even a moiety of the sum now paid per mile on the present plan of railroads.

In the name of a suffering community we would urge that these inquiries should be made, and if there is any practicable plan of railroad which promises this immunity from such evils, these companies are bound to avail themselves of it, and put an end to the sad record which now, almost daily, blots the pages of our history.

The undersigned can, with confidence, say that there is hope of such an exemption from these evils, by the consummation and perfection of a plan of railroad, embracing all the requisites of safety to the traveller.

The Pacific railroad will be soon stretching its lengthened line across our country, and such security should be given its travel that our people may reach its distant terminus in as many minutes as there are miles of distance. The locomotive engine, which is to accomplish this desirable speed, is already perfected, and needs only the perfecting of the rail upon which it is to travel,—this, as has been said before, is near its accomplishment.

ROBERT MILLS, Engineer and Architect."

City of Washington, May, 1853.

Finances of New Orleans.

The Commissioners of the consolidated debt of New Orleans have made their annual report to the Common Council of that city. It is dated the 1st of April. The entire debt of the city on the 12th of April, 1852, the date the act of consolidation took effect, amounted to \$7,702,329 98, as ascertained and fixed by the Commissioners from the evidence filed according to law. Of this amount about \$2,000,000 was past due. On the 19th of July last 2,000 bonds of the consolidated city, of \$1,000,000 each, (\$2,000,000) bearing 6 percent interest, and having forty years to run, were sold in New York city for more than their par value.—With the sum thus realized all the natural obligations of the city were paid. On the 21st of October last the Commissioners advertised to exchange the bonds of the consolidated city of the same series as previously issued for the unmatured bonds and obligations of the old corporations. Up to the date of the report two thousand two hundred and thirty-four bonds (2,234,000) had been thus exchanged. Thus the total amount of the bonds of the new city, issued by the Commissioners at the date of their report, was \$5,534,000. The amount of debts of the old corporations extinguished, is \$5,000,191 99. The cash in the hands of the Commissioners at the date of report was \$437,320 22.

The total debt of the old corporations still outstanding on the 1st of April, 1853, matured and payable variously from 1853 to 1877, inclusive, was \$3,182,516 54.

Assuming that no more bonds will be issued in exchange for any portion of the obligations of the old corporations maturing in 1853 and 1854, the Commissioners make the following exhibit of the means in their hands, and the liabilities for these two years:

Total liabilities up to Jan 1, 1854, for obligations and interest maturing..	\$609,099 56
Cash on hand.....	\$437,320 22
Tax of 1853.....	650,000 00

Total means for 1853.....	\$1,087,320 22
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Balance in hand of Commissioners	
Jan. 1854.....	\$478,220 65
Tax of 1854.....	650,000 00

Total means for 1854.....	1,128,220 66
Liabilities for 1854.....	655,461 13

Balance in hands of Commissioners	
Jan. 1, 1855.....	1,472,756 53

It thus appears that ample provision has been made to meet the obligations of the city maturing for the next two years.

In conclusion, the Commissioners make the following just reflections:

"Twelve months ago the act of consolidation went into operation, and Commissioners entered upon their duties. It found the city without credit, confusion in most of its branches of government, and the people disheartened. To-day its credit is above par; no just demand can be made

upon its treasury that is not promptly liquidated, and its fair name is without a blot."

The Report of the President and Directors of the Shelby Railroad Company.

The late annual report of the Company states that the entire line of the road from the junction with the Louisville and Frankfort Railroad at Hobb's Depot to the Shelbyville Depot has been placed under contract, and is fast progressing to completion.

The number of shares subscribed in that part of the road between Shelbyville and Louisville is 2574. The number taken by contractors is 1,717—total number of shares, upon the graduation of the road, will be 4,291, equal to \$214,550; whilst the estimated cost of grading that part of the line is \$182,581 30. Of the sum subscribed there has been collected only \$39,940 24; and there has been expended in surveys, construction, &c., the sum of \$22,167 39; whilst the Board have made such advances to the various contractors in the progress of the work as, in the opinion of the Board, the interest of the Company required.

The location of the line through the Southern portion of Shelby County is abandoned. It has been found that the best route for constructing a line to Frankfort unites with the Louisville and Frankfort road at a point about 10 miles on this side (west of the Frankfort Depot, and 10½ miles east of the Depot in Shelbyville. The estimated cost of this extension is \$268,088; and the distance from Louisville through Shelbyville to Frankfort by the location survey will be less than 51 miles; and of this distance 22 miles of the Louisville and Frankfort Railroad will be used,—the straightening process only requiring the construction of about 28½ miles of new road, by which the road from Louisville to Frankfort will be shortened about 14 miles; and this is regarded the most direct and practicable route by which any considerable portion of the old road can be used.

This line to Frankfort passes near Lawson's Corners, and there diverges the route, via Lawrenceburgh, to Harrodsburgh, the estimated cost of which (as per Patterson's estimates) is \$671,132. This route is preferable, as it is in common with the one to Frankfort for about eight miles east of Shelbyville; and will cost in its construction near \$300,000 less than the nearest route to Harrodsburgh diverging at Shelbyville.

The original object of the Shelby road was twofold:—1st. To straighten the road from Louisville to Frankfort. 2nd. To extend a grand Central Railroad through Kentucky to Knoxville, thereby rendering Louisville the recipient of the ample mineral and agricultural products of the interior of Kentucky, and public attention is now strongly attracted to the project, especially in Northern and Eastern Tennessee, and in that portion of Virginia situated between Lynchburgh and the State Line.

It is probable that a consolidation will soon be effected between the Company in question and the Louisville and Frankfort Company. In respect to the pecuniary prospects of the road the following considerations are urged:

That this road will pass through the central and richest portions of Kentucky, and in the immediate vicinity of the inexhaustible fields of stone coal and iron ore of Pulaski, all of which, with the agricultural products of that region, will seek a market over this road.—That this road will have its western terminus at Louisville, and will derive

business not only from the city, but also from the Ohio and Mississippi rivers, from the Albany and Michigan Railroad; from the Jeffersonville, and Columbus Railroad,—all of which are now constructed, or in the course of construction.—That the eastern terminus of this road is at Frankfort, where it connects with the Lexington roads to Cincinnati, and thence to New York and Boston; and to Maysville and to the mouth of Big Sandy, there to connect with the Railroad from Richmond and with the Baltimore and Ohio Railroad,—both of which roads will doubtless be extended to that point.—And that the southeastern terminus of this road will be at Knoxville, Tenn., at which city will be formed an uninterrupted railroad connection with the southwestern seaboard at Charleston, Savannah and Mobile, and also with Norfolk, Lynchburgh and Richmond.

Improvement of the Savannah River.

Savannah is equal to any city in the Union in the enterprise and energy and public spirit of her citizens. She has, during the last few years, assumed a large debt, in giving aid to different internal improvements, which were necessary to secure her the trade of the interior; and neither her spirit or her resources are exhausted. The great object which is left her to accomplish, is to make her port equal to the accommodation of the increased business she is enjoying, and to that object her citizens have addressed themselves with characteristic promptness and energy. Congress having appropriated \$40,000 to improve the Savannah River, and it having been ascertained that \$200,000 was necessary for this object, they have determined that they would not loose the appropriation of the General Government, or content themselves with a partial accomplishment of its object, and have, in public meeting, authorised the City Council to appropriate the sum of \$160,000 to be expended, with the appropriation of Congress, by the officers of the United States, for the improvement of the river. This exhibits a progressive spirit in the right direction.

Sault Ste. Marie Canal.

The stockholders of this company have elected the following gentlemen as directors: Hon. Erastus Fairbanks, of Vermont; Hon. Erastus Corning of Albany; John M. Forbes, Esq., of Boston; V. L. Pruyn, Esq., of Albany; John F. Seymour Esq., of Utica; John W. Brooks, Esq., of Detroit, Mich.; Joy F. Day, Esq., of Detroit, Michigan. At a subsequent meeting of the directors, Hon. E. C. Corning was elected president, John W. Brooks was elected vice president, J. V. L. Pruyn was elected secretary and treasurer, and Charles T. Harvey was elected general agent. On an examination of the probable expenses of the important work to be constructed by the company, and for the surveys and dispositions of its lands, it was unanimously resolved to increase the capital stock of the company from four to ten hundred thousand dollars, agreeably to the provisions of its charter.

New York and New Haven Railroad.

The following gentlemen have been elected directors of this company for the present year; Robert Schuyler, Gov. Morris, T. W. Ludlow, W. C. Wetmore, R. M. Blatchford, Philip Dater, Nelson Robinson, George Barker, Charles Denison, Isaac E. Haviland, Wm. S. Wetmore, Albert J. Akin, and Henry R. Dunham.

Illinois Canal Bonds.

The sale of lands belonging to the Illinois canal, on the 11th and 12th, reached \$228,000. If to this, says the *Chicago Democrat*, we add the proceeds of the sale of farming lands, and of the lots in Joliet, Lockport, Lasalle, etc., the amount is as likely to exceed as to fall short of \$1,000,000. The present debt of the canal is only \$400,000 and six months' interest; had not an acre of land been sold this year, there would have been money enough to have paid that sum. After this, the proceeds of the sale of the Canal lands, and also the tolls of the Canal are to be paid upon the back interest of the Canal bonds, which amounts to about \$9,600,000. It is calculated that this will have to be paid in two years from next fall, thus leaving the balance of the lands and tolls to apply to the annual interest of the bonds and to the liquidation of the bonds themselves. When these bonds are all liquidated the canal will revert to the state.

New-York.

Black River and Utica Railroad.—A committee appointed by the citizens of Utica to examine the line of the proposed road, report that they had inspected the proposed line of the road to its northern terminus at Clayton. At that place they found one of the best bays and harbors for a terminus that could be desired. Mr. Jenne, the chief engineer of the company, says there is no difficulty in the way of getting a good line, and that the entire cost of the road will not exceed \$20,000 a mile. It is expected that the entire line will be ready to put under contract in a short time.

Delaware, Lackawanna and Western Railroad.—The following gentlemen are the directors of this road, viz:—George D. Phelps, Drake Mills, J. I. Phelps, John Howland, Henry Hotchkiss, John I. Blair, Daniel S. Miller, Wm. E. Dodge, Geo. Bulkley, Geo. W. Scranton, J. B. Williams. George D. Phelps, is president of the board. Wm. E. Warren is treasurer and secretary, and G. W. Scranton, general agent.

East Tennessee and Virginia Road.

The Knoxville Register learns from Mr. Lynch, the Chief Engineer of the East Tennessee and Virginia railroad, that he has put under contract the grading of that portion of the road between that place and Strawberry Plains. The work will be commenced in the course of ten or twelve days, and will be completed within one year. The work has been let to several contractors, who will push it forward energetically.

Mr. Lynch also states that the work on other portions of the road is progressing finely. The contractor for the masonry of the bridge at Strawberry Plains has his work about half completed already. The contractor for the masonry for the bridge across the North Fork of the Holston (near the Virginia line) has that work almost completed, and will, in a few days, commence upon the bridge across the Watauga. The grading upon many portions of the road, is progressing with considerable rapidity.

Air Line Railroad.

Active operations have been commenced upon the line of this road.

Williamsport and Elmira Railroad.

There are about one thousand men employed on the Williamsport and Elmira railroad which force is to be doubled within a short time.

Alabama and Florida Railroad.

The following gentlemen have been elected Directors of the above road: Thomas J. Judge, Chas. T. Pollard, Thomas M. Cowles, George Goldthwaite, Wm. Taylor, Wm. M. Marks, Fleming Freeman, Abner McGehee, Benajah S. Bibb.

The proposed road is to connect Montgomery and Mobile.

Notice to Contractors.

PROPOSALS for the grading, bridging and masonry of the Western division of the Covington and Ohio Railroad, will be received at the Office of the Engineer at Guyandotte, Cabell County, Virginia, between the 20th and 30th of June next.

They will embrace about forty-six mile sections, bridges over Twelve Pole, Guyandotte and Mud Rivers, and a tunnel of 1500 or 1600 feet in length, at the bend of Mud River.

Also, between the 1st. and 15th. of July next, proposals will be received at Covington, Virginia, for the grading, bridging and masonry of that portion of the Eastern division, lying between the town of Covington and Hayne's Farm, on Jackson's river—a distance of 10 or 11 miles of very heavy work including much heavy retaining wall, two large bridges over Jackson's River, and probably 2 tunnels.

The successful bids will be declared as soon as practicable after 15th July.

By order of the Board of Public Works.
CHARLES B. SHAW,
Chief Engineer Covington & Ohio R. R. Co.
Lewisburg, Va., May 24, 1853.

Toledo, Norwalk and Cleveland Railroad.

FORMING, in connection with the Michigan Southern and Northern Indiana, the Lake Shore and Cleveland and Pittsburgh Railroad, the only entire railroad line between the East and West.

The best and most expeditious route between Eastern Cities, Chicago and St. Louis.

SUMMER ARRANGEMENT.

On and after Monday, May 16, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

LEAVE TOLEDO—

ACCOMMODATION, at 9.10 A.M., stopping at all stations.
DAY EXPRESS, at 3.15 P.M., stopping only at Fremont, Bellevue, Monroeville and Norwalk.

NIGHT EXPRESS, at 11.15 P.M., stopping only at Fremont, Bellevue, Monroeville, Norwalk and Oberlin.

LEAVE CLEVELAND.

DAY EXPRESS, at 7 A.M., stopping only at Norwalk, Monroeville, Bellevue and Fremont.

ACCOMMODATION, at 10 A.M., stopping at all stations.
NIGHT EXPRESS, at 8 P.M., stopping only at Oberlin, Norwalk, Monroeville, Bellevue and Fremont.

CONNECTING DIRECTLY

AT TOLEDO—With Trains of Michigan Southern and Northern Indiana Railroad for Chicago and Way Stations, and through the Chicago and Rock Island Railroad, and Steamers on Illinois River, forming a line to St. Louis.

AT BELLEVUE—With Trains of Mad River and Lake Erie Road for Sandusky City, Springfield, Dayton, Cincinnati, etc.

AT MONROEVILLE—With trains of Mansfield and Sandusky Railroad, for Sandusky, Shelby Junction, Columbus, Zanesville, Newark, etc.

AT GRAFTON—With trains of Cleveland, Columbus and Cincinnati Railroad, for Columbus, Cincinnati and Way Stations.

AT CLEVELAND—With trains of Lake Shore Railroad for New York and Boston, via Buffalo and Albany, and for N. York via Dunkirk, with trains of Cleveland, and Pittsburgh Railroad, for Pittsburgh, Philadelphia, Baltimore and Washington City.
E. B. PHILLIPS, Supt.
Superintendent's Office T. & C. R.R.,
Norwalk, O., May 10, 1853.

**Hoole, Staniforth & Co.,
MINERVA WORKS,****SHEFFIELD,**

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by

RICHARD MAKIN,
Agent for the Manufacturers,
24 Broadway.

Notice to Contractors.

PROPOSALS will be received until noon the 20th June, for the Graduation and Masonry of the Franklin and Warren Railroad, extending from a point on the eastern State Line of Ohio, in the County of Trumbull to Ashland, Ashland county, Ohio, a distance of about 106 miles.

The line will be ready for examination June 13th. For particulars apply at the Engineer's office, Franklin, Portage county, Ohio.

The remaining distance of the road extending from Ashland to Dayton, or Maysville, will be ready in a short time.

M. KENT,
President F. & W. Railroad.
SAM'L H. KNEASS,
Chief Engineer.

FRANKLIN, May 19, 1853.

A Good Enterprise.

THE concentration of six or seven Railroads at Fort Wayne, Indiana, viz: Ohio and Indiana, Fort Wayne and Chicago, Fort Wayne and Cincinnati, Fort Wayne Southern, Wabash Valley, Fort Wayne, Union and Cincinnati, and the Fort Wayne and Mississippi Air line railroads, will require and offers favorable inducements for an extensive establishment for the manufacture of Railroad Cars, and other machinery. Persons willing to embark in an enterprise of this kind, would receive encouragement from most of the roads above named, if application be made soon.

Fort Wayne, May 18, 1853.

* The above is from responsible parties, who will lend efficient aid to the enterprise proposed.—[Ed. R. R. J. It.

To Railroad Track-Layers.

PROPOSALS, under seal, are requested at the Railroad Journal office, New York, on the 10th July next, for laying the track of the Mobile and Ohio, Tennessee and Alabama, and Paducah and Tennessee railroads;—aggregate length, 512 miles. Plans, specifications and other required information, will be furnished at the time and place above mentioned.

JOHN CHILDE,
Chief Engineer.

MOBILE, May 17th, 1853.

To Contractors.**NORTHERN INDIANA RAILROAD.**

SEALED proposals will be received at the office of the company in Toledo, Ohio, until the 14th day of June next, at noon, for Grading, Fencing and Bridging, including the clearing and grubbing of the line of said railroad from a point near the west line of the city of Toledo in the State of Ohio, to a point in the state of Indiana, about 70 miles west from Toledo. The line is divided into sixty-nine sections, proposals may be made for one or more sections. Maps and profiles of the line, and plans and specifications of the work, may be examined at the office of the engineer of the company in Toledo on and after the sixth day of June next.

The directors reserve the right to accept or reject proposals as they may deem the interest of the company to require.

JOHN B. JERVIS,
Chief Engineer.

OFFICE OF THE NOR. IND. R. R. Co.
Toledo, May 20th 1853, }

To Railroad and Canal Companies, or Contractors.

A SUPERINTENDENT, who has the very best testimonials from some of the most celebrated Engineers, having had charge of very large and difficult works, on which he gave the greatest satisfaction, wishes to make an engagement with some Company or responsible Contractor. He has the reputation of being a very skillful manager of large numbers of workmen, and, by reference to his former employers, it will be found that he will be a profitable man, although he expects a fair salary. A letter addressed to the Editor of this Journal will meet prompt attention.

Brass Tubes for Locomotive & Marine Boilers.

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

JOHN H. HICKS,
90 Beaver st.

March 2d, 1853.

O. A. NORRIS,

American Railway Agency,
FOR THE PURCHASE, ON COMMISSION, OF
ALL ARTICLES REQUIRED BY
RAILROAD COMPANIES.

Office, 12 Parquhar Buildings,

Philadelphia.

Etna Car Works.

HILLMEYER & SMALL, YORK, PA., PROPRIETORS.

WE are manufacturing to order and by contract, Baggage, Freight, Express, Stock "Reading" and other patterns of Coal Cars, Lumber and Gravel Cars, of every variety, at short notice, and on favorable terms.

Our facilities for manufacturing are extensive, and our means for transportation to all parts of the country speedy and economical.

The Wheels we use receive our own personal attention, are made of the best Cold Blast Charcoal Iron, of both spoke and plate patterns, solid and open hubs.

All Cars built by us, and now in daily use on the Pennsylvania Central, Baltimore, Susquehanna, York and Cumberland Roads, have been appraised as first class, and carry the largest capacity allowed on any roads. We are prepared to furnish Wheels and Axles separately or fitted, Springs and other parts of Cars at short notice. Orders and Contracts for Railroad Companies solicited.

May 20*3m

Railroad Letting.

PROPOSALS will be received at our office in Cincinnati, until Wednesday, the 8th day of June next, for the clearing, grubbing, grading and masonry, of the line of railroad from Cincinnati to Cambridge city, Ind., about 60 miles.

Plan and profile of the road will be ready for examination ten days before the letting.

This road passing through a dry and healthy country, where supplies are abundant, offers great inducements to Contractors. There will probably be one short tunnel, and the grading and masonry will be heavy. The work to be commenced immediately after the letting, and will be paid for by monthly estimates.

Offers for part pay in stock of the road will be favorably considered. A. DE GRAFF & CO.

LAHAYE'S

Patent Self-acting Brake.

THE attention of Railroad Companies is respectfully called to this improvement, used exclusively on all Passenger Cars upon the Philadelphia and Reading Railroad, and now being attached to those building for the Camden and Atlantic Railroad, and several other Roads.

Lahaye's Self-acting Brake can be attached to any Car without interfering with the ordinary Hand Brake, is simple in its construction, and reliable in its action.

By trials made with this Brake, Passenger Trains, at a speed of 30 miles per hour, have been brought to rest within a distance of 250 feet.

For Right to use, or any other information, apply to

O. A. NORRIS,
American Railway Agency, 12 Parquhar Buildings,
May 20, 1853. Philadelphia.

Wrought Iron Wheels!

THE SUBSCRIBER, Sole Agent in the United States for the Union Foundry in England, is prepared to take orders for, and to furnish promptly Wrought Iron Wheels at a low cost, of a superior quality, for Railway Cars. These wheels are extensively used in England, and are already in use on several important railroads in America. Samples of them can be seen at 24 Broadway, New York, and 9 Liberty Square, Boston.

4t 12

WM. BAILEY LANG,

To Engineers and Steamboat Captains. EXPLOSIONS PREVENTED!

BRANDS' LIQUID,

FOR DISSOLVING INCRUSTATIONS IN STEAM BOILERS.

BRANDS' LIQUID is the name of a fluid recently in use throughout all Europe, by the application of which the incrustations in Steam Boilers are dissolved or totally avoided, without affecting in the least the material of the boiler.

Chemical examinations and experience have fully ascertained that, by the application of this fluid, no harm whatever is done to the material of which the boiler consists.

To dissolve the hardened incrustation in Steam Boilers, pour every 10 or 14 days, in proportion as the boiler is daily for a longer or shorter time heated, the quantity of Brands' Liquid to the water in the boiler as shown in the following table:—

TABLE FOR CLEANING INCRUSTED BOILERS.

STEAM BOILERS.		QUANTITY	
Which are daily from 10 to 16 hours heated, and which have a power of evaporation of		OF BRANDS' LIQUID wanted.	
From	1 to 10 Horse Power,	Every 10 to 14 days.	Per year—Barrel of 40 galls.
	10 to 20 "	4 to 6 Quarts,	1 1/2 "
	20 to 30 "	6 to 9 "	2 "
	30 to 45 "	7 to 10 "	2 1/4 "
	45 to 65 "	10 to 14 "	2 1/2 "
	65 to 110 "	12 to 17 "	3 "
	110 to 160 "	13 to 19 "	3 1/2 "
	160 to 220 "	15 to 21 "	4 "
	220 to 300 "	18 to 26 "	4 1/2 "
	300 to 400 "	20 to 29 "	5 "
	400 to 500 "	22 to 31 "	5 1/2 "
		24 to 36 "	6 "

If Brand's Liquid is regularly used, the incrustated Boilers are within three to five months clean; and to prevent any further incrustation in such or new Boilers, the use of Brand's Liquid must not be interrupted, but about two-thirds of the stated quantities in the table given to the water in the Boilers.

The Boilers of Locomotives require every two days, in proportion to their power and time of service, only two and a-half to four quarts of Brand's Liquid, which every second day is poured into the water in the Tender.

As often as the water in the water-gauge, on Stationary, Ship or Locomotive Boilers, becomes of a muddy appearance, the Boiler must be blown out and cleansed from the stones and dirt which have settled to the bottom of the Boiler.

The incrustation which in this manner is removed is soft, or in pieces, which are commonly of a crumbling and brilliant texture and have a brown color.

In some parts of the country, and in Marine Boilers, the incrustation is often very hard, and to remove this, the larger quantities in the given table are required. The pieces of this incrustation which are removed by the use of Brand's Liquid have lost their glassy texture, and though they commonly retain some hardness, they have a brown color, and a corrosive and decayed appearance.

To remove the incrustation of Marine Boilers, larger quantities of Brand's Liquid are required, in proportion as by the removal of the brine a quantity of the feed-water is blown out. By any simple contrivance Brand's Liquid must be brought into the boiler in small portions, or mixed with the feed water.

Brand's Liquid is not injurious to the Boiler if it is used in large quantities, even if the Boiler is entirely filled with it and heated, but, in general the quantity as is stated in the table must not be exceeded, because in connection with large quantities of incrustation the Liquid generates much priming and motion of the water, which might prove injurious to the annexed machinery, especially in Ship Boilers and Locomotives which have no large steam-chests.

The above table is made by practical experience, so that only a gentle working of Brand's Liquid is allowed, entirely free from any danger, for the Boiler once properly cleaned, the proprietor will by experiments easily ascertain the minimum quantity of Liquid that is required for the Boiler.

Should it be required to clean old incrustated Boilers by the use of Brand's Liquid in a few days, then it is only necessary to pour one-half to three-fourths of a hoghead at once into the water in the boiler, and heat it from six to eight days gently to boiling heat, for which operation the Boiler must be put out of service.

In Locomotives where the steam-chests are small, Brand's Liquid must be used oftener in small quantities as before stated. A Locomotive out of service may be cleaned within 6 or 8 days by the use of a large quantity of Brand's Liquid, (one-fourth to one-half a hoghead).

It would be needless to enter into a long discussion on the advantages in using Brand's Liquid for cleaning steam generators, being fully aware that it destined for the use of the most intelligent part of the public, and it may therefore suffice to mention its advantages in a few words, as follows:

1. Less repair of Boiler.
2. Increased generation of steam, or saving of fuel.
3. The expense of hammering and loosening the incrustation is saved.
4. Less interruption of business.
5. The Boilers remain tighter.
6. The duration of the Boilers is increased, especially of locomotives and Tube-Boilers in general.
7. Three-quarters of the causes of Boiler-explosions are removed.

Price per barrel \$20.

The patentees are so confident of the merits of this invention, that they offer one barrel gratis to parties willing to make a trial, to be paid for only in case of success and of future orders.

Brand's Liquid is used with the best effect by the Cincinnati Water Works, and many other establishments in the West.

Address
BRAND, BROTHERS,
Toledo, Ohio.
Sole Patentees both in Europe and the United States.
F. DUFAIS,
Or, 43 New Street, New York.
May 29, 1853.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
50 South 3rd Street,
Philadelphia.

May 1st, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the best manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
April 1, 1853. 90 Beaver st.

AN ACT FURTHER TO AMEND THE CHARTER OF THE CITY OF NEW YORK.— Passed April 12, 1853.

The people of the state of New York, represented in Senate and Assembly do enact as follows:

Sec. 1. The legislative powers of the corporation of the city of New York, shall be vested in a board of Aldermen and a board of Councilmen, who, together, shall form the Common Council of the City.

The Board of Aldermen shall consist of one Alderman from each ward, who shall be elected by the people of the respective wards for two years. The board of Councilmen shall consist of 60 members, to be elected from as many districts, who shall be sworn into office on the first Monday in January next, succeeding their election, and shall hold their offices for one year, and shall receive the same compensation as the Aldermen.

Sec. 2. The members of the board of Aldermen first elected under this act shall be classified as follows:—On or before the first Tuesday in December, succeeding the next general election, the Clerk of the city and county of New York shall, in the presence of the Mayor, Recorder, and Comptroller, or a majority thereof, draw from a box to be provided for the purpose, in which two ballots shall have been deposited, having thereon respectively, either the word "odd" or the word "even" one ballot; if the ballot so drawn shall have thereon the word "odd" then the term of office of the Aldermen chosen from wards having an odd numerical designation, shall expire on the first Monday of January, one thousand eight hundred and fifty-five and in case of the ballot having thereon the word "even" shall be drawn, then the term of office of the Aldermen having an even numerical designation shall expire on the first Monday of January, one thousand eight hundred and fifty-six. At all subsequent elections, Aldermen shall be elected for the full term of 2 years.

Sec. 3. For the election of Councilmen the city shall be divided into sixty districts of contiguous territory, and as near as may be of equal population, each of which shall choose one Councilman. The Common Council shall also divide the city into such districts on or before the first Monday in September next, and thereafter, within one year after the state and national census shall have been compiled, the Common Council shall in like manner re-district said city.

Sec. 4. Every act, resolution or ordinance appropriating money or involving the expenditure of money not rendered imperative under provisions of any State law, shall originate in the board of Councilmen, but the board of Aldermen may propose or concur with amendments as in other cases.

Sec. 5. A vote of two-thirds of all the members elected to each board shall be necessary to pass an act, ordinance or resolution of the Common Council, which shall have been returned by the Mayor with his objections.

Sec. 6. No Alderman shall hereafter act or sit as Judge in the Court of Oyer and Terminer, or in the courts of general or special Sessions in the city and county of New York; but this section shall not prevent his exercising the power of a magistrate on the arrest, commitment or bailing of offenders, except that he cannot let to bail or discharge a person arrested or committed by another magistrate.

Sec. 7. All ferries, docks, piers and slips shall be leased, and all leases and sales of public property and franchises (other than grants of land under water, to which the owner of the upland shall have a pre-emption right) shall be made by public auction, and to the highest bidder, who will give adequate security; (no lease shall be hereafter given, except as the same may be required by covenant of the corporation already existing,) shall be for a longer period than ten years, and all ferry leases shall be revocable by the Common Council for mismanagement or neglect to provide adequate accommodation. Any person requiring any ferry lease or franchise under the provisions of this act, shall be required to purchase at a fair appraised valuation, the boats, buildings and other

property of the former lessees actually necessary for the purposes of such ferry. Previous notice of all sales referred to in this section shall be given under the direction of the Comptroller for thirty days, in the newspapers employed by the Corporation.

Sec. 8. No bids shall be accepted from, or contract awarded to, any person who is in arrears to the corporation upon debt or contract, or who is a defaulter, as security or otherwise, upon any obligation to the corporation.

Sec. 9. No money shall be expended by the Corporation for any celebration, procession or entertainment of any kind or on any occasion, except for the celebration of the Anniversary of the National Independence, the 25th of November, (Emancipation Day,) and the anniversary of the Birthday of Washington, unless by the vote of three-fourths of all the members elected in each Board of the Common Council.

Sec. 10. No additional allowance beyond the legal claim under any contract with the corporation, or for any service on its account or to its employment, shall be allowed.

Sec. 11. The officers of the police and policemen shall hereafter be appointed by a Board of commissioners, consisting of the Mayor, Recorder, and city Judge.

Sec. 12. All work to be done, and all supplies to be furnished for the corporation, involving an expenditure of two hundred and fifty dollars, shall be by contract, founded on sealed bids or on proposals made in compliance with the public notice for the full period of ten days; and all such contracts, when given, shall be given to the lowest bidder with adequate security. All such bids or proposals shall be opened by the heads of departments advertising for them in the presence of the Comptroller, and such of the parties making them as desire to be present.

Sec. 13. There shall be a bureau in the Department of Finance, to be called the "Auditing Bureau," and the chief officer thereof shall be "Auditor of Accounts." It shall revise, audit and settle all accounts on which the city is concerned as debtor or creditor; it shall keep an account of each claim for or against the Corporation, and of the sum allowed upon each, and certify the same, with reasons therefor, to the Comptroller. The Comptroller shall report to the Common Council once in 90 days, the name and decision of the Auditor upon the same, together with the final decision of the Comptroller thereon. All moneys drawn from the city treasury shall be upon vouchers for the expenditure thereof, examined and allowed by the Auditor and approved by the Comptroller.

Sec. 14. Every person who shall promise, or offer, or give, or cause, or aid, or abet in causing to be promised, offered or given, or furnish, or agree to furnish, in whole or in part, to be promised, offered, or given to any member of the Common Council, or to any officer of the corporation after his election as such member, or before or after he shall have qualified and taken his seat, any money, goods, right or action, or other property, or any thing of value, or any pecuniary advantages, present or prospective, with intent to influence his vote, opinion, judgment, or action, on any question, matter, cause, or proceeding, which may be then pending, or may by law be brought before him in his official capacity, shall, upon conviction, be imprisoned in a State prison for a term not exceeding ten years, or shall be fined not exceeding five thousand dollars, or both, at the discretion of the court. Every officer in this section enumerated, who shall accept any such gift, or any promise or understanding, to make the same under any agreement or understanding, that his vote, opinion, judgment, or action, shall be influenced thereby, or shall be given in any particular manner, or upon any particular side of any question, matter, cause, or proceeding, then pending, or which may by law be brought before him in his official capacity, shall, under conviction, be disqualified from holding any public office, trust, or appointment, under the Charter of the city of New York, and shall forfeit his office, and shall be punished by imprisonment in a State prison not exceeding ten years, or by a fine not exceeding five thousand dollars, or both, in the discretion of the court.—Every person offending against either of the provisions of this section, shall be a competent witness against any other person offending in the same transaction, and may be compelled to appear and give evidence before any Grand Jury, or in any court, in the same manner as other persons, but the testimony so given shall not be used in any prosecution or proceeding, civil or criminal, against the person so testifying.

Sec. 15. No contract by the Supervisors shall be valid, unless expressly authorized by statute, and such as are authorized must be made in the manner provided in the twelfth section of this act.

Sec. 16. All ordinary appropriations made for the support and government of the Alms House Department, shall, before the same are finally made, be submitted to the Governors of the Alms House, to a Board of Commissioners, consisting of the Mayor, Recorder, Comptroller, the President of the Board of Aldermen, and the President of the Board of Councilmen. If the said commissioners approve of the appropriations, they shall immediately report the same to the Board of Supervisors; if they shall disapprove of the same, they shall return them with their objections to the Governors of the Alms House for consideration; and in case the said Governors shall, upon a consideration, adhere by a vote of two-thirds of all the Governors then in office to the original appropriations, they shall return them to the Commissioners, whose duty it shall be to report to the Board of Supervisors.

Sec. 17. The Board of Education shall also submit, in like manner, all appropriations required by them to the Commissioners named in the last preceding section; and said appropriations shall be subject to all the provisions of said section, so far as the same may be applicable.

Sec. 18. All such parts of the Charter of the City of New York, and the several acts of the Legislature amending the same, or in any manner affecting the same, as are inconsistent with this act, are hereby repealed; but so much and such parts thereof as are not inconsistent with the provisions with the provisions of this law, shall not be considered as repealed, altered or modified in any form affected thereby, but shall continue and remain in full force and effect.

Sec. 19. The powers now vested in the Mayor, Aldermen, and Assistant Aldermen in granting and revoking tavern licenses, together with all other powers as excise commissioners, shall be henceforth vested in the Mayor, with the Aldermen and Councilmen representing the district in which the premises of the party licensed or to be licensed may be located.

Sec. 20. This act shall be submitted for the approval of the electors of the city and county of New York, at an election to be held in said city on the Tuesday next succeeding the first Monday in June, one thousand eight hundred and fifty-three. The tickets which shall be polled at such election shall contain either the words "In favor of amendments to charter," or "against amendments to charter," and if a majority of all the persons voting thereon at such election shall vote the ticket "In favor of amendments to charter," this act shall become a law; if a majority of such electors shall vote the ticket "against the amendments to charter," this act shall be void.

Sec. 21. The Common Council are hereby authorized and directed to make all necessary arrangements, by ordinance or otherwise, for the conduct and regulation of all elections authorized under the provisions of this act, and in conformity, as far as may be, to the general election laws.

STATE OF NEW YORK.
Secretary's Office.

I have compared the preceding with the original law on file in this office, and do hereby certify the same to be a correct transcript therefrom, and of the whole of said original law.

Given under my hand and seal of office, at the

city of Albany, this 16th day of April. one thousand eight hundred and fifty-three.

ARCHIBALD CAMPBELL,

Deputy Secretary of State.

The foregoing act was directed to be published, once a week, in all the Daily and Weekly Newspapers of the city, until the 7th day of June. By order of the Common Council.

D. T. VALENTINE, Clerk C. C.

New York, April 28, 1853.

PACIFIC RAILROAD LOAN. \$4,000,000 Loan

ON THE

MORTGAGE BONDS OF THE PACIFIC RAILROAD COMPANY OF MISSOURI.

THIS Company will receive proposals until the 11th of July next, for four millions of dollars of their construction bonds, to be issued in sums of one thousand dollars each, payable at the city of New York twenty years after the date thereof, with coupons attached for the payment of interest at the same place semi-annually, on the first of January and first of July in each year, at the rate of 7 per cent per annum.

These bonds are secured by a first and only mortgage on the Southwestern Branch railroad, 300 miles in length, and one million of acres of land on the line of that branch, granted by Congress to aid in its construction: and also by second mortgage on the Pacific railroad, 290 miles in length. About 130,000 acres of land, not included in the mortgage are set apart to aid in meeting interest.

Forty miles of the Pacific railroad, from St. Louis westward, is about completed, and 85 miles further, reaching Jefferson city, the capital of the state, is under construction. About \$1,600,000 has already been expended by the company in the completion of the first division, and in the construction of an excellent machine and car shop, and engine house, and the necessary real estate, and the surveys required to prepare the whole 600 miles of railway for contract.

The Pacific railroad line extends from St. Louis to the vicinity of Independence, near the mouth of the Kansas, 290 miles, and its southwestern branch diverges about forty miles west of St. Louis, and runs near Springfield to the southwestern part of the state, a little north of Ta-le-quah, the capital of the Cherokee nation, 300 miles.

The charter was granted with the view, and the right, of ultimate extension to the Pacific Ocean, with an authorized capital of ten millions, and privilege of increase under general law.

Capital subscribed in Missouri over \$2,000,000, of which about 40 per cent. is paid up. State loan to the company authorized \$4,000,000, of which \$700,000 has been issued and sold at a premium. For such stock now issued, the state holds a lien on the Pacific railroad only. Land granted by Congress, now the property of the company, about 1,250,000 acres.

One of the other of the lines of this company will be the Central National line of railway to the Pacific ocean. Reconnoissances and surveys of the United States government will connect with both.

The whole amount of bonds which can be issued under the mortgage is ten millions of dollars. The whole of these bonds are convertible into land of the Company, and one-half into stock of the Company, within a limited time, at the option of the holder.

The Company reserve the right to accept proposals for all or any portion of the amount.

Ten per cent of the amount allotted to each subscriber will be required on notice of the acceptance of his proposals, and the balance as called for by the Directors, not exceeding ten per cent. monthly. Any subscriber may, however, at his option, pay up in full, and receive his bonds at any time.

Interest will in all cases be adjusted, on payment of the final instalments.

Proposals will be received at the office of Messrs

Riggs & Co., 56 Wall street, N. Y., inclosed, sealed and endorsed, "Proposals for Loan of \$4,000,000 of Pacific Railroad of Missouri." Laws, Reports, Documents and Map, showing the condition, relations and prospects of the work, and all necessary information relative to its affairs, &c., may be obtained after the 1st of June on application to Messrs. CAMANN & Co., or RIGGS & Co., at 56 Wall street, or the subscriber, personally, or by letter.

By authority of the Board of Directors,

THOMAS ALLEN, President.

St. Nicholas Hotel, N. Y., May 20, 1853.

Pease & Murphy,
FULTON IRON WORKS,
Foot of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B. Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

Apl 1m 50 South Third street.

NEW YORK Lubricating Oil Manufacturing Co.

12 BROADWAY,

PROPRIETORS AND MANUFACTURERS OF
DEVLAN'S PATENT LUBRICATING OIL,
FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon Slides and Journals, by the use of bad oil. It will wear longer than Sperm, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.

ap20 3m

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidity, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

Fulton Car Manufactory, CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Leyer Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Sole Manufacturers, 41

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States. The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1849.

ly

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,**

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of
**Railroad Iron, Chairs, or
any kind of Machinery.**

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co, London.

" Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

38

CAUTION.

India-rubber Car Springs.

An advertisement having lately appeared in the public papers, signed H. H. Day, claiming to have received from the American Institute, the premium for the best India-rubber Car Spring, the subscribers think it well for the satisfaction of their friends and those interested, as well as for the purpose of exposing false statements, to publish the following Diploma, lately awarded to F. M. RAY, the inventor of the Spring. The original of which can be seen at the office of the company, No. 104 Broadway, New York.

DIPLOMA—Awarded by the American Institute to F. M. RAY, for the best India-rubber Car Spring. A Gold Medal having been before awarded.

Signed,

JAMES TALLMADGE,

President.

N. MILES, Recording Sec'y.

ADONIRAM CHANDLER, Cor'g. Sec'y.

New York, Oct., 1851.

New England Car Spring Co., No. 104 Broadway New York.

7tf.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

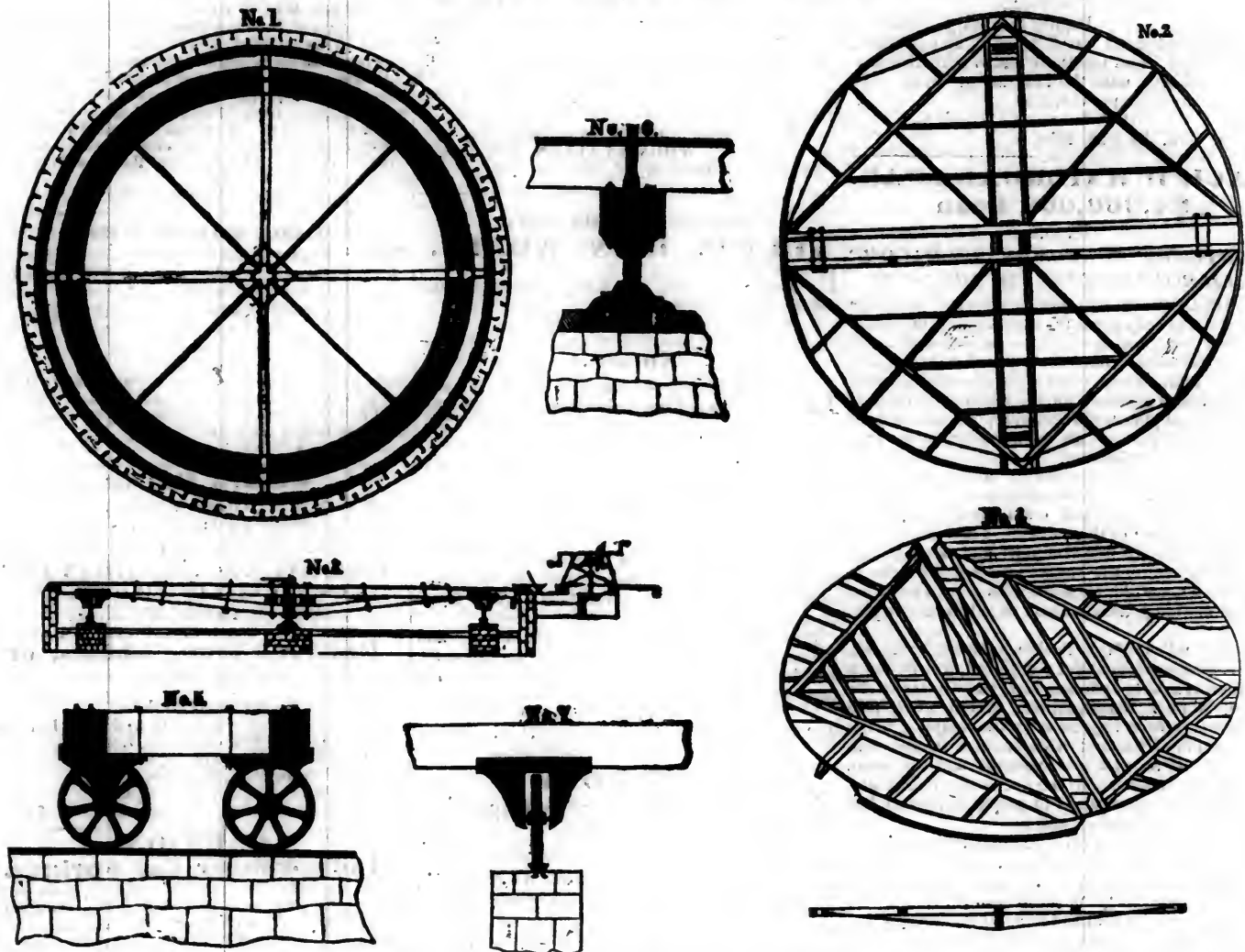
Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer,
Portland, April 9, 1853.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in **25 SECONDS**.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852. 1p

E. DWOLF, Jr.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.

JAS. PRENTICE,
315 Broadway, N. Y.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels, made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.

Sept. 14, 1852. 1p

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes imported to order on the most favorable terms.

February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 23.]

SATURDAY, JUNE 4, 1853.

[WHOLE No. 894, VOL. XXVI.]

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

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American Railroad Journal.

Saturday, June 4, 1853.

Progress of the United States in Material Greatness.

The most indifferent observer of affairs cannot fail to have been impressed with the evidence that is on all sides exhibited, of the vastly increased relative importance which the United States have attained within the last few years, in the community of nations. Inheriting the same principles of civil liberty and the same love of conquest and of gain as our Saxon ancestors, we have added to their stock of ideas whatever could be imported from the continent of Europe and the East.

Twenty years ago the cities of New York and Liverpool were as much, if not more alike, than any two commercial towns of the United Kingdom; and they were nearly equal at that time in population and in business.

Institute a comparison between these two cities for a period of twenty years prior to the present time, and you have a type, or measure of the relative progress of the two great commercial nations of the earth, which the two cities above named so faithfully represent; and in the future of these two cities we may mark and chronicle the subsequent history of the United States and the British Isles.

Liverpool is introduced in this comparison, rather than London, the great metropolis of Europe,

because the former city is a type of England in modern times, the mart of her manufactures the centre of her foreign commerce, and the home of the freest opinion in Europe on all questions of public policy and of national concern.

New York, in fifty years after the adoption of the constitution of the United States, reached a growth that Liverpool only attained after a period of more than a century of similar prosperity, and yet Liverpool from her rapid advancement in business, population and wealth is the wonder of all Europe or the pride of the British Isles.

The end of the next half century of our history or one hundred years from the time that the United States became a nation, the city of New York will rival London itself in population and business.

We entertain no vain hopes of commercial superiority, nor do we believe that for many years to come, any country will rival England in realized capital, or any city in the world equal in wealth the city of London; but as far as the possession of objects of desire to the common mind is concerned, the elegance of its private residences, the magnificence of its public edifices and its business structures and the display of the flags of other nations in its harbor, one may confidently assert that New York within thirty years from this time will have no superior or rival.

What is thus briefly predicated of New York may with equal if not greater truth be inferred for the whole country. We have a territory equalling in size the continent of Europe, with every element of property, of social and commercial progress. We are advancing in a knowledge of the arts of life beyond what is known to any other people. The mechanical and inventive skill of our own population is aided by the introduction into our midst of the ideas of all other nations, and the avenue to wealth and to the highest social position in New York, is as easy as the way to market.

The railway is the great agency that lies at the production of all this progress; it is the railway that is working out these changes. Every considerable seaport upon the Atlantic coast has its lines of railway already built or projected, reaching backward into the interior, penetrating in every direction, the great Basin of the St. Lawrence on the north, and the still greater Basin of the Mississippi on the west,—the great store-house of

human sustenance, the granary of the earth. These leading lines which follow in their general course of the parallels of latitude, crossed by other lines of railway running north and south from the St. Lawrence to the Gulf of Mexico, between the Atlantic coast and the Mississippi. Other lines, extending from the cities of the seaboard to those of the interior, cross diagonally the various squares into which the country is marked by the railway following the parallels of latitude and longitude;—and if we can speak with confidence of any thing in the future, it is the certainty that railroads are to extend on this continent to every community where human habitations are to be found.

The earliest lines which radiated from a few of our leading cities at the outset of our railway system, have been gradually extended till these lines have met and become connected. The comparative value that the roads thus connected bear to the whole system is much like the relation that the materials that make up the framework of the Crystal Palace bear to that edifice before their adaptation to each other, and after its final completion.

Other cities of the continent are destined to enjoy a measure of success, and if not fully equal to that of N. Y. holding a relative position. But we cannot now receive any check to the progress of this city which shall not affect the whole country to the same general extent. Every mile of railroad,—every foot of canal navigation,—every line of steamboats adds something directly or indirectly to the business and the commerce of New York.

The growth of New York in the same measure adds to the value of all the products of the country. Villages, towns and cities are springing up along the line of every leading railroad in the Union, whose business men are interested if not directly connected with the trade of New York. And within striking distance of each business locality, the value of each farm, of each water fall and of every forest, also is doubled if not quadrupled in value.

As wealth increases, every locality shows the common desire for improved means of communication, and thus from the heart of the country to its farthest extremity, a common impulse is given to the energies and the productive powers of the race.

Foreign improvements and processes in agriculture and in art are as readily naturalized as is the adopted citizen, and a progress in national greatness is thus induced which has seen no parallel in the history of mankind.

England, and the British isles generally, are supplied with their leading trunk lines. The capital already invested in railways in the United Kingdom exceeds *twelve hundred millions* of dollars. This vast expenditure has been made almost entirely within the last 25 years, and about *ten hundred millions* of this sum within the last 9 years. At the end of the year 1844 the expenditures for railways in the British Isles had reached about 60,000,000*l.* sterling, or about \$300,000,000 only in all.

The prodigious outlays which the schemes of '44 & '45 required, produced a reaction in public sentiment, that has not yet lost its influence upon the public mind of England, and the new expenditure of capital for railway objects in England do not at the present time exceed £10,000,000 sterling per annum.

Her immense *realized* surplus capital, supposed to be equal to £100,000,000 sterling per annum, seeks investment abroad. Her population follow the track of this capital, to France, Spain, Piedmont and elsewhere on the continent of Europe to the British American Provinces and the U. States. Every day attracts more and more of this capital and this population to this continent, and especially to this country.

No agency has yet been devised that bears any comparison with the railway, for its ability to advance the material interests of the community engaged in building them, and the period in which railways are in process of construction is always marked by a brisk circulation of money, and a rapid increase of its population. Cheap food and cheaply built railways are the great material facts in our present condition. Our own people can expend in the United States in the construction of railways the amount of money to each person, equal to what has been done in England, with far greater assurance of a fair return for the capital employed. The British Isles with about 110,000 square miles of territory, and twenty-seven and a half millions of people, has about 7,000 miles of railway in operation, involving an expenditure equal to \$436 to each person within the United Kingdom. The United States with an extent of territory equal to 3,200,000 square miles, has 1,065,158 square miles, without Texas or California, in which railways are now in progress, containing in 1850 more than 23,000,000 of people. Allowing us to expend at the same rate per person as in England, we shall then have more than *ten hundred millions of dollars*, or twice the amount of all our present investments in railways.

The ease and cheapness with which substantially built roads are constructed in this country will lead to their extension in the United States beyond beyond our present means of conjecture.

Besides this, our population is increasing at the rate of 3 per cent per annum upon the whole number of persons and will in a few years reach an annual increase of a million.

Allowing our population to increase only in the ratio of 3 per cent annually, which has been the average rate for the last 50 years, and it gives the following general result:

1850.....	23,000,000
1851.....	23,690,000
1852.....	24,400,700
1853.....	25,142,721
1854.....	25,886,702
1855.....	26,968,303
1856.....	27,468,202
1857.....	28,277,048
1858.....	29,125,411
1859.....	29,999,173
1860.....	30,899,048

It will not be regarded as extravagant to assume that in 1860 we shall have expended upon railways in the United States an amount equal to the sums invested at this upon railways in the British Kingdom to each inhabitant of the British Isles. This would give an aggregate expenditure upon railways exceeding at that time thirteen hundred millions of dollars.

We have not spoken of the wisdom of the policy indicated, or of its probable results upon business. We are merely contemplating the influence of this extraordinary state of things upon the material interests of this country in comparison with those of other lands.

We have touched a topic so fruitful in suggestion that there is danger of extending our remarks beyond the patience of our readers.

We therefore suspend for the present the train of remarks which naturally follows from the premises assumed.

The New York Central Railroad Company.

We have in a former issue published the Act authorising a consolidation of several lines of railroads into the "New York Central Railroad Company," and an abstract of the contract. We are now favored with a complete copy of the contract for carrying into effect the purposes of that Act, which is of so much interest to the public that we now give the same at full length to our readers:

AGREEMENT,

Made this 17th day of March, in the year 1853, between the Albany and Schenectady railroad company, the Troy and Schenectady railroad company, the Utica & Schenectady railroad company, the Mohawk Valley railroad company, the Syracuse and Utica railroad company, the Syracuse and Utica Direct railroad company, the Rochester and Syracuse railroad company, the Buffalo and Syracuse railroad company, the Rochester, Lockport and Niagara Falls railroad company and the Buffalo and Lockport railroad company, all bodies corporate existing under the laws of the state of New York.

Whereas, by an act of the legislature of the said state of N. York, passed on the 2nd day of April, 1853, entitled "an act to authorise the consolidation of certain railroad companies," the several companies above named or any two or more of them were thereby authorised at any time to consolidate such companies into a single corporation, in the manner therein mentioned, as on reference to the said act will more fully appear.

And whereas, negotiations have heretofore been entered into by and between the said several companies, for the purpose of effecting their consolidation into a single corporation as authorised by the said act of the legislature, and the same has been agreed upon, on the terms and conditions hereinafter mentioned and contained.

Now therefore, this agreement made by and between the several companies above named, under and in virtue of the authority conferred upon them by the act of the Legislature aforesaid, Witnesseth that the said several companies herein before named, do agree, and each for itself severally doth hereby agree, that the said several companies or bodies shall be consolidated into and form one corporation under the name of

THE NEW YORK CENTRAL RAILROAD CO.

which shall continue for the term of 500 years from its commencement.

And in pursuance of the said act of the legislature, the parties hereto do hereby prescribe the following terms and conditions of the said consolidation, and do respectively agree thereto, and to the mode of carrying the same into effect as herein provided for.

ART. 1. The directors of the said new corporation shall be 13 in number. The first election of directors is to be held in the City Hall in the city of Albany, on Wednesday the 6th day of July next, between the hours of twelve o'clock noon, and 3 o'clock in the afternoon of that day. Notice of the time and place of the said election shall be given at least thirty days previously thereto, by the presidents of the respective companies, parties hereto in the state paper, and in at least one newspaper published in each of the cities of New York, Boston, Albany, Schenectady, Utica, Syracuse, Auburn, Rochester and Buffalo.

The following persons, to wit, Henry H. Martin, George Dexter, and Rufus G. Beardslee of the city of Albany, all stockholders in some one or more of the said companies, are hereby appointed inspectors of the said election, to perform the usual duties required by law in such cases. The inspector or inspectors attending at the time and place fixed for the election, shall have the power to fill any vacancy occasioned by the non attendance of any one or more of their number. Any person so appointed to fill a vacancy, must be a stockholder in some one of the companies, parties hereto. Should neither of the inspectors attend at the time and place appointed for the election, the stockholders present at the hour fixed for opening the polls shall have power by the vote of a majority in number of those present, to choose three persons, being stockholders, in one or more of the said companies, who, or any two of whom, shall have power to act as the inspectors of the said election. There shall be chosen at the said election three persons as inspectors at the next succeeding election of directors as required by law. All stockholders in the several companies parties to this agreement, shall have the right to vote at the said election in person or by proxy, and shall severally be entitled to two votes for each share of stock, (being \$100 at par) held by such stockholders, in either or any of the said companies, except as to the Buffalo and Rochester railroad company, the shares in which being \$50 each, one vote only shall be allowed for each share of stock in the said company. The thirteen persons being stockholders in some one or more of the said companies, parties hereto, receiving a majority of votes at the said election, shall be the first directors of the said "N. York Central railroad company."

In the event of a failure to elect the said directors, or any one or more of the number by a majority vote on the first ballot, the said inspectors shall immediately after canvassing the votes and ascertaining the result, again open the polls of the said election for the election of the said directors, or of such number of them as may not have been chosen on the first ballot, as aforesaid, and shall keep the polls of the said election open for at least one hour and until all the stockholders, present or represented, and wishing to vote shall have voted, and the person or persons receiving a majority of votes on the said second ballot shall be declared elected. If the choice of directors shall not be completed on the second balloting either as to the whole or any portion of the number remaining to be chosen as aforesaid, as many more ballotings shall be had as may be necessary to effect such choice, which ballotings shall severally be conducted on the same principles as the second balloting, excepting that after the second balloting a plurality of votes only shall be necessary to an election. If, however, after four ballotings it shall so happen that a portion of the directors shall have been chosen, no further ballotings shall be had, but the persons so chosen, or a majority of them, shall with as little delay as may be, fill up and complete the board by the choice of such persons being stockholders in

some one or more of the said companies, as they may see fit. The directors chosen in pursuance of this article shall hold their offices until the annual election of directors in the said new corporation, to be held in the year 1854, as hereinafter provided for, and until others shall have been elected in their places.

ART. 2. The directors of the said new corporation shall thereafter be chosen annually, on the 2nd Wednesday of December, in each year after the present year—1853—by a majority of the votes of the stockholders voting at such election in such manner as may be prescribed in the by-laws of the corporation, and they may and shall continue to be directors until others are elected in their places. In the election of directors, each stockholder shall be entitled to one vote for each share of stock held by such stockholder. Vacancies in the board of directors shall be filled in such manner as shall be prescribed by the by-laws of the corporation. At each election of directors, three inspectors of election shall be chosen for the next annual election of directors as required by law. No person shall be a director, unless he shall be a stockholder, as required by the general railroad law.

ART. 3. The capital stock of the said new corporation being limited by the act aforesaid to the aggregate amount of the capitals of the several companies thus consolidated, the respective parties hereto do severally agree and declare that the capital stock of the said corporations respectively, together with the amount, if any, of outstanding bonds, legally issued by the said several corporations, with the right or privilege to the holders thereof to convert the same into the capital stock of such companies respectively at par, on surrender of the said bonds and on the terms therein mentioned, are as follows:

Albany and Schenectady railroad company.....	\$1,535,860
Convertible bonds of the said company, outstanding.....	86,000
Schenectady and Troy railroad Co....	650,000
Utica and Schenectady railroad company.....	4,500,000
Mohawk Valley railroad Co.....	1,575,000
Syracuse and Utica railroad Co.....	2,700,000
Syracuse and Utica Direct railroad company.....	600,000
Rochester and Syracuse railroad company.....	5,606,700
Convertible bonds of said company...	2,000
Buffalo and Rochester railroad company.....	3,000,000
Rochester, Lockport and Niagara Falls railroad company.....	2,016,100
Convertible bonds of the said company.....	139,000
Buffalo and Lockport railroad Co....	675,000
Total.....	\$23,085,600

Forming an aggregate present capital of \$22,858,600, subject to be increased by the conversion into stock of the said convertible bonds, the sum of \$227,000 making in all the sum of twenty-three millions and eighty-five thousand six hundred dollars.

The capital stock of the said new corporation is therefore fixed, pursuant to the said Act of the legislature, at the aforesaid aggregate sum of twenty-two millions eight hundred and fifty-eight thousand six hundred dollars, to be divided into 228,586 shares of \$100 each; such capital being subject to be increased, by the conversion into stock of the principal of the said outstanding bonds from time to time, so that the same shall not, when all the said bonds shall be converted, exceed the sum of twenty-three millions and eighty-five thousand six hundred dollars, to be divided into 230,856 shares of \$100 each.

ART. 4. The said capital stock shall be distributed rateably to and among the several stockholders in the companies, parties hereto, so that every stockholder in each of the present companies shall receive in place of the stock now held by such stockholder, the like number of shares at par in the capital stock of the new corporation,

except as to the stockholders in the Buffalo and Rochester railroad company, the shares in which being \$50 each, the holder of every two shares of that stock rejecting all odd shares or fractions of \$50 shall be entitled to one share in the new corporation. The stock representing the aggregate of the said fractions or parts less than \$100 each shall be sold at auction, and the proceeds, adding the proper allowance made to the stockholders of the said company for its proportion of the differences in value hereinafter referred to, shall be divided rateably among the stockholders, to whom the said fractional parts belonged; or if the holders of any of the said fractional parts so prefer, the new corporation will pay and allow at the rate of par for the said fractions, and receive for its own use the portion of the proceeds of the sale at auction, as before provided for, which such stockholder would otherwise have been entitled to receive.

ART. 5. The amount of the bond or funded debts other than the convertible bonds above mentioned due from the said companies, parties hereto, who are thus indebted and which, as well as the said convertible bonds which may not be converted into stock, the said new corporation is to assume and pay, is hereby declared and fixed by each company so indebted, severally for itself, as follows:

Albany and Schenectady railroad company.....	\$226,823 62
Schenectady and Troy railroad company.....	100,000 00
Syracuse and Utica railroad Co.....	126,000 00
Rochester and Syracuse railroad company.....	756,000 00
Buffalo and Rochester railroad company.....	200,000 00
Rochester, Lockport and Niagara Falls railroad company.....	476,000 00

The respective companies are to pay all the interest due or which may accrue on their said indebtedness up to the first day of May, one thousand eight hundred and fifty-three.

ART. 6. All the indebtedness and liabilities direct or contingent, existing against either of the parties hereto, at the close of business, on the 30th day of April last, including the wages of all laborers, workmen, agents and officers to the end of the month, other than the debt herein before referred to, are to be paid and liquidated by the respective parties, or the trustees who may settle their affairs as hereinafter mentioned, out of their own assets respectively, which do not pass to, or vest in the new corporation, and are not to be chargeable in any way upon the said new corporation. But this shall not extend to any indebtedness for engines, cars, machinery or supplies contracted for by any of the parties previously to the said 30th day of April last, and not then delivered; but such engines, cars, machinery or supplies shall be paid for by the new corporation on receiving the same, or on the proper performance of any contract therefor; but no company having made any partial payment on account of any engines, cars, machinery or supplies as aforesaid before the said thirtieth day of April last, shall be in any way entitled to be refunded for the same by the new corporation.

ART. 7. The trustees of each and every party hereto to be appointed as hereinafter provided for, shall account for and pay over to the new corporation, without delay after the first election of directors thereof as herein before provided for, all the moneys which shall have been received by the company of which they are trustees for the transportation of passengers and freight, and all other income and receipts of every kind, arising from business transacted, sales made or otherwise, subsequent to the said 30th day of April last. (except for calls on stock made previously to that time,) and shall be credited and allowed all payments out of said moneys properly made in carrying on and conducting the business operations of the said Co., subsequent to the said 30th day of April last, and up to the time of such accounting and payment.

The Rochester and Syracuse railroad company shall also be credited with the amount which shall have been expended by them in constructing and equipping their straight line road between Syracuse and Rochester, not included in the foregoing statement of their capital stock and indebtedness, such amount being estimated at \$115,912, but not in any event to exceed the sum \$120,000.

ART. 8. The parties hereto respectively, shall be authorized to retain for the payment of their indebtedness and liabilities herein before agreed to be paid and discharged by them respectively, and for division and distribution as may be authorized by law should any surplus remain, all moneys which they had on hand on the said 30th day of April last, all amounts and debts due to them on that day, including payments or instalments on stock called for before that time and payable previously to the date thereof, and all stocks and securities for the payment of money which they then held. Each of the companies parties hereto in order to carry out the foregoing provision in this article contained, shall, before the first election of directors for the said new corporation takes place as herein before provided for assign and transfer to its directors in office at the time, or to such of them, or to such other person or persons as they may deem proper, all the moneys, demands, debts, stocks and property which such company is entitled to hold and retain as herein before in this article mentioned, in trust for the purposes aforesaid with such covenants and provisions in the said transfers respectively, as each company shall deem best and most expedient, in order to provide for the extinguishment, with as little delay as may be of the debts and liabilities of the said companies respectively, and for the division of the residue of the said funds, demands and property, and the proceeds thereof to and among the stockholders of the said respective companies according to their respective rights and interests.

The several companies shall also assign to the said trustees all the moneys received by or due to them respectively, and which, under the seventh article hereof, are to be accounted for and paid over to the new corporation, in order that the trustees may, without delay, account for and pay the same to the new corporation as required by the said seventh article.

The several companies shall also assign to the said trustees all sums of money and personal assets, which by any of the provisions of this agreement are to be paid to or accounted for to the said new corporation, to the end that such payment and accounting, in order to settle all questions in regard thereto, may be made by some person or persons acting in behalf of the parties entitled to the remaining assets of the said companies, as the said companies will then by reason of their being merged in the new corporation, have ceased to exist as bodies corporate.

ART. 9. Several of the companies parties hereto, being the owners and holders of shares in the capital stocks of the Great Western railroad company, Canada West, and in the Buffalo and State line railroad company, subscribed for under and in virtue of acts of the legislature of this state, authorising such subscriptions, and it being considered desirable that the new corporation should continue to hold the said stocks, it is hereby agreed that the said new corporation shall take a transfer from the trustees of the respective companies, of the stocks so sold by them, at the following prices. For the stock of the Great Western railroad, Canada West, par, deducting any instalment remaining unpaid, and all accrued interest thereon allowed by the company, and remaining unpaid; and for the stock of the Buffalo and State Line railroad company, par and 20 per cent premium, with interest from the 13th day of April last, that being the market value of the said stock on that day. The said stocks are to be paid for by the new corporation, in cash, before the first day of November next, with interest from the first day of May instant, as to the stock of the Great Western railroad company, and with interest from the 13th day of April last, as to the stock of the Buffalo &

State Line railroad company, or at the election of the new corporation, by the issue of its bonds to the trustees of the several companies for the amount due to them respectively, payable at the end of 30 years from the first day of May, 1853, with interest at the rate of 6 per cent per annum, from the 1st day of May, and the said 13th day of April, 1853, as the case may be, payable semi-annually on the first day of May and November in each year, on the surrender of the respective interest warrants to be appended to the said bonds, in the form usual in such cases, and both principal and interest to be made payable in the city of N. York. The amount of the said stocks at par held by the several companies, is declared by each co. for itself to be as follows: the Albany and Schenectady railroad company hold twenty-five thousand dollars of the stock of the Great Western railroad company. The Utica and Schenectady railroad company hold \$200,000 of the stock of the said Great Western railroad company. The Syracuse and Utica railroad company hold \$75,000 of the stock of the said G. Western R. R. co., and \$62,300 of the stock of the said Buffalo and State Line railroad company. The Rochester and Syracuse railroad company hold \$125,000 of the stock of the said Great Western railroad company, and \$105,500 of the stock of the said Buffalo and State Line railroad company. The Buffalo and Rochester railroad company hold \$94,950 of the stock of the Buffalo and State line railroad company. The Rochester, Lockport, and Niagara Falls railroad company hold \$68,500 of the stock of the said G. Western railroad company.

ART. 10. The Mohawk Valley railroad company agree that the trustees to be appointed by the said company as herein provided for, shall pay over to the said new Corporation without delay, after the first election of directors thereof, as herein provided for, the amount of the first instalment of ten per cent, received on the capital stock of the said Company, being \$157,500 deducting therefrom all expenses or charges paid or justly incurred by the said company.

ART. 11. The Syracuse and Utica Direct railroad company agree that the trustees to be appointed by the said company, as herein provided for shall pay over to the said new Corporation without delay, after the first election of directors thereof, as herein provided for, the amount of the first instalment of ten per cent. received on the capital stock of the said Company, being \$60,000, deducting therefrom all expenses and charges paid or justly incurred by the said company.

ART. 12. The whole of the amount unpaid on the capital stock of the Buffalo and Rochester railroad company, as herein before mentioned, it is agreed, shall be paid to the new corporation. It is understood, however, that the said Buffalo and Rochester railroad company may, in the mean time, receive a payment of ten per cent on the said stock; and the full amount of any moneys which may be so received by the said Co. shall be paid over by the trustees to be appointed by the said Co., as herein provided for, to the new corporation, without delay.

ART. 13. The certificates of stock in the new corporation to be given to parties who shall be stockholders in the Mohawk Valley railroad company, and in the Syracuse & Utica Direct R.R. Co., at the time the consolidation shall take effect, in place of those held by them in the said companies respectively, shall state, that ten dollars only on each share of the said stock has been paid, and that the sum of ninety dollars per share remains to be paid thereon; as the same may be called for by the directors, and be in other respects in the form usual in such cases. The certificates to be given to the holders of the stock of the Buffalo and Rochester railroad company, not paid for as aforesaid, shall conform to the amount of the first payment on the said stock, if any shall have been made as herein before provided for before the said consolidation shall take effect, and if not, to the amount of such first payment when the same shall have been made. It is also agreed that any stockholder holding either of the said three stocks in

this article mentioned, may at any time before the first day of February next, pay the amount remaining due on the shares so held by him, or on any of them, with interest at the rate of seven percent per annum, from the 1st day of May instant, deducting any dividend which may have been paid on the capital stock of the said new corporation, previously to that time should any have been paid, and shall thereupon be entitled to receive a certificate for full stock for the shares so paid for. The amount remaining unpaid on the three stocks referred to in this article on the first day of February next, may be called for by the directors in the usual manner, at any time after that period. But the option to pay the stocks in full at any time before the first day of February next, shall not prevent the directors of the new corporation from calling for, and requiring the payment of the same, or of any of them at any time before that day, should they deem it proper so to do. The said stock so paid in part shall until the same be made full stock be entitled to the same per centage of dividend on the amount from time to time paid thereon, as may be declared and paid on the full stock of the new company.

ART. 14. The estate, property and franchises of the said companies, parties hereto, which in pursuance of the said act of the Legislature, will vest in the said new Corporation, on its organization, being relatively of unequal value, and the stocks of the said respective companies having heretofore uniformly sold in market at different prices or rates of premium, the parties hereto do hereby, with the view of making compensation for such differences to the stockholders of said companies, respectively fix upon the following amounts to be allowed therefor by the issue of certificates as hereinafter mentioned, to wit:

To the Stockholders of the Albany and Schenectady railroad company it is hereby agreed to allow seventeen per cent., or seventeen dollars on each one hundred dollars of the capital stock thereof.

To the stockholders of the Utica and Schenectady railroad company it is hereby agreed to allow fifty-five per cent., or fifty-five dollars on each one hundred dollars of the capital stock thereof.

To the stockholders of the Mohawk Valley railroad company it is hereby agreed to allow fifty-five per cent., or fifty-five dollars on each one hundred dollars of the whole capital stock thereof, the said capital stock being subject to the further payment of ninety dollars on each share thereof as aforesaid.

To the Stockholders of the Syracuse and Utica railroad company it is hereby agreed to allow 50 per cent., or fifty dollars on each one hundred dollars of the capital stock thereof.

To the Stockholders of the Syracuse and Utica Direct railroad company it is hereby agreed to allow 50 per cent., or fifty dollars on each one hundred dollars of the whole capital stock thereof, the said capital stock being subject to the further payment of ninety dollars on each share thereof, as aforesaid.

To the Stockholders of the Rochester and Syracuse railroad company it is hereby agreed to allow thirty per cent., or thirty dollars on each one hundred dollars of the capital stock thereof.

To the stockholders of the Buffalo and Rochester railroad company it is hereby agreed to allow 40 per cent., or forty dollars on each one hundred dollars of the whole capital stock thereof, it being understood that the whole amount, remaining unpaid on the said stock as before stated, is to be paid or accounted for to the new corporation as aforesaid.

To the Stockholders of the Rochester, Lockport and Niagara Falls railroad company, and to the stockholders of the Buffalo and Lockport railroad company, it is hereby agreed to allow 25 per cent. or twenty-five dollars on each one hundred dollars of the capital stock of each of the said companies respectively.

No allowance is made for any such difference

in value as aforesaid to the stockholders of the Schenectady and Troy railroad company, as the stock of that company is not considered to be worth its par or nominal value; but each share of stock in the new Corporation to be issued to the stockholders of that company in place of their present stock in said company, as herein before provided for, shall be made subject to the further payment of \$25 on each of the said shares, at such time or times and in such instalments as the directors may require; in like manner as provided for in and by the seventh section of the general railroad law; such further payment being required on the said shares in order to entitle the holders of the stock of the said Schenectady and Troy railroad Co. to an equal amount at par of the stock of the new corporation.

ART. 15. The said new corporation shall, without delay, after its organization, issue to the stockholders of the respective companies, parties thereto, and entitled thereto as aforesaid, and in proportion to their respective interests, certificates, of such form as they may deem advisable, each of which shall state in substance the amount to which the stockholder to whom the same shall be issued is entitled, on the basis fixed in the last article, and that such amount is to be paid out of the future income of the said company, after payment of the cost of maintaining and operating the said road, at the end of thirty years from the first day of May, 1853, with the interest at the rate of six per cent per annum, from the first day of May, 1853, payable semi-annually on the first day of May and the first day of November in each year, on the surrender of the respective interest warrants to be appended to the said certificates in the form usual in such cases, and both principal and interest to be made payable in the city of New York.

Stockholders who may in pursuance of the foregoing provision be entitled respectively to certificates for less than five hundred dollars, may be paid in cash if the new corporation so elect. Such certificates shall be issued in amounts of five hundred dollars, one thousand dollars, three thousand dollars, five thousand dollars, and ten thousand dollars only, unless the new corporation otherwise determine, and the fraction or excess to which any stockholder may be entitled, over and above the amount which can be liquidated by certificates of the denominations aforesaid, may be paid by the new corporation in cash, or they may, at their election, issue a certificate therefor. But the certificates referred to in this article shall not be issued to the respective classes of stockholders entitled thereto, until the trustees of the respective companies shall have given satisfactory security to the new corporation, that the debts and liabilities of the said respective companies direct and contingent, and not herein charged on the new corporation, shall have been paid and satisfied, and the new corporation fully indemnified against the same.

ART. 16. A sinking fund shall be provided by the new corporation, for the purpose of securing the payment of the principal of the said certificates at the maturity thereof, by setting apart annually out of its earnings, after first paying all the expenses of running and maintaining the road, and the interest on the said certificates as aforesaid, an amount equal to one and one-fourth of one per cent on the total amount of the principal of the certificates thus issued, which fund, with the accumulations thereon, shall be invested in the public stocks of the United States, or of the State of New York, or in the stocks or bonds of an incorporated city in the State of New York, authorised by law to issue the same, or in the purchase of any of the said certificates, as the said new corporation may at any time deem most desirable. An account shall be kept of the said sinking fund, and of the accumulations thereof, and the said fund and the securities belonging thereto, shall at all times be kept separate and apart from the other funds and assets of the said new corporation, in order to secure the eventual application in good faith of the whole thereof to the payment of the principal of the said certificates as aforesaid.

ART. 17. The agreement made between the Rochester, Lockport and Niagara Falls railroad company, and the Rochester and Lake Ontario railroad company whereby the former company have taken a lease of the road of the last named company, for the term of its charter, and agreed to consolidate the capital stock of the two roads, when the requisite measures therefor shall have been completed as therein mentioned, and agreeing in the mean time to pay to the stockholders of the said Rochester and Lake Ontario railroad Co. (the capital stock being one hundred and fifty thousand dollars) the same dividends at the same time and place as shall hereafter be paid on the stock of the said Rochester, Lockport and Niagara Falls railroad company, so that the stocks of the two companies shall in all respects stand on an equality, shall be fulfilled on the part of the new corporation; and the said new corporation shall issue to the respective stockholders of the said Rochester and Lake Ontario railroad company, on the surrender of the certificates of stock in said company now held by them; certificates for 25 per cent on the amount at par of such capital stock, at the same time and in the same manner as herein before provided for with respect to the stockholders in the said Rochester, Lockport and Niagara Falls railroad company, and payable in like manner in all respects, and by also issuing to them, pursuant to the said agreement, new certificates of stock in the said Rochester and Lake Ontario railroad company of the same amount as those which shall be surrendered by them respectively, in like manner and form, as nearly as may be, as the said Rochester, Lockport and Niagara Falls railroad company are bound to do, substituting in such certificates the name of the new corporation, in place of the name of the said Rochester, Lockport and Niagara Falls railroad company, so that the stock of the said Rochester and Lake Ontario railroad company shall, in all respects, stand on an equality with the stock of the new corporation. And the said Rochester, Lockport and Niagara Falls railroad company hereby substitute the said new corporation in their place, to do and perform in their own name and by their own officers, all such matters and things as the said Rochester, Lockport and Niagara Falls railroad company or its officers would have been required to do or perform had its corporate existence continued, under their agreement with the Rochester and Lake Ontario railroad Company.

ART. 18. The several companies, parties hereto, do hereby in consideration of the premises and of the sum of one dollar to each of them paid, the receipt whereof is hereby confessed, respectively grant and release to the said new corporation, when formed, and to its successors and assigns, all and singular the lands of the said companies parties hereto, on which the track of their respective roads is laid, and all and singular the lands and real estate occupied by them for their depots, engine houses, machine shops, and other buildings, and all lands and real estate occupied or held by them, or which may be held or owned by them at the time the said several corporations will under the said act of the Legislature, passed on the 2nd day of April, 1853, merge into the said new corporation.

ART. 19. The road of the Buffalo and Lockport railroad company shall be, in all respects, completed by that company at its own expense, with all necessary depots and other buildings, and the title to its real estate perfected on or before the first day of July next, in the manner agreed upon by the contract between the said company and the Rochester, Lockport and Niagara Falls railroad company. If the said road should not be so completed, satisfactory security shall be given to the new corporation for its completion, in manner aforesaid, before the certificates for differences, herein before mentioned, shall be issued to its stockholders.

ART. 20. The amount of unpaid and unclaimed dividends due by any of the companies to their respective stockholders, shall be accounted for and paid over to the new corporation who shall pay

such dividends to the parties entitled thereto, whenever the same shall be legally demanded.

ART. 21. Should the stockholders of any company being a party hereto, decline, neglect or refuse to ratify this agreement on or before the first day of July next, in the manner and form required by the said act of the Legislature, passed April 2nd, 1853, before the same shall be deemed the agreement of the said company, the same shall on and after that day become of full force and effect, and be an agreement between the companies whose stockholders shall then have sanctioned and approved the same in the manner required by the said act of the Legislature, in the same manner as if the company or companies so declining, neglecting, or refusing, had not been named as a party thereto.

ART. 22. Should any shareholder in any or either of the several companies, parties hereto, whose stockholders shall ratify this agreement, decline taking shares in the said new corporation, such shareholder shall be paid for the shares so held by him, by the new corporation, in the manner in all respects provided for in and by the 6th sec'n. of the said act of the legislature passed April 2nd 1853.

In witness whereof, the corporate seals of the respective companies, parties to this instrument, have been affixed hereto, in duplicate, on the day and year first above written, by the order and in the presence of the directors of the said several companies respectively, duly convened, a quorum of each of the said several boards of directors being so present, and assenting thereto, as is attested by their respective signatures hereto, on behalf and by order of the said several boards of directors, and the presidents of each of the said companies have also at the same time, and in the presence of the respective boards of directors, and on behalf of the said respective companies, hereto affixed their names in virtue of resolutions of the said several boards of directors, passed at their said respective meetings, on the same day and year last aforesaid:

Ezekiel C. McIntosh, President of the Albany and Schenectady railroad company. Gerrit Y. Lansing, Vice President. H. Pumpelley, R. H. Winslow, T. Tileston, Lyman Chapin, Directors.

Erastus Corning, President of the Utica and Schenectady railroad company. Nicholas Devereux, John Townsend, Thomas W. Olcott, James Hooker, Marcus T. Reynolds, Livingston Spraker, John Ellis, A. C. Paige, E. T. Throop Martin, Directors.

John V. L. Pruyn, President of the Mohawk Valley railroad company. Erastus Corning, John Townsend, Marcus T. Reynolds, F. E. Spinner, B. Carver, Isaac Jackson, Thomas W. Olcott, C. Vibbard, A. C. Paige, Directors.

Russell Sage, President of the Schenectady and Troy railroad company. Thomas Symonds, John S. Ide, H. N. Lockwood, Jon'a. Edwards, H. Mosher, Wm. F. Sage, Hiram Smith, Harvey Davis, Henry Ingram, D. T. Vail, Directors.

Henry B. Gibson, President of the Rochester and Syracuse railroad company. Joseph Fellows, Jacob Gould, Wm. F. Weld, Horace White, Lewis Brooks, Chas. Seymour, J. B. Varnum, J. H. Cheddell, Directors.

John Wilkinson, President of the Syracuse and Utica railroad company. C. Stebbins, Vice President. John Stryker, Oliver Teall, Joel Rathbone, E. W. Leavenworth, Ham'l. White, Holmes Hutchinson, Sam'l French, D. Wager, Joseph Battell, Directors.

Charles Stebbins, President of the Syracuse and Utica Direct railroad company. John Wilkinson, Oliver Teall, Holmes Hutchinson, Joseph Battell, Joel Rathbone, Hamilton White, E. W. Leavenworth, D. Wager, Sam'l French, George Barnes, Horace White, Directors.

J. B. Varnum, President of the Rochester, Lockport and Niagara Falls railroad company. A. Boody, E. B. Holmes, Edw'd Whitehouse, S. O. Smith, J. C. Colton, R. S. Burrows, Directors.

Isaac C. Colton, President of the Buffalo and Lockport railroad company. A. Boody, Albert H.

Tracy, Rufus H. King, E. B. Holmes, Edward Whitehouse, J. B. Plumb, A. D. Patchin, John Wilkeson, J. B. Varnum, Joel Rathbone, Directors.

Joseph Field, President of the Buffalo and Rochester railroad company. Dean Richmond, Wm. F. Weld, Henry Martin, Thomas Kempshall, Francis H. Tows, A. Sprague, D. W. Tomlinson, G. H. Mumford, Lewis Brooks, Directors.

We give the agreement for consolidation entire, with the exception of the acknowledgements executed by the several parties. The law authorising the consolidation will be found in the *Journal* of April 23d:

Mobile and Ohio Railroad.

REPORT OF THE CHIEF ENGINEER TO THE DIRECTORS.

Dear Sir: Since the last annual report, the engineers and agents of the company have been steadily engaged in urging forward the business of the road, in acquiring material aid at home, and public confidence abroad, as the following statements will show:

Between February and August of the past year the tracks were completed to the town of Citronelle, 33 miles from Mobile, and all necessary equipment of cars and engines, and of local buildings, fixtures, and furniture were supplied for the business of transporting passengers and freights. Terminating as these 33 miles did in the pine hill forest, not much income was, or could have been expected for the road, until extended farther, into the cotton producing lands of the Chickasawha valleys, but it was necessary to operate the road, unpromising as the prospect was, as a means of aiding its further extension, and of satisfying the people of the country of its existence and motive capacities. Thus, it commenced, and up to this date has been working about ten months to Citronelle, and although the running has been several times interrupted by the unprecedented storms and inundations of last summer and autumn, yet no damages have occurred to the roadway, except the washing out of some light sand banks, where the grade of the road was laid too low, or the water drainage under it too narrow. All of which defects are now corrected and the banks renewed with heavier materials and fortified against future floods. Notwithstanding these interruptions and damages, the earnings of the road have exceeded the aggregate cost of their repair, of running the road and of the gravel train whilst engaged in ballasting the softer portions of the road bed. It is confidently believed that serious injury from floods will not again occur upon any portion of the entire road, because the storms of the past year have indicated, for the first time in 4 years, the maximum volume and force of the streams to be crossed by it, the knowledge of which will enable us to guard all future constructions upon the line.

Additional force of cars and engines have been purchased, deliverable at Mobile, for the increasing business and early extension of the road to Chickasawha river, all of which have been received excepting one engine. The rolling stock of the road now consists of—

- 2 22 ton freight engines,
- 2 17 do passenger and freight engines.
- 1 10 do passenger engine,
- 3 first class passenger cars,
- 1 second do do do,
- 41 eight wheel freight do,
- 30 four wheel gravel, do,
- 8 four wheel lumber and iron do,
- 2 hand cars—all new and in good condition.

In consequence of the liberal subscription of the real estate owners of Mobile, in February, 1852, under the 2 per cent law, 55 miles of the road beyond Citronelle were placed under contract in May last, to be completed ready for the iron on or before the first of Nov. 1853. And in July last a full supply of iron rails for these 55 miles was contracted for, and is now received at Mobile. The timber for this portion of the road, in addition to a con-

siderable quantity of cross ties now on hand, is also contracted for and in progress of delivery, and the track laying will commence as early as the graduation will admit.

I regret the fact, that this work of graduation has not been pushed as rapidly as was hoped for and expected. Owing to the scarcity of men, and the high price of labor through the past summer and winter—to want of energy in one important contractor—absence of another—and to the common tendency of men to procrastinate labor, especially in hot weather, some time has been lost—yet, all claim to have done the best they can. I have no reason to doubt the honesty of their intentions, and if they fail to fulfil their obligations in time, they must respectively answer in damages.

But making ample allowance for delays of this work, incident to this wooded and sparsely settled portion of the route, I can see no reason why eighty-eight miles of road should not be in running order in the spring of 1854; and thereafter draw to Mobile the trade and travel of the whole southeastern quarter of Mississippi. In anticipation of this progress of the road, the Post Master General has already authorised a mail coach line between Mobile and Columbus, Mississippi, to run in connection with the cars, and knowing that these eighty-eight miles of road will form very much the best outlet for the products of the counties drained by the Chickasawha and Noxubee rivers, I cannot doubt but the income of the road will then pay 5 per cent upon its cost besides the running expenses. But no time has been allowed for stopping the tracks at the end of 88 miles for a single week. For the line beyond and to the centre of Lauderdale county, was placed under contract in August last, to be finished in the Autumn of the present year. Thence to the south line of Pontotoc county, 267 miles from Mobile, the contracts were made in September last, to be completed on or before the 1st day of September, 1854. This work is now generally begun and making fair progress—the heaviest sections throughout having been let to experienced contractors, and the light sections to the inhabitants of the country living near the line. All possible precautions have been taken to secure the execution of the work within the times specified, and as the contractors are all believed to be men of honor and ability, we scarcely need fear a single failure.

In compliance with the cardinal principles of your existence and safe progress as a company, 'not to make contracts nor incur obligations faster than sufficient means of payment are furnished to secure the completion of specific portions of the road,' all contracts of last year were restricted to those above mentioned. To extend the subscriptions to the full amount required for the road in Mississippi and Tennessee, and obtain a reduction of time for the payment of county instalments, have engrossed the active exertions of the local agents. Dr. Cunningham and Mr. Wheeler, in Mississippi, and Dr. Hess, in Tennessee, aided, as they have been, efficiently by other distinguished gentlemen of both their states, and I am happy here to say that their efforts have been approved by success, even beyond reasonable expectation.

It will be recollected that the estimated cost of local work from Citronelle to the south line of Pontotoc, county, stated in the last annual report to be.....\$2,536,576

Whilst the amount subscribed up to September last and applicable to the completion of this portion of the main road was.....2,146,576

Leaving a deficit of.....\$90,000

Lowndes county, Miss., was called upon to make up this deficiency, and promptly and nobly have the people responded by voting the whole sum, by an overwhelming majority; at the same time, and with equal unanimity they have voted a further subscription of \$115,000 for a branch road to the town of Columbus, which after having been accepted by the directory will be hastened and placed under contract as soon as practicable—thus the whole

two hundred and sixty-seven miles of the main road south of Pontotoc and Columbus branch are provided for.

North of Pontotoc south line for the remaining 67 miles of the main road in Mississippi, and 15 miles of the Tennessee river branch, the revised estimate was \$740,000. For 118½ miles in and through Tennessee to the Kentucky line.....\$740,000
The same estimate was.....900,000
Total to Kentucky.....1,640,000

For which we now have subscriptions as follows, including all stock subscribed for by the contractors, in part or entire payment payment for work, to wit: in the counties of Oktatibbiha, Chickasaw Pontotoc, Itawamba, Tishomingo, & applicable to the work in North Mississippi.....\$762,000
In the counties of Madison, Gibson, Obion, McNairy, Henderson, and Weakley, Tennessee, and for work in that state.. 878,000

Making together.....\$1,640,000
The full amount of the estimates.

I was advised in January last by the local agents that the subscriptions would when completed equal the estimates. Accordingly no time was lost in advertising the work for contracts to be made at convenient points upon the line in the past months of March and April.

These appointments have been actually met, and I now have the pleasure to report that the whole road is under contract to the Kentucky line, 453 miles from Mobile, excepting a few miles of light work in Tennessee and North Mississippi, which can be constructed in six months, and for which I have responsible offers to be adjusted in a few days, on my return to that part of the line. Nine tenths of these contracts have been taken by the planters of the country, who have in all cases given bonds for the performance of the work, on or before the first day of November, 1854. Owning and controlling the labor of the country, they are freed from the fluctuations incident upon the employment of foreigners—and therefore more certain to complete their work within the time specified.

As convincing proof of the interest and confidence of the people of the country along the whole line of the Mobile and Ohio road—its value and management, I have only to state, that the contracts have been taken by them at prices fixed by your chief engineer, and the right of way and station grounds—with here and there an isolated exception—released without charge.

In Kentucky upon the remaining 40 miles of the main line, the questions of county and individual subscription are now being presented and discussed with vigor and with great certainty of success, at least as far as Columbus, where \$20,000 have been subscribed. Upon the Paducah branch line more energy and interest prevail. \$300,000 have been subscribed by the town of Paducah, and county of McCracken, leaving \$200,000 yet to be made up by the county of Graves and by individuals. That the whole sum of \$500,000 will be raised by these counties before the first of June next, in conformity with the contract between the Mobile and Ohio company and Judge Campbell of the 2d of November last, there is not the slightest reason to doubt, for that contract is universally approved by the people and those who had previously opposed county subscriptions are now in favor of them.

There are two controlling causes of this state of feeling. First, the positive agreement of the Mobile Company to iron and equip the road when graded; and second, the recent Act, herewith submitted, of the Illinois Legislature, chartering a company to build a railroad from the Ohio river, opposite Paducah, to Vincennes, is virtually an extension of the Paducah branch to central Indiana and Cincinnati, thus a terminus of the Mobile and Ohio road upon the Ohio river at Paducah, will be established simultaneously with the completion of the main line through Mississippi and Tennessee.

Another terminus upon the Mississippi river at

Columbus, will follow in quick succession, and though last, not least important, another near the mouth of the Ohio, within a year thereafter.

From these statements of our local affairs, the means and progress of the road at this time are as follows:

In Alabama for local work north of Citronelle to Kemper county line, commenced in May and September last, and bound to be done in all of 1853, to the centre of Lauderdale county—Mobile city subscription and work.....\$1,130,000

In Mississippi for local work between Lauderdale and Pontotoc counties, to be finished in September, 1854—individual and county subscriptions.....\$1,181,800

In Mississippi north of Pontotoc line to Tennessee line, to be finished 1st November, 1854—individual, county and work subscriptions.....\$762,300

In Tennessee to Kentucky, to be finished 1st November, 1854—individual, county and work subscriptions.....\$878,000

Making a total of.....\$3,952,000
for the 420 miles of road between Citronelle and Kentucky, now in progress of graduation.

In Kentucky, line to Paducah will be ready for contracts by the 1st of August or September next, and to be finished 31st January, 1855—county and individual subscriptions.....\$350,000

To which add cost of local work of 33 miles completed.....\$500,000

Also from sale of town lots at 12 stations of railroad located upon railroad lands.....\$100,000

And our total of local means will be for local works, expended and to be expended upon the through line, Paducah and Tennessee river branches.....\$4,902,200

The revised estimate for the same local work substituting the Paducah line for the shorter one to the mouth of the Ohio river, is.....\$4,776,576

The contracts are now made through Tennessee; and when the affidavits of the President and Engineer are filed with the Governor of that State, proving that a solvent stock subscription, equal to the estimated cost of the local work has been obtained, then that State will issue 6 per cent State bonds to the Company as fast as the grading shall be executed, and ready for iron and machinery to the amount of \$8000 per mile for iron and equipments, equal in the aggregate to about one million of dollars, for which the State will hold a first lien upon the portion of the road within her own limits. These affidavits can be filed as above in thirty days. From the land office under the Act of Congress of September 20th, 1850, certificates have been issued to the company for 1,156,658½ acres of land; all that remains vacant by alternate sections within 15 miles of the road in Mississippi and Alabama, leaving a deficit under the grant as now construed by the Department, of 55,377 27, 100 acres; which it is believed Congress will, hereafter, authorize the company to select outside of the fifteen mile limit.

It is believed that the law of Congress recognized but one road—as the extension of the Illinois Central, from the mouth of the Ohio river to the city of Mobile. But the United States Attorney General, in order to limit the grant to the length of the road in Mississippi and Alabama, has, in his recent opinion (adopted as the rule of the department) divided it into four roads; as separate and independent as the four State jurisdictions through which it passes—yet the law is, in terms and effect, as follows: To aid in the construction of a railroad from Mobile to a point at or near the mouth of the Ohio River, as much land in proportion to the

length thereof is given to the States of Alabama and Mississippi, as to the State of Illinois for the Central road. I believe this to express the true intent and meaning of the law, and that Congress will so construe their own act.

You are aware that the first decision of the department denied us land for the road through the Chickasaw section—but this decision has been subsequently and rightly reversed, and upon precisely the principles of this reversion, are we entitled to about 500,000 acres beyond the present certificates.

An application has accordingly been instituted before Congress for the whole amount of the grant, and for widening of the fifteen mile limits, to admit of the selection of the present deficiency and of any additional quantity obtained for the line in Tennessee and Kentucky. But the amount already received and sold within two years, as it may be, after the completion of the road, cannot average less than three dollars per acre, which gives a sum of \$3,469,975, which added to the amount for local work, subscribed and in progress of expenditure \$1,902,200, gives us a property capital of \$8,372,175, upon which, as security by mortgage in trust of road and lands a loan of six and a-half millions, including the Tennessee loan of one million at six per cent, will be required to complete the main road, and the Paducah, Tennessee river, Columbus, Kentucky and Columbus, Mississippi, branches, all of which branches in the aggregate will be one hundred and two miles long, and furnish immense amounts of traffic to the main road.

The road being now under contract to the Kentucky line, and thence very soon to Paducah, and the work in a good state of progress, upon 420 miles south of Kentucky, and having authentic proofs in hand that the stock subscriptions are solvent and sufficient for the local work, there can be no serious difficulty in contracting for the loan above mentioned upon favorable terms, without recourse to discounts or double brokerage. It is, however, understood and required that this loan shall be exclusively applied to the purchase and delivery of all irons for and laying the same in the tracks, and for cars and engines and other furniture for operating the road, and not to be used in any manner to relieve local subscribers from the prompt payment of their tax, and other instalments for local work.

This requirements, for the speedy payments and progress of the work, is of the first importance, both to the railroad company and to bondholders, and must be strictly complied with.

It is contemplated, however, as all past and present payments for iron, cars and engines have been taken from the fund raised for local work—that an equal amount will be returned to that fund, whenever the loan shall be effected.

The efforts of your Engineers and Agents have been constantly directed to the establishment of the road where the greatest good may result to the stockholders and to the people at large, and by candid, prompt and honest dealing, secure the confidence of all. Special attention has also been paid to the cultivation of friendly relations with the managers of all railroad improvements with which your road, sooner or later, may be brought into connection.

The highest interest of each and all is to attract custom by furnishing facilities to reduce the time and the cost of transacting the business of the people.

This being a common interest, the more favorably roads are joined, by the free, speedy and economical interchange of freights and travel, the better for all. In this respect the Mobile and Ohio roads bears a remarkable relation to all others, being the only north and south line, and 177 miles shorter from the Tennessee river to the Gulf, than via the contemplated diagonal road to New Orleans, it stands unrivalled to give and receive trade in all directions upon even and equal terms, requiring no rule of action but this one: to hasten the transit of passengers and property safely and kindly wherever they seek to go.

In process of time, near or distant, and governed by this rule, your road will be brought into favorable connection with the following named roads, many of which are now in course of construction, to wit: the Vicksburg and Alabama, Selma and Mississippi, Tuscaloosa and Mississippi, Columbus Branch, Charleston and Memphis New Orleans and Great Northern, Illinois Central, Tennessee and Alabama, Nashville and North-western, Paducah Branch, and by the latter with the Wabash and Ohio—also, with the Mississippi, Ohio and Tennessee rivers, at points most accessible at all times for steamers.

With an earnest desire to meet the wishes of stockholders at all points, by the early completion of the road, every possible effort has been made to get the whole line into simultaneous progress.—During the past fourteen months (since the 2 per cent Mobile city subscription) the stock subscriptions in Mississippi have been raised from \$1,075,733 to \$1,944,100—in Tennessee from \$136,500, to \$878,100, making an aggregate increase of \$1,609,967—and in the same time four hundred and twenty miles beyond Citronelle have been placed under contract, of which fifty-five miles are now two-thirds graded, the iron, engines and cars therefor nearly all delivered, and all the remaining 365 miles will be graded as fast as the iron can be delivered and laid. From a careful consideration of the present condition of the work, and of the circumstances likely to influence its progress, with the best application we can make of the labor and capital of the country, I feel justified in giving the following assurance—that the cars will run to Winchester in April, to Enterprise in August, and to Lauderdale Springs in December, 1854; to Pontotoc Co. in June and to Jackson, Tennessee in October, 1855; and through to the Ohio river in 1855 and 1856.

But these results will require the prompt payment of instalments, both county and individual, as called for. The Stockholders, one and all, are assured that the one effectual way of pushing the work, is for them to push their instalments into the hands of the Treasurer.

I will answer for having workmen enough to draw them out. With high regard, I am yours,

JOHN CHILDE,
Chief Engineer and General Agent.

Increased Traffic on English Railways for the week ending, April 23.

The returns exhibit the following results:

Miles.	The week's receipts.	Rec'ts p. mile per week.
1853 on 6665.....	£298,503	£44 15
1852 on 6349.....	272,221	42 17
1851 on 6354.....	265,304	41 15

A comparison of this week's receipts with the corresponding week of 1852, shows an increase of £126,182; and with the corresponding week of 1851 an increase of £33,099.

The receipts per mile per week show an increase of £1 18s. as compared with those of 1852; and an increase of £3 as compared with those of 1851.

The total receipts from the first of January to the present time amount to £4,694,373; for the corresponding period of 1852, £4,249,449; for the same period of 1851, £3,997,427; showing an increase of £444,924 over the corresponding period of 1852, and an increase of £696,946 over the same period of 1851.

The following table shows the receipts per mile per week for the last three years, and the miles then open of the London railways:—

	Receipts per mile per week.		
	1853.	1852.	1851.
London and North Western.....	90 $\frac{1}{2}$	84 $\frac{3}{4}$	84 $\frac{1}{2}$
Great Western.....	59 $\frac{1}{2}$	67 $\frac{3}{4}$	63
South Eastern.....	43 $\frac{1}{2}$	48 $\frac{1}{2}$	49 $\frac{1}{2}$
London and Brighton.....	57 $\frac{1}{2}$	55 $\frac{1}{2}$	63 $\frac{1}{2}$
Eastern counties.....	51 $\frac{1}{2}$	46 $\frac{1}{2}$	43 $\frac{1}{2}$
Great Northern.....	53 $\frac{1}{2}$	52 $\frac{1}{2}$	57 $\frac{1}{2}$
London and South Western.....	43 $\frac{1}{2}$	45 $\frac{1}{2}$	45 $\frac{1}{2}$
London and Blackwall.....	189	180 $\frac{1}{2}$	185 $\frac{1}{2}$

	Miles open.		
	1853.	1852.	1851.
London & North Western.....	553½	539½	518½
Great Western.....	319½	277	264
South Eastern.....	288½	288½	261
London and Brighton.....	173½	173½	173½
Eastern Counties.....	322	322	322
Great Northern.....	283	223½	236
London and South Western.....	253½	244½	244½
London and Blackwall.....	5½	5½	2½

RAILWAY TRAFFIC.

The traffic returns of railways in the United Kingdom amounted for the week ending 23d April, to £298,503, and for the corresponding period of last year to £272,221, showing an increase of £26,352, or 9.67 per cent. The gross receipts for the eight railways having their termini in the metropolis amounted for the week ending as above to £134,523, and for the corresponding week of last year to £125,244, showing an increase of £9,279, or 7.4 per cent. The increase on the Eastern counties railway amounted to £1,389, on the Great Northern to £3,545, on the London and North-western, to £4,600, on the London and Blackwall to £49, on the London, Brighton and South Coast £3383, and on the South Eastern £111, total £10,077. But from this sum must be deducted £736 the decrease on the Great Western, and £62 on the London and South Western, together £798, leaving the increase as above £9,279. The receipts on the other lines in the United Kingdom amounted to £164,040, and for the corresponding period of 1852 to £146,977, showing an increase of £17,063 in the receipts of these lines, which, added to the increase on the Metropolitan lines of £9,279 makes the total increase £26,342 over the corresponding week of 1852.

The total increase in the traffic from the 2d Jan. to the 23d April, over the corresponding period of 1852, amounted to £444,924, or 10.47 per cent. Should the present increase continue during the year, it will amount to \$1,600,000 over the receipts of 1852.

The traffic returns of railways in the United Kingdom amounted for the week ending 30th of April to £300,854, and for the corresponding period of last year to £269,924, showing an increase of £30,930, or 11 1/4 per cent. The gross receipts for the eight railways having their termini at the metropolis amounted for the week ending as above to £134,540, and for the corresponding week of last year to £124,504, showing an increase of £10,036, or 8 per cent. The increase on the Eastern Counties railway amounted to £1,284, on the Great Northern, to £2,852, on the Great Western to £678, on the London and North-western to £3,116, on the London and Blackwall to £227, on the London, Brighton and South Coast to £1,047, on the London and South-western to £616, and on the South Eastern £716; total, £10,036. The receipts on the other lines in the United Kingdom amounted to £166,314, and for the corresponding period of 1852 to £145,420; showing an increase of £20,894 in the receipts of these lines, which, added to the increase on the metropolitan lines of £10,036, makes the total increase £30,930 over the corresponding week of 1852.

The total increase in the traffic from the 2d January to the 30th April, over the corresponding period of 1852, amounted to £475,854, or 10.49 per cent. Should the present increase continue during the year, it will amount to about £1,600,000 over the receipts of 1852.

RAILWAY TRAFFIC.

This week the returns exhibit the following results:

	The week's receipts.	Rec'ts p. mile per week.
1853.	1852.	1851.
1853 on 6679.....	£300,854	£45 0
1852 on 6356.....	269,924	42 8
1851 on 6363.....	273,296	43 0

A comparison of this weeks receipts with the corresponding week of 1852 shows an increase of £30,930, and with the corresponding week of 1851 an increase of £27,558.

The receipts per mile per week show an increase of £2 12s. as compared with those of 1852, and an increase of 2½ as compared with those of 1851.

The total receipts from the 1st January to the present time amount to 4,995,227½, for the corresponding period of 1852 4,519,373½, showing an increase of 475,854 over the corresponding period of 1852, and an increase of 724,504½, over the same period of 1851.

The following table shows the receipts per mile per week for the last three years, and the miles then open of the London railways:

	Receipts per mile per week.		
	1852.	1851.	1851.
London and North Western....	89	86	95
Great Western.....	59	65½	70¾
South Eastern.....	43	40½	49
London and Brighton.....	57¼	51¼	59¾
Eastern Counties.....	50	46	44½
Great Northern.....	54½	58½	41½
London & South Western.....	42½	43½	43½
London and Blackwall.....	218¾	117½	184½
Miles open			
	1853.	1852.	1851.
London and North Western.....	553½	539½	518¾
Great Western.....	319½	277	264
South Eastern.....	288½	288¼	261
London and Brighton.....	173¼	173¼	173¼
Eastern Counties.....	322	322	322
Great Northern.....	233	223¾	236
London and South Western.....	253¼	244¼	244¼
London and Blackwall.....	5½	5½	5½

American Railroad Journal.

Saturday, June 4, 1853.

Mobile and Ohio Railroad.

We invite attention to the report of the Chief Engineer of this road to be found in another column. It presents with great clearness the state of the work upon the line of the road, and the financial condition of the company.

It will be seen that the project is making rapid progress. The company in the outset adopted a policy which is now producing the most satisfactory results,—that of throwing the *onus* of building the road upon the proper parties, the community upon its line, and those immediately interested in its construction. The directors refused to give any assurances that the road could be constructed unless the local population would prepare the road-bed for the iron. Satisfactory guarantees are now obtained that this will be done upon the *whole* route. In this manner is a domestic interest excited toward the project, which could be created in no other manner. Having invested a large amount of money in the road, the parties who have it in keeping will take good care that it shall be well built and well managed. The fact that the local population can contribute from their own means one half the sum required for construction, is conclusive evidence that the road is needed. Such a test would, we fear, prove fatal to many schemes now urged upon the market.

The above company are now in a position, when they come before the market, to obtain the highest price for their bonds. In the construction of the road nothing will be lost in exorbitant shares or commissions. The road which is one of the most promising enterprises in the country, will be constructed at the lowest possible cost, and with the same good sense exercised in its management that has been displayed in its construction it cannot fail to become one of our most productive works.

The company are much indebted for the fortunate state of their affairs to their chief engineer, John Childs, Esq., who has not only superintended most satisfactorily the duties of his appropriate department, but has been largely consulted in reference to the financial affairs of the company. To enterprises of such magnitude as the Mobile and Ohio road the value in their infancy of the services of so experienced a person in every thing relating to railway construction cannot be over estimated, and the directors have shown their good sense in clothing him with extensive powers.

Important Change in Locomotive Fuel.

For some time past, experiments have been in progress on the Baltimore and Ohio railroad, under the direction of the superintendent, William Parker, Esq., with a view of substituting the coke of bituminous coal for wood in passenger engines. The result of these experiments will be of immense interest to the railroads on the Atlantic seaboard, inasmuch as our forests are daily disappearing to supply the demands for locomotive use. The great difficulty has been to find a coal of the proper quality to produce coke adapted to the purpose, and to instruct enginemen in its use in the locomotive. We are glad to learn that the obstacles to the success of coke have been removed, and that this fuel made from Maryland coal, is now regularly used to make steam in the engines drawing the passenger trains on the high grades west of Cumberland, where the Baltimore and Ohio railroad crosses the Alleghany mountains. The train on the first trial, consisting of three passenger cars loaded with passengers, with baggage car and mail car attached, surmounted the grade of 116 feet per mile, for 17 miles, at an average speed of seventeen miles per hour. There was an abundance of steam at a pressure of 96 pounds per square inch. Since the date of the first trip, on the 16th inst., above referred to, the coke fuel has alone been used with uniform success on the division of the road just named.

We understand it is the intention of the Baltimore and Ohio railroad to adopt coke on all the passenger engines running upon the road, and if they do, as they use the raw coal for tonnage trains entirely, wood will be altogether abandoned, and this road will prove itself to be one of the cheapest worked roads, so far as fuel is concerned, in the world. The cost of coke as compared with wood, has not been accurately ascertained, but some of its friends who have more particularly experimented upon it, claim a saving of 23 to 50 per ct. over wood. If this holds true in a district where both wood and coal are cheap, the result must prove still more satisfactory whenever wood is at a high price, and the only addition to the price of coke grows out of the transportation;—though on all of our long roads, extending into the interior, there will probably be found a point where the cost of the two kinds of fuel will be equal. As coke however, makes no sparks, smoke or cinder, its use exclusively on passenger trains, will greatly promote the comfort and cleanliness of the passengers. We hope that arrangements will soon be made to introduce this fuel on our most important roads out of N. York and Boston. We shall hail the introduction of coke as the commencement of a new era in the economy of railroad locomotion, and we regard with no small satisfaction the fact that the products of our own mines as well as those

of England can furnish an abundant supply of fuel so every way fitter for generating steam in passenger engines and at the same time reduce the working expenses of the trains.

We hope also that the Baltimore and Ohio railroad company will be amply repaid for their perseverance until this gratifying result shall have been attained.

Lowell.

We have a copy of the statistics of the manufactures of Lowell for the year 1852, which we condense as follows:

Number of manufacturing corporations.....	12
Number of mills.....	51
Cotton consumed in 1852, bales.....	91,650
Wool do. pounds.....	5,148,000
Iron* do. tons.....	4,500
Coal, anthracite, do. tons.....	30,576
Charcoal, do. bushels.....	68,350
Wood, do. cords.....	3,220
Oil, whale and sperm, gallons.....	69,607
Lard, do. gallons.....	47,000
Starch, do. lbs.....	1,400,000
Flour, do. barrels.....	1,565
Total capital.....	\$13,900,000
Total spindles.....	342,722
Total Looms.....	10,606
Females employed.....	8,470
Males employed.....	4,163
Cloth woven per week, cotton, yards.....	1,460,000
Do. Osnaburgs.....	90,000
Do. woollens.....	27,900
Do. carpets.....	25,000
Cotton dyed and printed, yards.....	705,000

* In machine shop.

Average wages offemales, clear of board, per week.....	\$2 00
Average wages of males, clear of board, per day.....	80
Medium produce of a loom, No. 14 yarn, yards per day.....	45
Medium produce of a loom, No. 30 yarn, yards per day.....	33
Average per spindle, yards per day.....	1½

The Middlesex company make use annually of 6,000,000 Tessels, 2,000,000 lbs. fine wool, 50,000 lbs. glue, \$30,000 worth of dye-stuffs, and \$13,000 worth of soap.

In addition to the above, the Merrimack manufacturing company use 1,000,000 pounds of Mad-dier, 30,000 do., Copperas, 60,000 do. Alum 50,000 do. Sumac, 40,000 do. soap, 45,000 do. indigo, per annum.

The Lowell bleachery uses forty thousand pounds indigo, and \$25,000 worth of other dyeing materials per year.

Other manufactures are produced in the city than those specified above, of a value of \$1,500,000. employing a capital of \$400,000, and about 1500 hands.

There are four banks; the Lowell, capital two hundred thousand dollars, the Railroad, capital \$600,000, the Appleton, capital \$150,090, the Prescott, capital \$100,000.

The population of Lowell in 1828 was 3,532, in 1840 it was 20,796; in 1850 it was 33,385. Increase in ten years; 12,580.

Rochester and Lake Ontario Railroad.

The Rochester and Lake Ontario railroad, from the city of Rochester to Charlotte, at the mouth of the Genessee river has been completed. The road is about eight miles long, and it passes thro' a country at a distance of about a mile from the river, until it reaches a point of deflection toward the village of Charlotte, when it runs along within sight of the Genessee, and passes under the bridge of the Charlotte plank road. The track of the Lockport road is used for about a mile and a-half. The road has been leased to the Niagara Falls

company, and will be conducted by the same management.

Alexandria, Va., and its Enterprise.

Being in Alexandria last week, I had an opportunity of witnessing the activity which railways are almost everywhere infusing, into the direction of capital. This city, now numbering eleven thousand inhabitants, has three railroad enterprises in progress, and in various stages of completion.—The Manassa Gap railroad, and the Orange and Alexandria railroad, each about ninety miles in length, will soon place Alexandria in communication with the agricultural and mineral region of Central and Northern Virginia. The Alexandria, Loudoun and Hampshire railroad is a recent enterprise, projected towards the Cumberland coal region, and promises to reduce the cost of coal, upon delivery at navigation, 50 cents to \$1 on a ton. Freight is as low from Alexandria as from Baltimore, and vessels of 1,200 tons can lie at the former port and ship their freights at any season.

Among the local matters pertaining to this city, it has been lighted, for some time, with gas, and a plan is agitated for a short railroad to connect the city with the Baltimore track at Washington.

The growing establishment of Smith & Perkins, is also located here. They have been engaged for little more than two years in building locomotives, marine engines and cars—400 of the latter having been made. This firm are making extensive improvements, to enable them to complete and deliver three first-class locomotive engines per month. They will occupy three acres of ground, including a foundry of the best arrangement, and having a furnace expressly for casting chilled wheels. A large steam hammer is in use, under which they work all their heavy forgings from the best American stock. They are now building a very beautiful and highly finished engine of forty horse power to propel their additional machinery. Vessels of the largest class can load directly at this wharf. Their heaviest orders have been from the Manassa Gap, Baltimore and Ohio, Penn. Central, and Hudson river railroads, for the last of which they are they are now completing some very superior coal burning engines. To Mr. Perkins belongs the credit of the introduction of two of the best improvements upon locomotives. We allude to the slip tire and the heater. The former, always efficient and durable, has effected an unparalleled saving in the repairs of the heavy engines on the Balt. and Ohio railroad; the latter, simple and effective, tends to a very material saving in the fuel for locomotives. Both of these improvements are adapted to nearly every class of engines in all parts of the country. Our mechanics will find this establishment worthy of their notice. The shop is now in want of good hands, and will pay the best wages to such as can do first-class work.

ZERAH COLBURN.

Delaware, Lackawanna and Western Railroad.

The lettings on this road are postponed to June 15th. The capital stock (\$1,500,000) is fully subscribed. The contracts will be let in small sections, and all payments made in cash; offering an inviting field for contractors of all kinds. All applications for contracts must be made at the Company's Office, in this city.

Grand Trunk Railway of Canada.

We notice that the stock of the "Canadian Grand Trunk" is quoted at a premium of from one to two per cent., in our recent English exchanges. The scheme has become a leading project on the Stock Exchange.

Extracts from their leading Railway journal, given below, show the estimation of this enterprise in England.

"Canadian Railways.—The Canadian Government, it is understood, will insist on either an amalgamation or a 'federal union' of all the trunk lines to which the Government aid and protection are afforded; and they will, moreover, not extend such aid to railway Companies that cannot, under existing circumstances, fulfil the prospects held out to British capitalists. The Government of Canada requires all the railways to be constructed with a five feet six inch gauge, and to be, in every respect, equal to the very best lines in England. The Montreal and Toronto, 345 miles, is contracted for complete, with stations, sidings, engines, and plant, for a single line, at £7,600 per mile; this includes a tubular bridge over the Ottawa, a mile long. The Quebec and Richmond, 100 miles, with a deep water wharf, 22 feet at low water, at Quebec, at £6,500 per mile. The St. Lawrence and Atlantic, at £6,500 per mile, extending to Richmond and Sherbrooke, and thence joining the Atlantic railway to Portland, admitted to the first harbor in the United States, with 150 acres of land adjacent to the deep water wharfs belonging to the railway company. The working expenses of the primitively constructed United States railways are about 45 per cent on the opening traffic. The expense of the Canadian lines, constructed on the more solid basis of English railways, is calculated not to amount to 35 per cent—the receipts on opening are not taken at more than £20 per mile per week—but £36 per mile per week is shown on those in actual operation for the first year, when it was predicted by those interested in steam navigation, that no traffic existed.—*Herapath.*

MR. C. P. RONEY, late Secretary of the Dublin Industrial Exhibition, an experienced manager of railways, has been appointed Secretary and Manager of the Grand Trunk Railway of Canada.

We understand that this gentleman is expected to arrive in America, to take charge of the railway on this continent, at an early day.

We copy the following notice of Mr. Roney drawn forth by the announcement of his recent engagement in America:

"Mr. C. P. Roney.—Concerning his tourist traffic arrangements, and, indeed, his perfect system of "through booking" generally, it was truly said by a cotemporary that "he did more in one year to cement a friendship between the two countries, and to raise friendly commercial relations between our manufacturers here and those on the other side of the channel, than all our legislation during the previous half century," and therefore we feel that his loss, though a general one, will be particularly felt by our commercial interests, which now especially so much needed his guiding spirit.—*Ex. from "Saunders's News Letter."*

Maysville and Lexington Railroad.

The third annual meeting of the stockholders of the Maysville and Lexington railroad company, was held in the Council Chamber on Tuesday last, May 3, 1853, for the election of directors and receiving the annual report of the board.

The vote for a new board of directors was unanimous, 17,373 shares of stock being voted, for the following persons: A. M. January, C. Shultz, Wm. Nunn, F. T. Hord, Robert A. Cochran, and Samuel B. Poyntz.

Myer's New Freight Car.

We gave, a week or two since, a brief description of a car recently invented by Mr. C. T. Myer of Philadelphia, for the transportation of coal and articles of a similar character. It is simply a cylinder, of uniform diameter, the ends of which are formed by the wheels. The motion of this cylinder throws its load against the rim; and at a speed of eight miles an hour, the centrifugal force imparted to the load, preserves it in the same position, and relieves it entirely from any jar. As the rim of the cylinder is, in fact, the axle, the only friction encountered is the bearing upon the journals, of a slight wooden frame work, necessary for connecting the cars.

By this invention, friction, which is inseparable from all motion, is reduced to the lowest possible limit. By transferring the load directly to the wheels, some of the most fruitful causes of accidents are avoided; and axles, boxes, springs, etc., etc., are dispensed with. By bringing the load nearer the ground, the wear and tear of the track is much reduced. The load, too, is transported in much better condition, as we have the testimony of competent persons.

The idea of this car is a most ingenious one. It applies the natural laws of motion almost in their original simplicity, to the movement of ordinary freight. We commend the invention to the consideration of coal companies in particular. We have several certificates, showing the results of experiments already made, which we shall give in our next number. Further information can be had by application to the inventor, C. Thiers Myers, 33 Walnut street, Philadelphia.

Columbus, Piqua and Indiana Railroad.

The bonds of this company, being first mortgage, amounting to only \$600,000 on 102 miles of road, are to be sold at auction by Mr. Draper next week. The security for these bonds is unquestioned. One division of the road is nearly ready for opening, and the company have sufficient means to carry vigorously forward the whole line to an early completion. The cost of the road will exceed thrice the amount of the first bonds. The country traversed is one of the best sections of Ohio. The connections to be formed by the above road are very favorable. Under such circumstances the bonds should, and undoubtedly will, command a high price.

The South-western & Muscogee Roads.

The Branch of the South-western road, from Fort Valley to its junction with the Muscogee road, is completed, and the cars are now running from Macon to Columbia without interruption.

Virginia.

Metropolitan Railroad.—The stock subscription books of the Metropolitan railroad company, whose road is to run from Frederick to Washington city—are to be opened on the 6th June.

Alexandria, Loudoun and Hampshire Railroad.—The board of Public Works of Virginia on Saturday last, made the State subscription of \$60,000 to organize the Alexandria, Loudoun and Hampshire railroad company.

Tennessee.

Memphis and Little Rock Railroad.—The people of Memphis have voted in favor of a subscription of \$350,000 to the stock of the Memphis and Little Rock railroad.

Milwaukee and Mississippi Railroad.

We have been favored with a copy of the subjoined letter, from the Chief Engineer of the above Company to the Directors, showing the progress which this important work has already made, and the arrangements that have already been entered into for its further extension west. The road has reached that portion of the State from which a large business was expected, and we learn that its earnings exceed the amount anticipated, or even claimed for it by its friends, averaging *daily* from \$500 to 800, and promising to make the stock in the road one of the most productive in the west.—The work of construction is to be pushed on vigorously till the Mississippi is reached.

The general importance of this project as well as its business prospects have been much increased by the recent movement in Canada and the state of Michigan, which have rendered certain the construction, at an early day, of a railroad from Grand Haven, a port on Lake Michigan, opposite Milwaukee, directly east to Buffalo, Montreal, and other eastern cities, with a line of steamers on Lake Michigan which can be crossed in 3 hours. The traveller to the north-west, who is now compelled to make a long detour by way of the northern shores of lakes Erie and Michigan, will be enabled to pursue a direct course, saving both time and money on his journey. The Milwaukee and Mississippi road, in connection with the Michigan line, is in fact the prolongation west of the Grand Trunk of Canada, and the Central New York lines.

We also give in the same connection the report of the committee appointed for the citizens of Milwaukee, to attend the recent railroad convention held at Port Huron.

Milwaukee, May 23, 1853.

JOHN CATLIN, Esq.,

Pres. of the M. & M. R. R. Co.

DEAR SIR:—The contract for the extension of our road from Rock River, in the town of Fulton, to Madison, the capital of our State, was executed on the 4th of April last. The Contractors are Messrs. Cooke and Sherwin, who are energetic and abundantly able to press forward the work to completion by the time required in the contract, viz: to Stroughton by September 1st., and to Madison by January 1, '54. The former point is 86 miles from Milwaukee, and the latter 98. Already nearly every section has been commenced, and arrangements have been made which will insure the completion of the road according to the contract.

The contract requires a first-class road, equal in all respects to that which has been constructed during the past year, which I regard as not surpassed by any road in the United States. We have a most superior quality of ballast, and the ties are of white oak, placed on an average of 2 feet from centre to centre.

The embankments and excavations are all light, and of a material not liable to slides or to be injured by heavy rains.

The road is in all respects free from the casualties which befall those constructed in less level countries, and along rapid streams and through narrow valleys.

It may therefore be said with safety that the annual expense of keeping the road in repair will be of the smallest character. Owing to the favorable

character of the grades and curves, the expenses of operating the road will also be comparatively light.

We have now 70 miles of the road in operation, on which we have been running since January 10, 1853. Portions of this are not yet fully ballasted, but will be in the course of a couple of months.

The business of the road now gives an earnest and a sure guarantee that it will give an ample return on the investment.

We have just now reached a distance from the Lake where we can command the entire business, but as we did not until too late for the last year's business, we have not yet given the road a fair opportunity of showing the business which will come upon it.

As we advance the business will increase, and the road will draw it from a wider and a more extended section, which by passing a greater distance on the road, will not only swell the receipts by reason of an additional price per ton, but the quantity will also be greatly enlarged.

The remaining distance from Madison to the Mississippi river, of about one hundred miles, is the most favorable route for a railroad I have ever passed over for the same distance.

As a whole, I regard the route from Milwaukee to the Mississippi river the most favorable in point of expense of construction and respect to grades and curves, that can be found north of the projected "Air Line," from Chicago to Savannah.

It is a route so situated, in respect to the physical formation of the country, that a competing line need not be apprehended.

The roads projected from Chicago into this State cannot, in my opinion, injure this road; they will at least bring to it as much they can take from it.

The position which we shall occupy on the Mississippi river being equal to at least eighteen hours time above any other road leading to Lake Michigan, will give us decidedly the advantage for the upper Mississippi business. This circumstance added to the certainty of having the road constructed across the state of Michigan from the mouth of Grand river to Port Huron and to Detroit, which will save at least 170 miles in passing from the Mississippi river to the eastern ports, can not fail to give the Milwaukee and Mississippi road a commanding position, and render the stock among the north productive.

Yours very respectfully,

EDWARD H. BRODHEAD, Chief Engineer.

Report of Delegates to the Port Huron Convention, made to the Board of Trade May 10th, 1853.

The undersigned, delegates appointed by the Board of Trade to attend the Railroad Convention at Port Huron, beg leave to report:

That owing to a detention on the Michigan Central railroad, we were unable to reach Port Huron prior to the adjournment of the Convention; that we met a large number of the delegates to that Convention—including some of the directors of the Port Huron and Grand Haven railroad—on their return from Port Huron, and had a conference with them at Detroit; that the managers of the road informed us that arrangements had just been entered into, at Quebec, by which a majority of the stock of the road was to be assigned to English capitalists, who were to furnish the capital for its construction, in continuation of the Grand Trunk railway, from Trois Pistoles, through the chief cities of Canada, to Port Sarnia; that this Trunk

road, 1,112 miles long, involving an expenditure of some fifty millions of dollars, and forming the great highway of the northern travel to Europe by the ocean steamships, has been undertaken by the English and Colonial Governments, and the means for its completion mainly provided; that, in connection with this Trunk road and its extension to Grand Haven, the Branch road from Port Sarnia to London—a line of 59 miles—is to be built, thus insuring a connection, by a direct route, with the Great Western road, through Canada to Niagara Falls, and by the Brantford Branch road to Buffalo, Albany, Boston and New York. In the early construction of these roads, Milwaukee has a deep interest.

We also had two conferences with the principal Directors and friends of the Oakland and Ottawa railroad company—including some of the most wealthy influential citizens and business men of Detroit—and found them thoroughly aroused to the importance of pushing forward their road speedily to Grand Haven, in order to secure the trade of the rich valley of Grand River, as well as of Wisconsin and the north-west, and to prevent trade and travel from passing south of Detroit, by the south shores of Lakes Michigan and Erie. They seemed to be well aware of the fact, so long overlooked by the business men of Detroit, that the interests of that city and of Milwaukee are identical, and would be mutually promoted by a railway to Grand Haven.

From the officers of the Oakland and Ottawa railroad we learn the following facts:

The distance from Detroit to Grand Haven, by their road, is 188 miles. Twenty-five miles of this road—from Detroit to Pontiac—is already built in the most substantial manner, and is now in operation, leaving but 163 miles to be built. The line of the road is direct, of easy grades, running through the most fertile portion of the State, and the people throughout its entire length are anxious to have it speedily constructed. It has already been surveyed and the profiles and estimates made, as far as Grand Rapids, and the whole road will be put under contract this month.

Responsible persons have offered to construct and equip the road complete within 20 months, on terms most favorable to the Company, and entirely within their means; to put powerful boats on Lake Michigan, which they will guarantee will run from Milwaukee to Grand Haven at least 336 days in the year; and to carry passengers from Detroit to Milwaukee, or from Milwaukee to Detroit, in ten hours, at six dollars each. This is in one hour's less time and at a dollar's less cost than the passengers are now carried by the swiftest railroad train from Detroit to Chicago. And if the present rates of fares on the lines of railway south of Lake Michigan are reduced, the Oakland and Ottawa company will reduce their price, in like proportion.

We have no reason to doubt that this road will be built within the stipulated time of 20 months. The interests of the company, of Detroit, and of the region of country through which it passes—all jeopardized by longer delay—will insure its speedy construction. By the first of November next, the Great Western railway company through Canada will be completed to Windsor, opposite Detroit, and will pour an immense tide of travel into that city. This reduces the distance from Milwaukee to Buffalo, by the Pontiac and Oakland and Ottawa roads to five hundred and fifty miles.

Whoever will take up a map and examine the routes of the Grand Trunk road from Port Sarnia to Trois Pistoles, of the Great Western road from Detroit to Niagara Falls and Buffalo, and of the New York consolidated road, and of the roads leading from it southerly to New York, and easterly and northerly through New England, and reflect that over one hundred millions of dollars of capital are invested in these roads, and that the Grand Haven road will be a great feeder to these roads, draining the heart of the great north-west, and pouring through those channels, both eastward and westward, the trade of Wisconsin, part of the Northern Illinois, Northern Iowa, Minnesota, and the

country north and west of this, cannot for a moment doubt that the Grand Haven road will be one of the best paying roads in this country, and that its revenue will increase rapidly, year after year, with the ever-increasing enterprise, population and resources of the Great West.

In conclusion, we can but express the firm conviction, which our visit to Detroit has strengthened, that a brighter day has dawned for Milwaukee. It only remains for Milwaukee to redeem the pledge which we made in their behalf, at Detroit, and push forward unitedly and speedily her roads to the West and North, and a prosperous future awaits her. The prize of commercial enterprise, wealth, and power, is now within her reach, and she has but to stretch forth her hands to grasp it. We are on the same parallel with Buffalo, Albany and Boston, and the great northern thoroughfares of travel, sweeping the circuit of New York, New England and the British Provinces, and converging to a point on Grand Haven, opposite Milwaukee. In a few years Milwaukee will be put midway between the populous east and the peopled west, on this side of the Rocky Mountains, and she may, if she now improves her natural position, become the great outlet and inlet, the entrepot and depot for this great and rapidly increasing trade and travel.

J. H. Tweedy, L. W. Weeks, J. S. Brown, J. L. Bean, S. B. Grant, S. M. Booth, J. H. Rogers, T. Shepard, Byron Kilburn.

Canadian Railways.

Hamilton and Toronto Railway.—On Tuesday, May 10th, a meeting of shareholders was held in London, Mr. S. Laing, M. P., in the chair. The chairman stated to the meeting the reasons for which the Great Western of Canada Company had considered it of importance to anticipate any other company in obtaining possession of this line.—He referred to statistics showing the rapid growth and wide development of Hamilton and Toronto, which he described as the Glasgow and Edinburgh of the colony. A bill had already passed the Canadian Legislature, and arrangements had been made with an eminent English contractor for the completion of the line at an estimated cost of £328,000; whilst it was proposed that the Hamilton and Toronto railway shall be leased to the Great Western railway company at a rent equal to 6 per cent, with participation in any dividend beyond that amount paid to the Great Western Company. Mr. Laing concluded by observing that it was thought desirable that a railway, which was the natural ally of the Great Western, should be in the possession of the proprietors of the latter company rather than become the property of the promoter of any other undertaking. He therefore moved a resolution that the arrangement proposed by the Great Western Company be approved. The motion was seconded and carried unanimously. Resolutions were then submitted and adopted, deprecating the formation of unnecessary competing lines, adopting the arrangement entered into with the Grand Trunk railway, and declaring the readiness of the shareholders to support the Directors in carrying out the Sarnia Branch, as originally intended. Other resolutions of a formal nature having been agreed to, the business terminated.

Great Western Railway.—A special meeting of the English shareholders in this Company was held on Tuesday, May 10th, in London, to consider certain important arrangements entered into provisionally with the Grand Trunk of Canada and the Hamilton and Toronto railway companies; Mr. S. Laing, M. P., in the chair.

The chairman entered into an explanation of the arrangement which had been entered into between the Great Western and Grand Trunk railway companies, with a view to avoid competition, to facilitate the interests of traffic, and to make common cause in resisting any extension of the ruinous policy of railway extension in Canada. He then described, on a map of Canada, the various competing schemes that had been proposed, and the necessity there was for establishing an amicable understanding with the Grand Trunk railway Co.

for the mutual protection of their interests. The length of the Grand Trunk line was 1,000 miles, and that of the Great Western 240 miles, involving 1,300 miles of railway. The agreement was finally settled between the two companies, and ratified by the Grand Trunk railway company on the 3rd of May, 1853. It stipulated the co-operation of both companies to prevent injurious competition, the adoption of through booking to all places on the lines, charges to be in proportion to mileage, the Grand Trunk to run trains over the Sarnia Branch of the Great Western railway, and the stations at Sarnia and Toronto to be common to both companies; and where stations and other works on these lines were also common property, they were to be constructed at the joint expense of both companies. The two companies to make common cause in opposing competing schemes, and to be at liberty to make branches from their lines. In case of dispute the matter was to be referred to Mr. R. Stephenson, or to the President of the Institute of Civil Engineers. An act to be applied for to authorise the arrangement, and every effort made by both companies to prevent injurious competition, and to facilitate the progress of traffic.—When they considered that £70,000,000 of shareholders' money had been wasted by competition on railways in the United Kingdom, or £100,000,000 including foreign lines, he thought that every effort should be made to prevent a waste of capital from similar causes in Canada. He was glad to perceive that there was a disposition in the Legislature of Canada to discountenance competing railways. He had drawn up a few standing orders, which, if adopted by the Canadian Government, would prevent a considerable waste of capital, and ensure the various districts a good system of railway communication. If railway companies were willing to give the public the necessary accommodation, competing lines should not be granted, and before they were granted the existing companies should be heard against them. The Parliamentary check of retaining the 10 per cent deposit on railway schemes, in the shape of caution money, until they were completed, would be a great discouragement to injurious schemes. It was fortunate for the company that they had to deal with Messrs. Glyn and Baring as the financial agents of the Canadian Government in matters relating to the Grand Trunk line, and as those gentlemen were strongly opposed to railway competition, there was some probability of the object they had in view being carried out satisfactorily. The directors of the Great Western company had done everything they could to place the company in a safe position, so as to be able to retaliate on those who may endeavor to take an unfair advantage of them. It would be a wise and prudent course to carry out their Sarnian branch when the main line was completed. It was not improbable that the ultimate result of the arrangement with the Grand Trunk company would be an amalgamation founded on the basis of the traffic. The present state of Canada was not understood in this country. Formerly it was mis-governed and a disgrace to the Government, but since it had been allowed to govern itself, Canada had advanced exceedingly. In 1760 it had 50,000 inhabitants, and 90 years afterwards, in 1850, the population was 1,530,000. The great increase was in Upper Canada, for in 1830 the population amounted to 210,000, and in 1851 to 952,040. The increase of population in Canada was tenfold in 40 years, while in the United States it was only threefold. The population in the United States in 1810 was 7,223,000, and in 1850 23,351,000. Taking three of the most flourishing States in the Union, the population only increased threefold in the course of 20 years. Wealth in Canada had increased even faster than the population. In 1825 the assessable property of Upper Canada amounted to 1,854,965*l*, and in 1852 to 37,695,981*l*, being about 20 per cent under the actual value, so that the property increased in round numbers from 2,000,000*l* in 1825 to 40,000,000*l* in '52, an increase quite unprecedented. The imports in Canada amounted, in 1850, to 2*l*.13*s*. per head, while in the United States they amounted to 1*l*.14*s*. per head. In 1846

there were 2,689 schools in Upper Canada, and 109,112 scholars, and in 1850 3,059 schools, and 151,891 scholars, out of a population of 900,000. This was a large proportion, and about double that in the United States. There were all the elements of a great and increasing traffic in Canada. The population of the district through which the Great Western line passed was 259,978, and the assessable value of property 14,549,106*l*, and the population at various places on the line was continually increasing. The through traffic would be very considerable, as that conveyed over Lake Erie in a direction parallel to their line was estimated at 40,000,000*l*. The traffic on the Central Michigan railway, 245 miles in length, amounted in 1852 to 268,000*l*, the expenses to 101,186*l*, and the profits to 167,636*l*, or 14 per cent. The New York and Erie railroad, 464 miles in length, had cost 13,000*l* per mile, and the net earnings were equal to 15 per cent. The Great Western line would form the link between those lines, and would cost but 7,000*l* per mile for a single line. The average cost of lines in the State of New York was at the rate of 9,175*l* per mile for a single track. The Editor of a New York paper has estimated the cost of their line at 2,000,000*l*, and the dividend at 15 per cent; but as a large amount of the capital would be in six per cent bonds, he estimated the dividend at 24 per cent. (Laughter.) He (the chairman) was not disposed to go so far, but he thought it quite as probable that they would have 15 or 20 per cent. in Canada as 5 or 6 per cent on a railway in England. He concluded by moving a series of resolutions, to the effect that any extension of the principles of competition (which had been attended with such disastrous results in England) to railways in Canada, would be impolitic and unfair to those who had invested their money on the faith of existing acts of the Legislature; approving of the agreement with the Grand Trunk railway company and recommending the directors to ratify the same; approving of the measure for leasing the Hamilton and Toronto railway; authorising the directors to proceed with the Sarnia Branch; and thanking Mr. Harris, the president, and the other gentlemen who conducted the negotiations with the Grand Trunk railway company.

Mr. Schuster said, the public were always better served at places where there was no competition.

After some observations from Mr. Foster, Mr. Masterman, and other proprietors, the resolutions were passed unanimously.

The proceedings concluded with a cordial vote of thanks to the chairman.

Michigan.

Michigan Southern and Indiana Northern Railroad.—The Michigan Southern and Northern Indiana railroad are running three daily trains between Toledo and Monroe and Chicago. The Lightning Express will make the time in 8½ hours—thus taking passengers from Chicago to Buffalo, all the way by railroad, in about 18 to 20 hours—and by railroad and the lake in 22 to 24 hours, and performing the distance from Chicago to New York in 32 or 36 hours.

Canandaigua and Niagara Falls Railroad.

The work on the Canandaigua road is going on with energy, and the road will be completed to the Falls, within the time specified in the contract,—July.

To Contractors.

HUNTINGTON AND BROAD TOP MOUNTAIN RAILROAD.

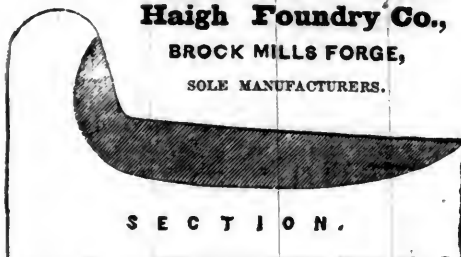
PROPOSALS will be received at the Engineer's Office, Huntington, Penn., until the 28th day of June next, for the graduation and masonry of thirty-five miles of the above railroad.

Plans and Specifications will be exhibited in the Office for three days previous to the letting.

S. W. MIFFLIN, Engineer.

Gooch's Patent Steel Tires.**Haigh Foundry Co.,****BROCK MILLS FORGE,**

SOLE MANUFACTURERS.



GEORGE WOODWARD, 10 Ferry Street, New-York, sole agent to the HAIGH FOUNDRY CO., offers their make of GOOCH'S PATENT STEEL TIRES; Charcoal Iron Tires, finished or in the rough, superior to any other English make for hardness and endurance; WROUGHT IRON DRIVING WHEELS, Axles, and every description of forgings, at the lowest scale of prices commensurate with the high character of the material and Workmanship.

GAS CANNEL and Coal, supplied, to order, direct from the GILLOW and SWINLEY mines, of the most superior quality. New-York, 31 March, 1853.

RICHARDSON'S**PATENT****OIL****CUPS**

FOR Locomotive and Stationary Engines. For sale by **BRIDGES & BROTHER, Agents,** 64 Courtland st., New York.

CAUTION.

RAILROAD Companies, and the public generally, are hereby cautioned against purchasing "Richardson's Patent Oil Cups," or the right to use the same, except of the undersigned, proprietor of the patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vermont, will be promptly attended to. **E. DEWOLF, Jr.** June 1, 1853.

Railroad Letting.

PROPOSALS will be received at our office in Cincinnati, until Wednesday, the 8th day of June next, for the clearing, grubbing, grading and masonry, of the line of railroad from Cincinnati to Cambridge city, Ind., about 60 miles.

Plan and profile of the road will be ready for examination ten days before the letting.

This road passing through a dry and healthy country, where supplies are abundant, offers great inducements to Contractors. There will probably be one short tunnel, and the grading and masonry will be heavy. The work to be commenced immediately after the letting, and will be paid for by monthly estimates.

Offers for part pay in stock of the road will be favorably considered. **A. DE GRAFF & CO.**

VENTILATION.

THE Subscriber being patentee of natural or spontaneous ventilation, will be glad, in order to diffuse its blessings as rapidly and widely as possible, to enter into arrangements with individuals or corporations, for the exclusive right, upon very moderate and reasonable terms.

Its operation is simple and purely philosophical—is easily and cheaply produced by mechanical means—and equally adapted to the largest and smallest building or apartment. The subscriber is prepared to furnish such plans, drawings and instructions, as will enable builders of Railroad Cars, Seebol and ordinary sized Dwelling Houses, to carry out the operation without the necessity of awaiting his personal supervision.

A few testimonials may be inspected at the office of this paper. Address, (postage paid,) **H. RUTTAN,** Cobourg, Canada. June 1, 1853.

Inspection of Railroad Iron.

THE Undersigned, having a thorough practical knowledge of the manufacture of Railroad Iron, and a most efficient staff of men at the works, he is enabled confidently to undertake the charge of inspection. References to the principal companies in England, America, Canada, etc. **W. D. STARLING,** Change Alley, Lombard st., London.

June 1, 1853.

Notice to Contractors.

PROPOSALS for the grading, bridging and masonry of the Western division of the Covington and Ohio Railroad, will be received at the Office of the Engineer at Guyandotte, Cabell County, Virginia, between the 20th and 30th of June next.

They will embrace about forty-six mile sections, bridges over Twelve Pole, Guyandotte and Mud Rivers, and a tunnel of 1500 or 1600 feet in length, at the bend of Mud River.

Also, between the 1st. and 15th. of July next, proposals will be received at Covington, Virginia, for the grading, bridging and masonry of that portion of the Eastern division, lying between the town of Covington and Hayne's Farm, on Jackson's river—a distance of 10 or 11 miles of very heavy work including much heavy retaining wall, two large bridges over Jackson's River, and probably 2 tunnels.

The successful bids will be declared as soon as practicable after 15th July.

By order of the Board of Public Works.

CHARLES B. SHAW,

Chief Engineer Covington & Ohio R. R. Co. Lewisburg, Va., May 24, 1853.

Toledo, Norwalk and Cleveland Railroad.

FORMING, in connection with the Michigan Southern and Northern Indiana, the Lake Shore and Cleveland and Pittsburgh Railroad, the only entire railroad line between the East and West.

The best and most expeditious route between Eastern Cities, Chicago and St. Louis.

SUMMER ARRANGEMENT.

On and after Monday, May 16, 1853, Passenger Trains will run daily (Sundays excepted) as follows:

LEAVE TOLEDO—

ACCOMMODATION, at 9.10 A.M., stopping at all stations.
DAY EXPRESS, at 3.15 P.M., stopping only at Fremont, Bellevue, Monroeville and Norwalk.

NIGHT EXPRESS, at 11.15 P.M., stopping only at Fremont, Bellevue, Monroeville, Norwalk and Oberlin.

LEAVE CLEVELAND.

DAY EXPRESS, at 7 A.M., stopping only at Norwalk, Monroeville, Bellevue and Fremont.

ACCOMMODATION, at 10 A.M., stopping at all stations.
NIGHT EXPRESS, at 8 P.M., stopping only at Oberlin, Norwalk, Monroeville, Bellevue and Fremont.

CONNECTING DIRECTLY

AT TOLEDO—With Trains of Michigan Southern and Northern Indiana Railroad for Chicago and Way Stations, and through the Chicago and Rock Island Railroad, and Steamers on Illinois River, forming a line to St. Louis.

AT BELLEVUE—With Trains of Mad River and Lake Erie Road for Sandusky City, Springfield, Dayton, Cincinnati, etc.

AT MONROEVILLE—With trains of Mansfield and Sandusky Railroad, for Sandusky, Shelby Junction, Columbus, Zanesville, Newark, etc.

AT GRAFTON—With trains of Cleveland, Columbus and Cincinnati Railroad, for Columbus, Cincinnati and Way Stations.

AT CLEVELAND—With trains of Lake Shore Railroad for New York and Boston, via Buffalo and Albany, and for N. York, via Dunkirk, with trains of Cleveland, and Pittsburgh Railroad, for Pittsburg, Philadelphia, Baltimore and Washington City.

E. B. PHILLIPS, Supt.
Superintendent's Office T., N. & C. R.R.,
Norwalk, O., May 10, 1853.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent—WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

Notice to Contractors.

SEALD PROPOSALS will be received at the Engineer's Office of the Cincinnati, Hamilton and Dayton Railroad Company, until noon the 10th of June, for the Graduation, Masonry, Bridging Track-laying and Ballasting of the Second Track of the Cincinnati, Hamilton and Dayton Railroad, between Cincinnati and Hamilton. Proposals to state at what time the work will be completed.

Profiles and Specifications can be seen, and other information obtained at the Engineer's Office in Depot Building, Cincinnati, Ohio.

Per order of the Board of Directors.

S. L. SPAFFORD,
Chief Engineer.

May 15, 1853

To Contractors.**NORTHERN INDIANA RAILROAD.**

SEALD proposals will be received at the office of the company in Toledo, Ohio, until the 14th day of June next, at noon, for Grading, Fencing and Bridging, including the clearing and grubbing of the line of said railroad from a point near the west line of the city of Toledo in the State of Ohio, to a point in the state of Indiana, about 70 miles west from Toledo. The line is divided into sixty-nine sections, proposals may be made for one or more sections. Maps and profiles of the line, and plans and specifications of the work, may be examined at the office of the engineer of the company in Toledo on and after the sixth day of June next.

The directors reserve the right to accept or reject proposals as they may deem the interest of the company to require. **JOHN B. JERVIS,**
Chief Engineer.

OFFICE OF THE NOR. IND. R. R. Co.
Toledo, May 20th 1853, }

To Railroad and Canal Companies, or Contractors.

A SUPERINTENDENT, who has the very best testimonials from some of the most celebrated Engineers, having had charge of very large and difficult works, on which he gave the greatest satisfaction, wishes to make an engagement with some Company or responsible Contractor. He has the reputation of being a very skillful manager of large numbers of workmen, and, by reference to his former employers, it will be found that he will be a profitable man, although he expects a fair salary. A letter addressed to the Editor of this Journal will meet prompt attention.

Lap-Welded Boiler Flues, OF USUAL SIZES AND REQUIRED LENGTHS,

MANUFACTURED AT

PASCAL IRON WORKS.**WELDED WROUGHT IRON TUBES**

From 4 inches to $\frac{1}{2}$ in calibre and 2 to 12 feet long capable of sustaining pressure from 400 to 2500 lbs per square inch, with Stop Cocks, T, L, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets
PHILADELPHIA.

Auburn Steam Forge.

THE Forge Works of Smith & Richardson are being removed from Utica to the City of Auburn, Cayuga County, N. Y., where the business of manufacturing Car and Locomotive Axles, and other Shafting, will be continued by the undersigned. They will be prepared to make to order, on short notice, all kinds of small forgings. Their work will be all made after the most workmanlike manner and warranted. Parties wishing work done will find us prepared to contract for large jobs on favorable terms. The Forge and Machinery are new, and of the very best kind. **SMITH, RICHARDSON & CO.**
Auburn, N. Y., June 1, 1853.

Notice to Contractors.

SEALD PROPOSALS will be received by the undersigned, at his Office in Phillipsburg, (opposite Easton, Pa.) until the thirteenth day of July next, for the grading and masonry of 14 miles of the Belvidere Delaware Railroad, extending from Phillipsburg to Belvidere.

The work will be ready for inspections, profiles, and specifications will be shown, and banks furnished, at the offices of the Assistant Engineers at Phillipsburg and Belvidere on and after the 6th of July.

ASHBEL WELCH, Engineer B. D. R. R.
Lambertville, May 25th, 1853.

OILS

FOR RAILROADS,
MACHINERY AND BURNING.

LITCHFIELD & Co.

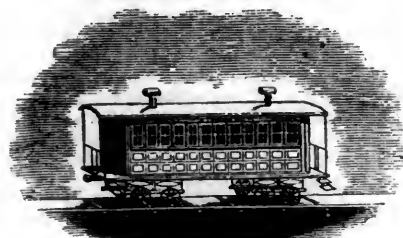


MANUFACTURERS OF

OILS AND CANDLES,

154 Front St., corner of Maiden Lane, New York,
Devote special attention to the preparation of the
best Oil for Burning, Machinery, and for
LUBRICATING ENGINES AND CARS,
at the lowest prices. Orders promptly filled.
June 1, 1853.

Elmira Car Shop.



THE Undersigned is prepared to manufacture for Railroad
Companies, Passenger, Baggage, Cattle, Freight, Gravel and
Hand Cars, also Baggage Barrows and Freight Trucks.
WM. E. RUTTER.
Elmira, N. Y., June 1, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING
ESTABLISHMENT of the "RAILROAD JOURNAL,"
an extensive OFFICE for BOOK AND JOB
PRINTING, which they are now prepared to
execute in the BEST manner, and with DISPATCH.
They respectfully solicit from RAILROAD COM-
PANIES, orders for the PRINTING of Exhibits,
Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

Railroad Iron.

THE Undersigned, having been engaged for many years as a
sworn Metal Broker in the City of London exclusively as a
buyer of Rails, begs to inform parties about to make contracts,
that he has always on hand orders to sell for reputed manufac-
turers upon the best terms.
W. D. STARLING,
Metal Broker, Change Alley, Lombard st.
June 1, 1853. London.

Hoole, Staniforth & Co.,
MINERVA WORKS,

SHEFFIELD,

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineer-
ing and Machine Files;
Locomotive Engine, Railway Carriage and Wagon
Springs.
Saws of every description, Engineers' Hammers,
etc., etc., etc.
An assortment of Steel from the above Works con-
stantly on hand by RICHARD MAKIN,
Agent for the Manufacturers,
24 Broadway.

43

To Engineers and Steamboat Captains.
EXPLOSIONS PREVENTED!

BRANDS' LIQUID,

FOR DISSOLVING INCRUSTATIONS IN STEAM BOILERS.

BRANDS' LIQUID is the name of a fluid recently in use throughout all Europe, by the application of which the incrustations
in Steam Boilers are dissolved or totally avoided, without affecting in the least the material of the boiler.
Chemical examinations and experience have fully ascertained that, by the application of this fluid, no harm whatever is done to
the material of which the boiler consists.
To dissolve the hardened incrustation in Steam Boilers, pour every 10 or 14 days, in proportion as the boiler is daily for a longer
or shorter time heated, the quantity of Brands' Liquid to the water in the boiler as shown in the following table:—

TABLE FOR CLEANING INCRUSTED BOILERS.

STEAM BOILERS.		QUANTITY	
Which are daily from 10 to 16 hours heated, and which have a power of evaporation of		Of BRANDS' LIQUID wanted	
From	1 to 10 Horse Power,	Every 10 to 14 days,	Per year—Barrel of 40 galls.
"	10 to 20	4 to 6 Quarts,	1 Barrel
"	20 to 30	6 to 9 "	1 1/2 "
"	30 to 45	7 to 10 "	2 "
"	45 to 65	10 to 14 "	2 1/2 "
"	65 to 110	12 to 17 "	3 "
"	110 to 160	13 to 19 "	3 1/2 "
"	160 to 220	15 to 21 "	4 "
"	220 to 300	18 to 26 "	4 1/2 "
"	300 to 400	20 to 29 "	5 "
"	400 to 500	22 to 31 "	5 1/2 "
		24 to 35 "	6 "

If Brand's Liquid is regularly used, the incrustated Boilers are within three to five months clean; and to prevent any further incrustation in such or new Boilers, the use of Brand's Liquid must not be interrupted, but about two-thirds of the stated quantities in the table given to the water in the Boilers.

The Boilers of Locomotives require every two days, in proportion to their power and time of service, only two and a-half to four quarts of Brand's Liquid, which every second day is poured into the water in the Tender.

As often as the water in the water-gauge, on Stationary, Ship or Locomotive Boilers, becomes of a muddy appearance, the Boiler must be blown out and cleansed from the stones and dirt which have settled to the bottom of the Boiler.

The incrustation which in this manner is removed is soft, or in pieces, which are commonly of a crumbling and brilliant texture and have a brown color.

In some parts of the country, and in Marine Boilers, the incrustation is often very hard, and to remove this, the larger quantities in the given table are required. The pieces of this incrustation which are removed by the use of Brand's Liquid have lost their glassy texture, and though they commonly retain some hardness, they have a brown color, and a corrosive and decayed appearance.

To remove the incrustation of Marine Boilers, larger quantities of Brand's Liquid are required, in proportion as by the removal of the brine a quantity of the feed-water is blown out. By any simple contrivance Brand's Liquid must be brought into the boiler in small portions, or mixed with the feed water.

Brand's Liquid is not injurious to the Boiler if it is used in large quantities, even if the Boiler is entirely filled with it and heated, but, in general the quantity as is stated in the table must not be exceeded, because in connection with large quantities of incrustation the Liquid generates much priming and motion of the water, which might prove injurious to the annexed machinery, especially in Ship Boilers and Locomotives which have no large steam-chests.

The above table is made by practical experience, so that only a gentle working of Brand's Liquid is allowed, entirely free from any danger, for the Boiler once properly cleaned; the proprietor will by experiments easily ascertain the minimum quantity of Liquid that is required for the Boiler.

Should it be required to clean old incrustated Boilers by the use of Brand's Liquid in a few days, then it is only necessary to pour one-half to three-fourths of a hoghead at once into the water in the boiler, and heat it from six to eight days gently to boiling heat, for which operation the Boiler must be put out of service.

In Locomotives where the steam-chests are small, Brand's Liquid must be used oftener in small quantities as before stated. A Locomotive out of service may be cleaned within 6 or 8 days by the use of a large quantity of Brand's Liquid, (one-fourth to one-half a hoghead.

It would be needless to enter into a long discussion on the advantages in using Brand's Liquid for cleaning steam generators, being fully aware that it is destined for the use of the most intelligent part of the public, and it may therefore suffice to mention its advantages in a few words, as follows:

1. Less repair of Boiler.
2. Increased generation of steam, or saving of fuel.
3. The expense of hammering and loosening the incrustation is saved.
4. Less interruption of business.
5. The Boilers remain tighter.
6. The duration of the Boilers is increased, especially of locomotives and Tube-Boilers in general.
7. Three-quarters of the causes of Boiler-explosions are removed.

Price per barrel \$20.

The patentees are so confident of the merits of this invention, that they offer one barrel gratis to parties willing to make a trial, to be paid for only in case of success and of future orders.

Brand's Liquid is used with the best effect by the Cincinnati Water Works, and many other establishments in the West.

Address BRAND, BROTHERS,
Toledo, Ohio.
Sole Patentees both in Europe and the United States.
Or, J. DUFRESNE,
43 New Street, New York.
May 28, 1853.

The Troy Iron Bridge Co.

ARE prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or more, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address
BLANCHARD & YELLOWS, Troy, N. Y.
April 2nd, 1853.

Etna Car Works.

HILLMEYER & SMALL, YORK, PA., PROPRIETORS.
WE are manufacturing to order and by contract, Baggage, Freight, Express, Stock, "Reading," and other patterns of Coal Cars, Lumber and Gravel Cars, of every variety, at short notice, and on favorable terms.

Our facilities for manufacturing are extensive, and our means for transportation to all parts of the country speedy and economical.

The Wheels we use receive our own personal attention, are made of the best Cold Blast Charcoal Iron, of both spoke and plate patterns, solid and open hubs.

All Cars built by us, and now in daily use on the Pennsylvania Central, Baltimore, Susquehanna, York and Cumberland Roads, have been appraised as first class, and carry the largest capacity allowed on any roads. We are prepared to furnish Wheels and Axles separately or fitted, Springs and other parts of Cars at short notice. Orders and Contracts for Railroad Companies solicited.
May 20th 53m

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 54 Broadway.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
90 Beaver st.

April 1, 1853.

AN ACT FURTHER TO AMEND THE CHARTER OF THE CITY OF NEW YORK.— Passed April 12, 1853.

The people of the state of New York, represented in Senate and Assembly do enact as follows:

Sec. 1. The legislative powers of the corporation of the city of New York, shall be vested in a board of Aldermen and a board of Councilmen, who, together, shall form the Common Council of the City.

The Board of Aldermen shall consist of one Alderman from each ward, who shall be elected by the people of the respective wards for two years. The board of Councilmen shall consist of 60 members, to be elected from as many districts, who shall be sworn into office on the first Monday in January next, succeeding their election, and shall hold their offices for one year, and shall receive the same compensation as the Aldermen.

Sec. 2. The members of the board of Aldermen first elected under this act shall be classified as follows:—On or before the first Tuesday in Dec. succeeding the next general election, the Clerk of the city and county of New York shall, in the presence of the Mayor, Recorder, and Comptroller, or a majority thereof, draw from a box to be provided for the purpose, in which two ballots shall have been deposited, having thereon respectively, either the word "odd" or the word "even" one ballot; if the ballot so drawn shall have thereon the word "odd" then the term of office of the Aldermen chosen from wards having an odd numerical designation, shall expire on the first Monday of January, one thousand eight hundred and fifty-five and in case of the ballot having thereon the word "even" shall be drawn, then the term of office of the Aldermen having an even numerical designation shall expire on the first Monday of January, one thousand eight hundred and fifty-six. At all subsequent elections, Aldermen shall be elected for the full term of 2 years.

Sec. 3. For the election of Councilmen the city shall be divided into sixty districts of contiguous territory, and as near as may be of equal population, each of which shall choose one Councilman. The Common Council shall also divide the city into such districts on or before the first Monday in September next, and thereafter, within one year after the state and national census shall have been compiled, the Common Council shall in like manner re-district said city.

Sec. 4. Every act, resolution or ordinance appropriating money or involving the expenditure of money not rendered imperative under provisions of any State law, shall originate in the board of Councilmen, but the board of Aldermen may propose or concur with amendments as in other cases.

Sec. 5. A vote of two-thirds of all the members elected to each board shall be necessary to pass an act, ordinance or resolution of the Common Council, which shall have been returned by the Mayor with his objections.

Sec. 6. No Alderman shall hereafter act or sit as Judge in the Court of Oyer and Terminer, or in the courts of general or special Sessions in the city and county of New York; but this section shall not prevent his exercising the power of a magistrate on the arrest, commitment or bailing of offenders, except that he cannot let to bail or discharge a person arrested or committed by another magistrate.

Sec. 7. All ferries, docks, piers and slips shall be leased, and all leases and sales of public property and franchises (other than grants of land under water; to which the owner of the upland shall have a pre-emption right) shall be made by public auction, and to the highest bidder, who will give adequate security, (no lease shall be hereafter given, except as the same may be required by covenant of the corporation already existing,) shall be for a longer period than ten years, and all ferry leases shall be revocable by the Common Council for mismanagement or neglect to provide adequate accommodation. Any person requiring any ferry lease or franchise under the provisions of this act, shall be required to purchase at a fair appraised valuation, the boats, buildings and other

property of the former lessees actually necessary for the purposes of such ferry. Previous notice of all sales referred to in this section shall be given under the direction of the Comptroller for thirty days, in the newspapers employed by the Corporation.

Sec. 8. No bids shall be accepted from, or contract awarded to, any person who is in arrears to the corporation upon debt or contract, or who is a defaulter, as security or otherwise, upon any obligation to the corporation.

Sec. 9. No money shall be expended by the Corporation for any celebration, procession or entertainment of any kind or on any occasion, except for the celebration of the Anniversary of the National Independence, the 25th of November, (Evacuation Day,) and the anniversary of the Birthday of Washington, unless by the vote of three-fourths of all the members elected in each Board of the Common Council.

Sec. 10. No additional allowance beyond the legal claim under any contract with the corporation, or for any service on its account or to its employment, shall be allowed.

Sec. 11. The officers of the police and policemen shall hereafter be appointed by a Board of commissioners, consisting of the Mayor, Recorder, and city Judge.

Sec. 12. All work to be done, and all supplies to be furnished for the corporation, involving an expenditure of two hundred and fifty dollars, shall be by contract, founded on sealed bids or on proposals made in compliance with the public notice for the full period of ten days; and all such contracts, when given, shall be given to the lowest bidder with adequate security. All such bids or proposals shall be opened by the heads of departments advertising for them in the presence of the Comptroller, and such of the parties making them as desire to be present.

Sec. 13. There shall be a bureau in the Department of Finance, to be called the "Auditing Bureau," and the chief officer thereof shall be "Auditor of Accounts." It shall revise, audit and settle all accounts on which the city is concerned as debtor or creditor; it shall keep an account of each claim for or against the Corporation, and of the sum allowed upon each, and certify the same, with reasons therefor, to the Comptroller. The Comptroller shall report to the Common Council once in 90 days, the name and decision of the Auditor upon the same, together with the final decision of the Comptroller thereon. All moneys drawn from the city treasury shall be upon vouchers for the expenditure thereof, examined and allowed by the Auditor and approved by the Comptroller.

Sec. 14. Every person who shall promise, or offer, or give, or cause, or aid, or abet in causing to be promised, offered or given, or furnish, or agree to furnish, in whole or in part, to be promised, offered, or given to any member of the Common Council, or to any officer of the corporation after his election as such member, or before or after he shall have qualified and taken his seat, any money, goods, right or action, or other property, or any thing of value, or any pecuniary advantages, present or prospective, with intent to influence his vote, opinion, judgment, or action, on any question, matter, cause, or proceeding, which may be then pending, or may by law be brought before him in his official capacity, shall, upon conviction, be imprisoned in a State prison for a term not exceeding ten years, or shall be fined not exceeding five thousand dollars, or both, at the discretion of the court. Every officer in this section enumerated, who shall accept any such gift, or any promise or understanding, to make the same under any agreement or understanding, that his vote, opinion, judgment, or action, shall be influenced thereby, or shall be given in any particular manner, or upon any particular side of any question, matter, cause, or proceeding, then pending, or which may by law be brought before him in his official capacity, shall, under conviction, be disqualified from holding any public office, trust, or appointment, under the Charter of the city of New York, and shall forfeit his office, and shall be punished by im-

prisonment in a State prison not exceeding ten years, or by a fine not exceeding five thousand dollars, or both, in the discretion of the court.—Every person offending against either of the provisions of this section, shall be a competent witness against any other person offending in the same transaction, and may be compelled to appear and give evidence before any Grand Jury, or in any court, in the same manner as other persons, but the testimony so given shall not be used in any prosecution or proceeding, civil or criminal, against the person so testifying.

Sec. 15. No contract by the Supervisors shall be valid, unless expressly authorized by statute, and such as are authorized must be made in the manner provided in the twelfth section of this act.

Sec. 16. All ordinary appropriations made for the support and government of the Alms House Department, shall, before the same are finally made, be submitted to the Governors of the Alms House, to a Board of Commissioners, consisting of the Mayor, Recorder, Comptroller, the President of the Board of Aldermen, and the President of the Board of Councilmen. If the said commissioners approve of the appropriations, they shall immediately report the same to the Board of Supervisors; if they shall disapprove of the same, they shall return them with their objections to the Governors of the Alms House for consideration; and in case the said Governors shall, upon a consideration, adhere by a vote of two-thirds of all the Governors then in office to the original appropriations, they shall return them to the Commissioners, whose duty it shall be to report to the Board of Supervisors.

Sec. 17. The Board of Education shall also submit, in like manner, all appropriations required by them to the Commissioners named in the last preceding section; and said appropriations shall be subject to all the provisions of said section, so far as the same may be applicable.

Sec. 18. All such parts of the Charter of the City of New York, and the several acts of the Legislature amending the same, or in any manner affecting the same, as are inconsistent with this act, are hereby repealed; but so much and such parts thereof as are not inconsistent with the provisions with the provisions of this law, shall not be considered as repealed, altered or modified in any form affected thereby, but shall continue and remain in full force and effect.

Sec. 19. The powers now vested in the Mayor, Aldermen, and Assistant Aldermen in granting and revoking tavern licenses, together with all other powers as excise commissioners, shall be henceforth vested in the Mayor, with the Aldermen and Councilmen representing the district in which the premises of the party licensed or to be licensed may be located.

Sec. 20. This act shall be submitted for the approval of the electors of the city and county of New York, at an election to be held in said city on the Tuesday next succeeding the first Monday in June, one thousand eight hundred and fifty-three. The tickets which shall be polled at such election shall contain either the words "In favor of amendments to charter," or "against amendments to charter;" and if a majority of all the persons voting thereon at such election shall vote the ticket "In favor of amendments to charter," this act shall become a law; if a majority of such electors shall vote the ticket "against the amendments to charter," this act shall be void.

Sec. 21. The Common Council are hereby authorized and directed to make all necessary arrangements, by ordinance or otherwise, for the conduct and regulation of all elections authorized under the provisions of this act, and in conformity, as far as may be, to the general election laws.

STATE OF NEW YORK.
Secretary's Office.

I have compared the preceding with the original law on file in this office, and do hereby certify the same to be a correct transcript therefrom, and of the whole of said original law.

Given under my hand and seal of office, at the

city of Albany, this 16th day of April. one thousand eight hundred and fifty-three.

ARCHIBALD CAMPBELL,
Deputy Secretary of State.

The foregoing act was directed to be published, once a week, in all the Daily and Weekly Newspapers of the city, until the 7th day of June. By order of the Common Council.

D. T. VALENTINE, Clerk C. C.
New York, April 28, 1853.

PACIFIC RAILROAD LOAN. \$4,000,000 Loan

ON THE
MORTGAGE BONDS OF THE PACIFIC
RAILROAD COMPANY OF MISSOURI.

THIS Company will receive proposals until the 11th of July next, for four millions of dollars of their construction bonds, to be issued in sums of one thousand dollars each, payable at the city of New York twenty years after the date thereof, with coupons attached for the payment of interest at the same place semi-annually, on the first of January and first of July in each year, at the rate of 7 per cent per annum.

These bonds are secured by a first and only mortgage on the Southwestern Branch railroad, 300 miles in length, and one million of acres of land on the line of that branch, granted by Congress to aid in its construction: and also by second mortgage on the Pacific railroad, 290 miles in length. About 130,000 acres of land, not included in the mortgage are set apart to aid in meeting interest.

Forty miles of the Pacific railroad, from St. Louis westward, is about completed, and 85 miles further, reaching Jefferson city, the capital of the state, is under construction. About \$1,600,000 has already been expended by the company in the completion of the first division, and in the construction of an excellent machine and car shop, and engine house, and the necessary real estate, and the surveys required to prepare the whole 600 miles of railway for contract.

The Pacific railroad line extends from St. Louis to the vicinity of Independence, near the mouth of the Kansas, 290 miles, and its southwestern branch diverges about forty miles west of St. Louis, and runs near Springfield to the southwestern part of the state, a little north of Ta-le-quah, the capital of the Cherokee nation, 300 miles.

The charter was granted with the view, and the right, of ultimate extension to the Pacific Ocean, with an authorized capital of ten millions, and privilege of increase under general law.

Capital subscribed in Missouri over \$2,000,000, of which about 40 per cent. is paid up. State loan to the company authorized \$4,000,000, of which \$700,000 has been issued and sold at a premium. For such stock now issued, the state holds a lien on the Pacific railroad only. Land granted by Congress, now the property of the company, about 1,250,000 acres.

One or the other of the lines of this company will be the Central National line of railway to the Pacific ocean. Reconnoissances and surveys of the United States government will connect with both.

The whole amount of bonds which can be issued under the mortgage is ten millions of dollars. The whole of these bonds are convertible into land of the Company, and one-half into stock of the Company, within a limited time, at the option of the holder.

The Company reserve the right to accept proposals for all or any portion of the amount.

Ten per cent of the amount allotted to each subscriber will be required on notice of the acceptance of his proposals, and the balance as called for by the Directors, not exceeding ten per cent. monthly. Any subscriber may, however, at his option, pay up in full, and receive his bonds at any time.

Interest will in all cases be adjusted, on payment of the final instalments.

Proposals will be received at the office of Messrs

Riggs & Co., 56 Wall street, N. Y., inclosed, sealed and endorsed, "Proposals for Loan of \$4,000,000 of Pacific Railroad of Missouri." Laws, Reports, Documents and Map, showing the condition, relations and prospects of the work, and all necessary information relative to its affairs, &c., may be obtained after the 1st of June on application to Messrs. CAMANN & Co., or RIGGS & Co., at 56 Wall street, or the subscriber, personally, or by letter.

By authority of the Board of Directors,
THOMAS ALLEN, President.
St. Nicholas Hotel, N. Y., May 20, 1853.

Pease & Murphy,
FULTON IRON WORKS,
Foot of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. E. Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

Apl 1m 50 South Third street.

NEW YORK Lubricating Oil Manufacturing Co.

12 BROADWAY,
PROPRIETORS AND MANUFACTURERS OF
DEVLAN'S PATENT LUBRICATING OIL,
FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon slides and Journals, by the use of bad oil. It will wear longer than Sperm, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidly, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

Gerard Ralston,
21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE
PURCHASE AND SALE OF
AMERICAN SECURITIES,
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

33

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.
Portland, April 9, 1853.

A Good Enterprise.

THE concentration of six or seven Railroads at Fort Wayne, Indiana, viz: Ohio and Indiana, Fort Wayne and Chicago, Fort Wayne and Cincinnati, Fort Wayne Southern, Wabash Valley, Fort Wayne, Union and Cincinnati, and the Fort Wayne and Mississippi Air line railroads, will require and offers favorable inducements for an extensive establishment for the manufacture of Railroad Cars, and other machinery. Persons willing to embark in an enterprise of this kind, would receive encouragement from most of the roads above named, if application be made soon.

Fort Wayne, May 18, 1853.

* The above is from responsible parties, who will lend efficient aid to the enterprise proposed.—[Ed. R. R. J. It.

To Railroad Track-Layers.

PROPOSALS, under seal, are requested at the Railroad Journal office, New York, on the 10th July next, for laying the track of the Mobile and Ohio, Tennessee and Alabama, and Paducah and Tennessee railroads;—aggregate length, 512 miles. Plans, specifications and other required information, will be furnished at the time and place above mentioned.

JOHN CHILDE,
Chief Engineer.

MOBILE, May 17th, 1853.

Notice to Contractors.

PROPOSALS will be received until noon the 20th June, for the Graduation and Masonry of the Franklin and Warren Railroad, extending from a point on the eastern State Line of Ohio, in the County of Trumbull to Ashland, Ashland county, Ohio, a distance of about 106 miles.

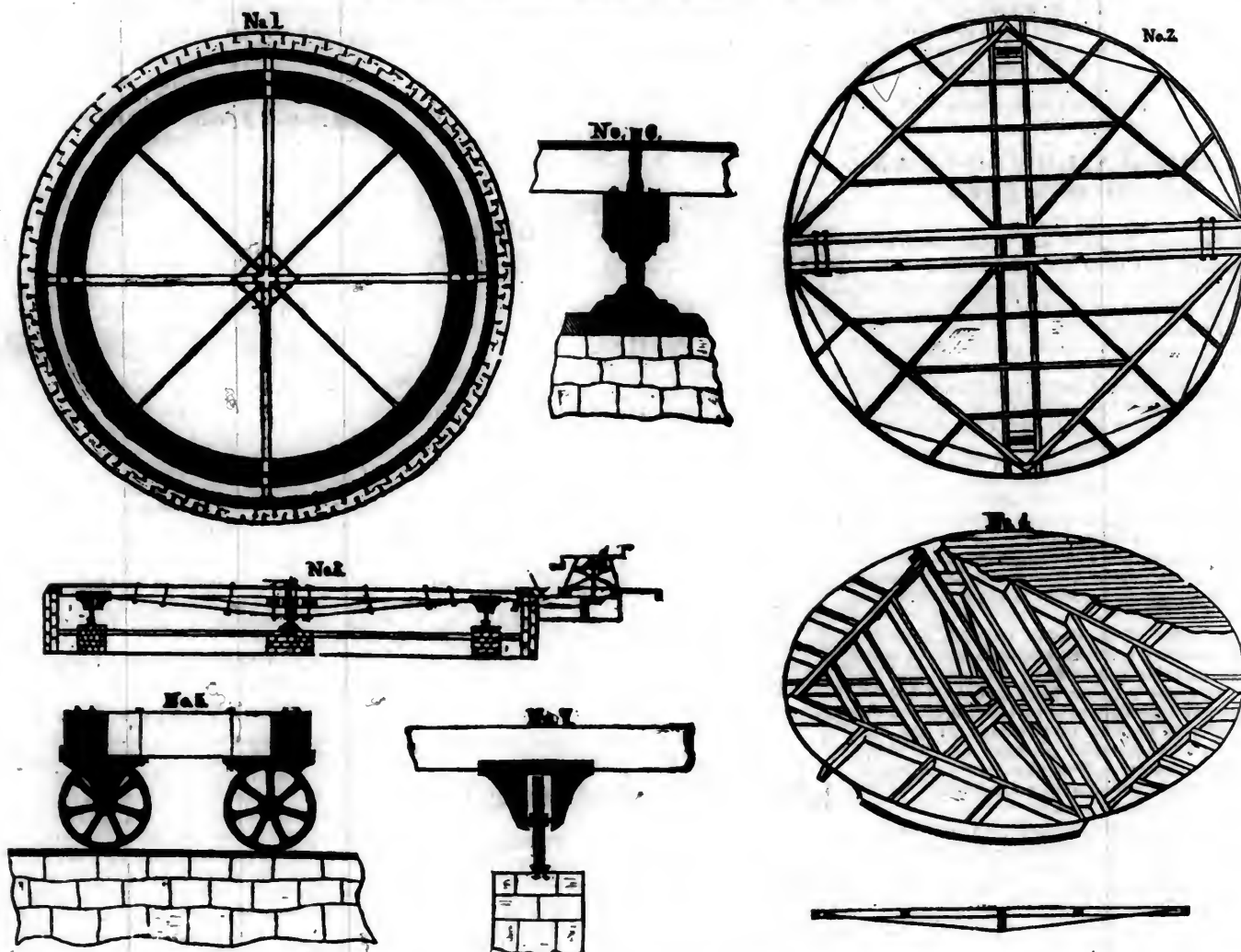
The line will be ready for examination June 13th. For particulars apply at the Engineer's office, Franklin, Portage county, Ohio.

The remaining distance of the road extending from Ashland to Dayton, or Maysville, will be ready in a short time.

M. KENT,
President F. & W. Railroad.
SAM'L H. KNEASS,
Chief Engineer.

FRANKLIN, May 19, 1853.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN in 25 SECONDS.**

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Supt of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.

A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcass Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LAHAYE'S

Patent Self-acting Brake.

THE attention of Railroad Companies is respectfully called to this improvement, used exclusively on all Passenger Cars upon the Philadelphia and Reading Railroad, and now being attached to those building for the Camden and Atlantic Railroad, and several other Roads.

Lahaye's Self-acting Brake can be attached to any Car without interfering with the ordinary Hand Brake, is simple in its construction, and reliable in its action.

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Sept. 11, 1852. 17*

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February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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American Railroad Journal.

Saturday, June 11, 1853.

Foreign Investments in the United States.

For a few years past, the subject of investing a portion of their surplus means in the United States, has been steadily attracting increased attention from the capitalists of the Old World. There, the appropriate objects do not exist, to give full employment to the surplus property that ages have accumulated. The abundance both of capital and labor begets an excessive competition in every department of industry, and in most cases, render the average gains of both very small. On the other hand every one of the past two hundred years has added another to the vast burdens which the civil, religious and military institutions of the Old World have imposed, and which are now crushing into the dust the nations of Europe. The Englishman of the present day, with a patient loyalty, which exceeds the fictions of romance, carries on his shoulders an aggregate of burdens, each one of which was regarded as sufficient to crush the generation on whom it was first imposed and is now by his daily toil paying the penalty for all the errors and follies committed by incompetent, profligate, or misguided rulers for hundreds of years. The follies and the mistakes of the past are as

much his birthright as are its wisdom and achievements.

Modern inquiry and investigation seem to have discovered no remedy for the constantly increasing burdens of governments. The good and the bad grow in the same field, with equal luxuriance. The tares cannot be rooted out, without at the same time destroying the wheat. The necessary reforms cannot be effected without subverting society, and subversion does not necessary imply change nor progress.

But to cut short the speculative view into which we have been running, the attention of foreign capitalists is now largely attracted toward this country. They see here all the elements of wealth, scattered in such profusion, that capital will produce twice the return that it does in Europe, similarly employed. We have millions of acres of the most fertile soil, entirely unproductive for the want of means and people to till them. In this soil, and lying at the very surface are the richest beds of coal, and of iron, copper, silver, zinc, and lead ores, which are unworked for a similar reason. Our lands that are cultivated, are made to yield only a modicum of their capacity, for the reason that the transportation of the products to market nearly, if not quite, equals their value. The foreigner is beginning to appreciate the extent of the physical resources of this country. He is further beginning to understand that civil institutions must be the most stable, where every citizen believes that any change would only work injury to him. He visits this country and sees perfect order without the slightest manifestation of force. He will travel from one extreme of the land to the other, without seeing one government official acting as a conservator of the peace. There are no breaches of the peace, because all, both rich and poor, are equally convinced, that their interests are best promoted in maintaining the present status of society. In some parts of Europe, on the other hand, the obedience of the majority is a forced submission. The mass believe that change would bring an improvement of their condition, and experience has proved that change may take place when least expected. In this country the people are averse to change and will continue so, till lapse of time shall have brought with it the same evils, under which the people of the old

world are laboring, an event too far in the future to cause the slightest degree of alarm or apprehension.

It is in the natural order of things, that investments in this country, by foreigners, should begin in the shape of credits extended to our more important enterprises. This enables him to reap a portion of the profits, without running the risks of loss in case of failure. It would be unwise for him to undertake these enterprises on his own account, till experience should have accustomed him to whatever is peculiar in our climate, soil, the character of our people, and our mode of working. We accordingly find that as far as our railroads are concerned, and which are now absorbing paramount attention, foreigners confine their investments chiefly to the securities issued by our companies, based upon their corporate property. As experience develops the character of these enterprises, the investments are extended to the shares of the company, by which the purchaser directly becomes a part owner of a road, and responsible, to a certain extent, for its good management, and runs the risk of its future success.

There is no doubt that the true interests of our own people, and the foreign creditor and capitalist, exactly harmonize. We derive no advantage by borrowing for works that are not needed. It is an absolute injury for us to anticipate wants that will only exist in the future. It is only a natural growth that is a healthy one. Our people experienced the effect of the injudicious application of money in the speculations of 1836 and '7. The sums borrowed at that time by the states of Illinois and Mississippi, for instance, instead of benefiting, were productive in fact of the most serious evils that could befall them. The works projected were in advance of the business wants of the country, and most of them could not have been sustained, if built. In many cases the routes selected were not such as a wider experience has shown to be, the proper ones. The money obtained led to the undertaking of collateral works, gave an inflated value to all kinds of property, and stimulated speculation to an extraordinary degree. The policy adopted by the above states was a false one from the beginning to the end. The apparent prosperity of a few years proved to be most unsubstantial. A disastrous revulsion fol-

lowed, involving a complete abandonment of the schemes undertaken, with the loss of all or nearly all invested in them, an entire prostration of state, and with it, to a considerable extent, by necessary sympathy of individual credits, which, in the state named, have delayed for years the construction of railroads to meet pressing wants, and which now are prosecuted under great disadvantages.

The credits obtained by these states have produced incalculable mischief. But for them, they would make vastly greater progress, and have occupied a very different relation in the sisterhood of the states, from what they now sustain. The experience of each, is evidence, on an extended scale of the injurious effects upon our own people, of undertaking works of public improvement, for which there is not obvious necessity, and means for support at the time.

It is only for works that are *wanted*, and which will yield a remunerating revenue, that we can be benefited by borrowing. We shall suffer as much in departing from this rule, as will the capitalist who furnishes the money. It is for the purpose of laying down some general rules, to serve as guides to safe investment, addressed more particularly to foreigners, but equally applicable to our own people, that is the chief object of our present remarks.

As before stated, our safety depends upon our confining ourselves to legitimate projects, in which all the conditions of success exist. The most reliable test applicable to projects in newly settled, and agricultural portions of the country is the ability of the *local* population to contribute a considerable portion of the cost of their construction. Such contributions are good evidence that the community capable of making them, will be able to supply a sufficient traffic for the support of a railroad, and are a guarantee that those having the enterprise in charge will take good care not to waste money by injudicious expenditures, or bad management. Roads built under these guarantees will as a general rule, be sure to be remunerative, and as soon as experience shall demonstrate the fact, we shall always find a ready market abroad, for such as we cannot carry ourselves.

Acting upon the rules we have laid down, we cannot overdo the business of railroad construction, and no danger is to be apprehended from their progress, however rapid. The moment we depart from them, we throw aside all the guarantees of future safety. All distinction between sound and speculative projects is lost sight of, and we shall be as liable to waste as to invest our money properly. If schemes that look well on paper or about which a plausible story can be invented, are allowed to take the same place in popular favor with those having a substantial basis in the contributions of parties immediately interested in their construction, our present prosperity is soon to meet with a disastrous reverse.

It is exceedingly fortunate for us, that the cautions we have urged, have, with few exceptions, been observed, both by our companies, and the purchasers of their securities. The great mass of these securities held on foreign account, are well based. They were taken at fair rates, and there has been a steady appreciation of their market value at home and abroad. Our principal European customers, the Germans, have bought un-

derstandingly. They have thoroughly studied the situation of our people, their wants, the relations that railroads sustain to the commerce of the country, and the conditions necessary to their pecuniary success. In their purchases of securities they are governed by precisely the same rules by which a prudent merchant would be governed in the purchase of merchandise. They satisfy themselves that the securities offered possess every intrinsic merit. That they represent an actual business transaction, and they will take none of a different character, no more than will a correct banker discount accommodation paper. Such paper may turn out to be good, but the rule is against it and consequently it is properly rejected. Our German purchasers in buying largely of our securities, adopt another precaution of great service to us as well as to themselves. They purchase what they have an immediate use for. They do not load themselves with three or four times the amount for which they have orders, for the purpose of speculation, nor for the purpose of holding them to await a contingent or future demand.—The consequence is they are regular buyers, increasing their orders, little by little, by each steamer, which gives steadiness and regularity to the market on this side. For these reasons the Germans are our best customers in more respects than one. They are the largest buyers. They confine their purchases to our best securities, which indirectly serves as a check upon weaker projects, and they purchase with the same regularity that their merchants do our cotton and tobacco, and in this way, give a uniform tone and character to our money market.

The English purchasers on the other hand, pursue an entirely different method. Instead of coming to this country to study the *rationale* of our system, to collect information that shall enable him to discriminate between fictitious and meritorious projects, the purchaser for investment buys of some London house, which has bought out an American scheme, in that market. In this case the *Banker* in fact represents the seller, repeats his statements and representations, and knows only so much about the affair as the principal, who is anxious to sell, communicates to him. Of course all information is drawn through interested and consequently unsafe channels. Now of all the nations of Europe with whom we are on terms of familiar intercourse, the Englishman knows the least about this country, its condition, its internal economy, its works of improvement, its resources, what we have accomplished, and what we are now doing. The mass of his countrymen have never made this country an object of study. One of the peculiarities of that people is, that they are governed by certain maxims, or habits of thought, which when adopted, are only changed with the greatest difficulty. The English investments in this country made in 1835, turned out disastrously, and they at once drew the inference that none could be safely made, and they have steadily refused to investigate the subject up to the present time. The incredible progress which we have been making without their aid, and the wonderful success of our works, have at last awakened to some extent the Englishman from his indifference, and he has recently begun to inquire about our railroads. The few purchases which has thus been made, have been in projects bought out in Lon-

don, about which in fact he actually knows nothing, and can know nothing except by coming to the United States, and making a personal study of our works. He consequently is exposed to the danger of being misled, and of making bad bargains. All he knows about the scheme is what "the highly respectable and wealthy firm of Jones Brown & Smith" know, which is probably just nothing at all. What should Messrs Jones, Brown & Smith know about the subject of railroad investment in the United States? Most probably they have never given a thought to the subject, till the scheme was presented. They have never been in the business. They are most respectable men, of unquestioned character and integrity, and no firm in London stands higher, but on talking upon the subject of a proposed road Mr. Smith may very likely inquire (as was the fact at a recent dinner given by the Lord Mayor of London, at which an American gentleman was present,) "which of the two American States were the largest, Cincinnati or Illinois!"

Now there can be no arbitrary maxims laid down, by which persons without any knowledge of the project themselves, can distinguish a sound form in an unsound project. A line or scheme may look ever so well on paper, and still prove a worthless one. A person, to correctly estimate the probable business of a given line of railroad, must understand the tendencies and direction of the commerce of the country. In a new country like our own, these tendencies are constantly changing as commerce becomes, through the aid of modern improvements and science, released from old channels, which were the natural water courses. A person too, to form a correct estimate of the profits of a road, must be well acquainted with the capacity of the route traversed to supply a lucrative business. The examination of the best maps or the study of the best geographical or commercial gazetteer, will throw but little light upon the subject. The representations of interested parties however honestly made, may contain fallacies which nothing but a personal examination could detect.

We think the interest of all parties, both of purchasers and sellers, will be best promoted by having all our schemes first brought out at home. It is only at home that a correct estimate can be formed of their value. The general sentiment of the country will rarely mistake either the character of the project or of the parties engaged in it. This sentiment will assign to it its true position. The evidence upon which this judgment is made up, is often of too complicated and subtle a kind, to be either analyzed or sustained by reference to particular and palpable facts; but for this very reason it is all the more valuable, and less liable to lead into error. We often cannot trace our strongest convictions to any source. We *absorb* them, as the plant does the atmosphere. We often oppose them to the strongest individual testimony. Nothing is more common than to disprove the direct statements of a witness, by the *common* sentiment of a community. Now by taking up a scheme brought out in London, the purchaser dispenses with the very best evidence in the case,—evidence, too, which may constitute his only safety.

Parties, on taking a scheme to London, have two objects in view; either to obtain a better price than can be had at home, or to sell something that

has no domestic market value. In the first case, it is for the interest of the foreigner to make his purchase in this country, because he can buy cheaper. In the second, he runs a great risk in buying what has no market value where best known. He pays higher prices, and he runs greater risks than if he made his purchases on this side of the water. In both cases he discards a wholesome rule which cannot long be violated with impunity. If he takes up a project which has not sufficient domestic reputation to give it currency, it may result in positive injury to us, though we may get his money. We are as much injured as he is by borrowing for projects that are not legitimate and self-supporting, as the cases instanced fully prove.

Again, there is great danger that the English market will be lost to us, if has not already been, by the course that negotiations brought out in that country have taken. The schemes brought out there are as much for sale as ever. They have been simply taken off the hands of the first holders.—This does not dispose of the securities, by any means. They are still held in large blocks by leading capitalists, and are yet to be taken for consumption. The German banker distributes his bonds in small lots among the whole population, as he would tobacco and corn were he a merchant. A good American railroad security, of an established character, is as current in Germany as is a bank note in England. It must be a similar credit to be of value to us in there. Unless it can be obtained the securities we have already sent to England may be returned. The want of a general demand for our securities is the reason why they advance so slowly after they are bought out in the London market. We presume that the Illinois Central bonds will not bring a penny more than the first day they were sold. If the scheme had been first brought out in this country, so as to interest American and continental as well as English buyers, we have no doubt that bonds of that company, which are not selling at all in this country, would by this time have commanded a handsome premium.

To our people we repeat our conviction that all our schemes should be brought out at home. If we first give currency to them we invite the competition of capital throughout the whole world.—This competition is sure to carry the securities steadily upward. We appeal to the experience of the past in proof of the correctness of our views. Our progress has been regularly onward, because our system has been a sound one. Foreign purchasers have refused to take the securities till a domestic reputation was acquired. If we had pursued any other method the whole system would have broken down long ago. If we had commenced running off to England with our projects, as we are doing now, and could have obtained money upon them, we should have only repeated the follies and experienced the disasters consequent upon the expansions of 1835. If those engaged in new projects can borrow all they want, they will do nothing themselves, but will spend lavishly, and very likely to little purpose, what they get, and our system instead of making real progress, which is another name for a healthy growth, will expand without strength, and break down of its own weight.

If the rules we have laid down should appear to operate injuriously to some of our companies, by

postponing their schemes to "a more convenient season," we are satisfied that such companies are just in situations to be benefitted by our advice. If they have no intrinsic strength, they must wait till they acquire it. We can do them no greater service than to restrain them from an enterprise in which they will certainly fail. As far as foreigners are concerned, our only object is to throw out hints, as necessary guides for their own safety, and we are more free to speak because we are convinced that the interests of all parties to our railroad securities, both the seller and purchaser, are, as before stated, in exact harmony.

We desire to draw attention to this country, which is to be the recipient of the capital as well as the surplus population of Europe. Our institutions furnish guarantees of greater safety than any other. Capital can be made vastly more productive here. It is now flowing in upon us with a rapidly increasing volume, and we desire to see such use made of it as shall confirm and strengthen the favorable impression already made.

Exhibit of the Dayton and Western Railroad.

To the Board of Directors and Shareholders of the Dayton and Western Railroad:

GENTS:—The first report made by P. P. Lowe, Esq., President of this Company, gave a satisfactory statement of the chartered privileges, the organization of the Company and Board of Directors and the progress made up to the date of his report, together with an estimate of the future wants of the Board in order to complete the work, and suggestions also as to contemplated connections and influences upon other companies and like improvements, in connection with estimates of the amount of freight and number of passengers which would necessarily pass over our road, and it is gratifying to know that his calculations were predicated upon the right principle and safe data, and although some, less thoughtful, deemed them too high, yet we are now assured by actual results, that his anticipations will be more than realized. Important lateral branches and entire extensive lines of railroad, not then suggested, are now under construction, which lead directly into, and will bring almost their whole product for transportation over the Dayton and Western line, seeking an eastern outlet.

Since the above named report, two others have been presented to the Board and Stockholders for their consideration and approval, but as they referred entirely to the finances, progress and business of construction, and not of any general interest, it was not considered essential to make them public.

In the last published reports of this and the Indiana Central railway company, the mutual interests of the two companies are referred to, and every day's experience enforces the propriety of a union, and consolidation of the two companies; and one of the most important transactions taken by the Board of Directors is the perfecting of such an agreement between the two companies. Articles of consolidation have been executed, and on completion of the two roads, the present Boards of Directors retire, and the entire stock being united, one Board will be elected under the articles of consolidation; new certificates of stock will be issued, and the roads become one between Dayton and Indianapolis, the length of which will be one hundred and eight and one-half miles, with less than six miles of curvature, and will be capable of furnishing a greater number of local passengers than any other named route in Ohio and Indiana, passing as it does through the most highly cultivated and densely populated region of these States.

The articles of consolidation provide, that the two Boards shall continue to execute the contracts of their companies, and are required to bring their

roads up to the first class, with gravel ballasting.

That the stocks, assets, and property of each company shall be the property of the consolidated company, and the consolidated Co. shall become liable for all debts, liabilities, contracts, and engagements of each Co.

The Dayton and Western railroad Co. agrees to stock and run the line from Dayton to Centerville, until the completion of the whole line to Indianapolis, accounting to the other Company for the receipts.

That upon the completion of the two roads constructing, accounts shall be made out and a statement of cars, rolling stock, and materials furnished, and from these the proportionate value of the stock in each road shall be determined, for which certificates of stock shall be given in the consolidated company. These articles were perfected and ratified by the companies in July, 1852.

These two roads, thus consolidated, form a perfect line between the two extreme points, and, in connection with the Ohio Central roads, form the only central line of railroad leading east and west through the States of Ohio and Indiana, and by which no successful opposition can be made by any roads now chartered, and therefore it must be an unusual dividend paying route.

The railroad interests of Ohio are now very fully developed, and the companies now formed and underway, are sufficient for all practical purposes in the conveyance of all the through and local business and passenger traffic. A majority of the chartered companies run north and south to the central line, and but three or four run east and west, the most important of which is, and always will be, the one constructed along the National Road. This is justly called the "Great National, Central Railroad, Mail and Passenger route," passing through the cities of Wheeling, Zanesville, Columbus, Springfield, Dayton, Richmond, Centerville, Cambridge city, Indianapolis, Terre Haute, to St. Louis, and thence by the Pacific railroad to San Francisco.

It may be truly asserted that upon no other railway route west of the Alleghany Mountains, is there so great an amount of taxable means so equally distributed, nor a road which passes through a more highly cultivated country. In Ohio alone, immediately along this central route, there are more than one hundred millions of dollars of taxable property, a very large proportion of which is constantly employed in the production of trade and traffic for this great thoroughfare. The same estimate is equally applicable to this route in Indiana. Wayne County, with her Richmond, Centerville, and Cambridge city, Marion County with Indianapolis, together with other counties, show a great excess of taxable means over any other line of road in the State, and it may be conceded as a fact that on this grand central national road route there is an excess of more than one hundred and fifty millions of dollars of taxable means over that of any other direct east or west railroad route, as will be seen by comparing the several reports from the Auditors of States.

In the Engineer's report, accompanying Mr. Lowe's exhibit, he correctly remarks, "that from the nature of the location of the Ohio and Indiana Central roads, they must become the Great Magnetic railway, attracting the numerous tributary railroads which are now in operation, or being constructed, leading into the highly productive regions on the north, and to the cities and towns scattered along the Ohio river, each pouring into its centre current, the immense harvest from the rich and luxuriant fields through which it passes."

The line from Zanesville to Terre Haute is capable of supporting and furnishing more local passengers and tons of freight than any other route in the States before named, and passes through the most highly cultivated and densely populated region of Ohio and Indiana. The cities of Zanesville, Newark, Columbus, Springfield, Xenia, Dayton, Richmond, Centerville, Cambridge City, Knightstown, Indianapolis, Terre Haute, and Springfield, Illinois, contain a population of more

than one hundred thousand inhabitants, and with their immediate influences will sustain the road, independent of any through business.

One very important aid to the central line, running east from Dayton, will be the Dayton Xenia, and Belpre railroad, upon which the work is now commenced, and the first section, reaching to Xenia, is promised to be finished by the first day of December. This road leads into an iron region, and through one of the finest coal beds in Ohio, and when finished will be of the greatest importance to the manufacturing interests of Dayton, furnishing them with coal and iron of the very best quality, at low prices. The charter and connections of this company contemplate a Baltimore and Washington route, over the Baltimore and Ohio road, and is the first route leading off from the Central line direct to Baltimore, east of St. Louis, and will have, therefore, a most important influence upon our road.

Another very important connection formed with the Dayton and Western road will be the Richmond and New Castle road, leading as it does to Logansport and thence to Chicago. The laying of the track is now progressing, with the same gauge of our road, and consequently no reshipment need take place until it reaches Dayton, when it may be either shipped to Cincinnati, Toledo, Sandusky, Cleveland, or farther east by the Central road.—By this road a uniform gauge will extend from Dayton to Logansport, a distance of 142 miles, and thence on to Chicago.

The roads east of Dayton, now in operation or being constructed, which point westward, leading directly into the Central line, and in a great measure dependent upon it for central western connections, are the Pittsburg and Steubenville to Columbus, Cleveland and Columbus, Springfield and Delaware, a very important Pittsburg and Cleveland route, Mad River and Lake Erie, Dayton, Michigan and Toledo, and the Marietta, Parkersburg, Belpre, Gallipolis, Chillicothe, and Xenia and Dayton railroads. All these will therefore be more or less interested in its successful operation, and add to its income and dividends.

Running easterly from St. Louis, and the Wabash Valley, and leading directly into the Indiana Central road at Indianapolis, are the St. Louis and Terre Haute, Lafayette and Indianapolis, Jeffersonville and Indianapolis, Peru and Indianapolis, and the Madison and Indianapolis roads, pouring in their daily lists of passengers, tons of freight, thousands of cattle and hogs, all destined for the eastern market.

The city of Indianapolis, the western terminus of the Dayton and Western and Indiana Cent. roads, is a most beautiful and well situated place, containing some 10,000 inhabitants, and is the central point for some seven or eight railroads, all having common interests with our line. Passing east over the Indiana Central road, are the flourishing towns of Greenfield and Knightstown. Here the Jeffersonville railroad enters the Central line, and affords the cities of New Albany, Jeffersonville, and Louisville, as well as business direct from the Ohio river, below the falls, easy access to Central Indiana and Ohio, and especially during low stages of water in the Ohio above the falls, will this accommodation be of great advantage to the freight and passenger traffic in their transit to the lakes, and further east, and add materially to the receipts of the Dayton and Western road. East of this are Raysville, Germantown, Ogdens, Dublin, and Cambridge city; the latter is a well built and prosperous place at the crossing of the Whitewater canal. A heavy business is concentrated here, and a very large pork business carried on. At this point the Cincinnati and Cambridge City railroad crosses on its way to New Castle. East of Cambridge is Centerville, the county seat of Wayne county, which is the most highly improved and productive portion of Indiana, a place largely interested in the wheat, flour, and pork trade. East of this is Richmond, celebrated for its large investments in agricultural and manufacturing enterprises. At this point the Eaton and Hamilton road enters the

Central line, with its trade and passengers for the west. Also the Logansport, New Castle and Richmond road with its trade for the east, over the Dayton and Western road to Dayton. East of Richmond is New Paris, a flourishing town of perhaps one thousand inhabitants, from which point were shipped this spring over the Dayton and Western road, from one house more than 500 tons of bulk meat and lard. East of this town are several new places, building up with railroad speed. In fact more thriving towns can be enumerated between Dayton and Indianapolis, the two extremities of the Dayton and Western and Indiana Central roads, than upon the same length of any other road in either of the two states.

Dayton, the eastern terminus of the road is known as possessing the best improved water power in the state of Ohio. Its importance as a commercial, as well as a manufacturing city, is rapidly developing. This year the large amount of building materials on hand have been found inadequate to the imperious demands of improvement. The canal running from this city, to Toledo, Fort Wayne and Lafayette furnishes an important inland commerce to the city. The sixteen gravelled turnpike roads, diverging to every point to the surrounding country, furnish easy access for business and the carriage of the family, and for country town products to this market on its way over the railroads, and in return, takes away the products of the hundreds of hands employed in our manufacturing establishments, for the improvement and embellishment of the surrounding country. Here also may be found the most extensive flouring mills, foundries, machine shops, steam engine and railroad care establishments, very extensive oil mills together with all other essentials for a large and rapidly increasing trade. Here too are the termini of several railroads, now in successful operation viz: the Dayton and Michigan, the Mad river and Lake Erie railroad, the Ohio Central, the Columbus and Xenia, the Dayton and Belpre, and the Cincinnati and Dayton Short Line, now constructing, the Cincinnati, Hamilton and Dayton, the Dayton and Greenville, and the Dayton and the Western, and the surveyors are now at work on another survey north, through a good country, and many very flourishing towns, to Detroit, on the Lake.

Dayton has fine churches, unsurpassed private and public schools, and a highly flourishing female academy, banks, and market houses, a court house not exceeded for architectural beauty, telegraph, express and mail facilities, and is in need of but few of the prerequisites to supply a great city. These all tend to advance the prospects of the Dayton and Western railroad, relying solely upon it for a direct western outlet. The road was opened to New Paris in February last, to Richmond in March, and to Centerville in April, and although we have no regular connection west of Centerville as an outlet, yet our daily freight and passenger trains are making their regular trips, and promise good returns during the summer.

The vast importance of the Dayton and Western and in the cities of Dayton and Indianapolis may be estimated from the fact that where there are from sixteen to eighteen distinct and important railroads now centering in them and the most direct and central route east and west from these places is over the Dayton and Western and Indiana Central roads.

This line will make the distance from Columbus the capital of Ohio, to Indianapolis, the capital of Indiana, 174 miles.

It was expected that the road would have been opened to the State line in October last, but the unusual state of the season prevented the contractors finishing the grade, the deep cut and fills, but it is gratifying to know that the road is now in good running order to Centerville, Indiana, and will be fully ballasted before another winter. And the amount of business done since the opening gives good assurance that great success will be certain.

There are now upon the road 5 locomotives, 5 passenger and baggage cars, 80 box, cattle, hog platform cars, &c., &c., to which it is intended at

once to make such additions as are necessary to meet the wants of the road.

The company own extensive depot grounds in Dayton, upon which they have a spacious brick warehouse and engine stables, and are now erecting Machine shops and Car buildings to meet the requirements of the road.

COST OF ROAD AND FIXTURES.

Total cost of road and other fixtures, inclusive of interest, discount on bonds, &c., up to this date, May 1st, 1853.

Graduation, Iron Freights, &c.....	\$532,955 05
Masonry and Bridges.....	20,664 50
Ties, Chairs and Spikes.....	27,341 24
Laying Track and Ditching.....	21,910 00
Ballasting road.....	10,000 00
Water stations, Engineering service, and right of way.....	12,227 63
General depot and grounds.....	14,306 52
Cattle guards, road crossing, etc....	3,723 05
	<hr/>
	\$643,127 99
Passenger and freight cars.....	46,726 31
Machinery.....	38,434 66
	<hr/>
	\$85,160 97
Engine house and tools.....	\$5480 29
	<hr/>
	\$793,769 25

June, 1853.

H. L. BROWN, Pres't.

Railway Capital and Expenditure in the British Isles.

The railway department of the Board of Trade, have issued a return from which it appears that the capital and loans authorised to be raised previous to the 31st Dec., 1851, by railway companies in the United Kingdom amounted to 361,428,448*l.* The amount of share capital paid up to that date but not entitled to receive any preferential dividend or interest, was 155,060,024*l.*, and receiving, or entitled to receive preferential dividend or interest 34,494,155*l.* The total amount raised on loans was 58,686,717*l.*, making the total amount raised on shares and loans 248,240,897*l.* The total length of railway opened for traffic on the 31st December, 1851, was 6,889½ miles, of which 1,277 miles consisted of single lines. The length of line in course of construction was 800 miles, and not commenced or in abeyance 4,272 miles, the total length authorised being 11,962¼ miles. The capital and loans authorised to December, 1850, amounted to 362,796,677*l.*; and by acts passed in '51, to 6,815,172*l.*, together, 396,611,849*l.* From this sum is deducted the amount of reduction made in the capital and loans authorised to December 1850, by acts passed in 1851, including the Great North of England railway capital, 8,183,401*l.* leaving the total amount authorised on the 31st Dec., 1851, 361,428,448*l.*, being a decrease of 1,368,229*l.* as compared with the 31st December, 1850. The amount raised by shares and loans to December, 1850, was 240,270,746*l.*, and to the 31st December 1851, 248,240,897*l.*, showing that 7,970,151 had been raised during 1851. Some of the companies raised 194,496*l.* in excess of their Parliamentary powers. The whole amount which at the end of 1851 the companies retained power to raise was 113,382,048*l.* It also appears that the powers granted by Parliament for the compulsory purchase of the land required for the construction of 90 lines, branches and extensions, in the aggregate 1,986¾ miles in length, have been allowed to expire without the exercise of such powers, and the capital appropriated by Parliament for their construction amounted to 37,567,280*l.* The total length authorized to be constructed by the acts for these lines, etc., was 2,840½ miles. During 1851 six leases and purchases of lines were authorised, viz: the lease of the Buckinghamshire, 53 miles in length to the London and North Western railway company, for 999 years, the East and West Yorkshire 15½ miles in length, to the York and North Midland for 99 years, the Exeter and Crediton 6 miles to the Bristol and Exeter for 7 years, and Gloucester and Dean Forest 6 miles, to the Great Western, in perpetuity. The purchases were the Sheffield,

Rotherham, Barnsley, Huddersfield, and Goole 15½ miles, by the South Yorkshire and River Dun Co.; and the Wilts, Somerset and Weymouth by the Great Western company.

Cincinnati and Charleston Railroad.

The people of Cincinnati are taking up with much interest the old project of a railroad from that city to the south Atlantic ports. At a recent citizens meeting, the following report of a committee, previously appointed, was presented by Judge Hall, and unanimously adopted:

The committee have been much gratified by an interview with the highly intelligent and influential gentlemen who have been deputed by the citizens of Knoxville to visit our own city, for the purpose of interchanging views and information in reference to the proposed road, and they indulge the hope that this meeting may be the means of renewing the interest which has long been felt here, in regard to the matter, and directing it to a profitable result.

The subject is not new to our citizens to whom it has heretofore been presented under the most imposing auspices. Nearly twenty years ago the magnificent scheme of a railway connection between the Atlantic Ocean at Charleston, S. C., and the great northern Lakes, at a point within our State, was urged upon our community under the influence of some of the most distinguished names of our country, among which were those of the Reverend Harrison, Hayne, Drake and Blanding. The project as then proposed was unsuccessful, not on account of any demerit in itself, but from causes to which it is not now necessary to allude more particularly. But although the plan of a continuous road from the Ocean to the Lakes was abandoned, the connection contemplated, being demanded by the circumstances and wants of the country, has been silently working its own way, and, with the force of a current obstructed in its natural channel, is about to sweep away the obstacles opposed to its progress. The resources of North and South Carolina, Georgia and Tennessee have been liberally expended in connecting the seaboard as various points with the interior, until the railroad system of the South has approached the great valley of the West, in our direction as far as Knoxville, Tenn.; while the roads extending North and East from Cincinnati have reached the Lakes at several points, and are successfully united with a vast system of railroad communication, pervading all the eastern and middle States. From Cincinnati southward, in the direction of Knoxville, the rails are now in progress of being laid from Covington opposite our city, through Lexington to Danville, in Kentucky, leaving a single link to be provided for of 140 miles, between the last named place and Knoxville, to complete the enterprise which has heretofore astounded and baffled the best minds of the country by its vastness and the difficulties surrounding it. Individual enterprise, local interests and state pride, have conspired with the natural current of business, and the gradual progress of improvement, to press forward in parcels the greater portion of this work, and a link only remains to be made to unite and bind together, like the Keystone of the Arch, the unconnected parts of this immense fabric, into one great nation line. One hundred and forty miles of railroad are only wanting to complete the connection by that rapid mode of transit between the workshops of New England and the plantations of the South, through Cincinnati. One hundred and forty miles of railroad only are wanting to unite the whole railroad system of the South, to the whole railroad system of the East and North, and to establish a daily intercourse between the shores of the Atlantic and the Gulf of Mexico, on one hand, and the valley of the Mississippi and the northern lakes on the other.

The railway from Knoxville to Danville is, if not the most important, certainly among the most important connected with Cincinnati interests. It is part of the line of railway leading to the southern cities, planned and chartered in 1836. It is the

only one which remains untouched. All other parts of that gigantic plan are either completed, or in a fair way to completion. If either of the other parts are valuable, this it more so, because uniting all the rest. The plan of 1836 was to connect Sandusky city, on the Lake, through Cincinnati, on the Ohio, with Charleston, S. C. This single link (not more than 140 m's) will unite Buffalo, Cleveland, Sandusky, Toledo, Chicago and St. Louis, (in the North and West) through the central city, Cincinnati, with all the cities of the South—with Charleston, Augusta, Savannah and Mobile—in fine, it is the last link wanting, in a net-work of railways radiating from Cincinnati, whose circuit is a thousand miles in diameter, whose territory comprises five hundred thousand square miles, and whose cities are fast growing to a magnitude rivaling those of the ancient empires. One hundred and forty miles of railway will be sufficient to connect this immense circuit, and compass this vast result. Look at the lines completed and constructing, and you will at once acknowledge this fact.

1. On the North, terminating at Cincinnati, we have these railways, viz:

To.	Miles.
Buffalo via Cleveland.....	384
Pittsburg, from Crestline.....	180
Sandusky, from Newark via Columbus.....	101
Sandusky via Dayton.....	216
Toledo via Troy, constructing.....	220
Chicago, via Newcastle.....	258
Terre Haute, via Indianapolis.....	180
West to	
Independence, via St. Louis, constructing.....	580
Louisville, via Jeffersonville.....	145
East to	
Wheeling, via Lancaster.....	245
" " Columbus (added).....	140
" " Marietta.....	254
Parkersburg, via Hillsboro'.....	180

On the the north, west and east we have continuous lines to the cities west of the Alleghanies, making, without repeating distances..... 3058

These are main lines concentrating at Cincinnati. To the South they will be carried on by one great trunk line—from Covington, via Lexington to Danville—103 miles.

Now let us look at the lines concentrating at Knoxville, from the South:

	Miles.
1. The East Tennessee and Georgia, to Dayton.....	110
2. Western and Atlanta R R., via Dayton to Atlanta.....	120
3. From Atlanta to Charleston, via Augusta.....	307
4. From Atlanta to Savannah via Macon.....	293
5. Blue Ridge railroad to Charleston.....	316
6. Pensacola, via West Point and Montgomery.....	250

Aggregate of railways concentrating from the South at Knoxville..... 1396

Add to the above the East Tennessee railroad, and the Virginia Southwestern railroad, and we have an aggregate of 1981 miles of first class road, with heavy rails connecting at Knoxville and radiating through the whole south. But there are other roads in progress and contemplated, making the entire railroad system of the south as follows:

Completed and in operation.....	1,981 miles.
In progress and provided for.....	2,052 "
In contemplation.....	977 "
Total.....	4,980 "

Between Knoxville and Danville is 140 miles, connecting 3,058 miles of railroad on the one hand and four thousand nine hundred and eighty on the other.

This makes a vast aggregate of railway influence bearing upon this city—unequalled in magnitude to any upon earth. But it is not complete. This link from Danville to Knoxville must be made, or

these radii will be cut in two and instead of one great wheel united at the hub, we shall have only disjointed spokes. The Knoxville branch is essential to a union with the Blue Ridge railroad, through the Rabun Gap, and to a union with the Virginia South-western railroad, and through that with the N. Carolina lines.

The distances and time from Cincinnati to the cities of the south by this line will be:

To Charleston, via Blue Ridge railroad.....	670 miles.	26 hours.
To Augusta via Atlanta.....	671 "	26 "
To Savannah, via Macon.....	793 "	32 "
To Pensacola via Montgomery.....	750 "	30 "

In addition to these cities, and intermediate places, we may add, that the route through Knoxville will be the nearest to all southwestern Virginia and western N. Carolina.

When we look at the magnitude of these connections, can it be doubted that Cincinnati has an interest in this link of railway, distant as it may seem, equal to that in her own intermediate roads? It is not making one or two hundred miles from Cincinnati in one direction, but it is making 2,900 miles,—intersecting the whole southern country! It is the interest of the railways already terminating at Cincinnati to make this one for the enlargement of their own business—and were they to consult a sound policy they would contribute largely to that end.

The familiar argument so well understood, and so dearly cherished by every rational lover of his country, which points out the inestimable value of facilities for trade and travel, as means for binding together the parts of the country and cementing the political union by the strong bonds of interest, applies with more than ordinary force and aptitude to the proposed work, which, by a short connection, brings distant latitudes into an easy intercourse, unites the south and the east, and joins in a daily intercourse of commerce and courtesy, those whom the evil spirit of faction will never be able to put assunder.

We have not space in this report to specify the vast commercial advantages of the proposed connection, to all concerned, but especially to Cincinnati. Every avenue for trade, leading to a city so populous, so busy and so wealthy, diffuses the products of her arts and her commerce, and pours riches into her lap. In every other direction we have railroads, turnpikes, canals, rivers, reaching away to distant points, and forming tributaries to the vast accumulation of our wealth and business; the south only has been closed against us. In that direction our direct intercourse has been but little. The products of the south have reached us like those of Europe, through New Orleans or N. York, burthened with commissions and other expenses, while our harvests have gone to them under similar disadvantages. The well cured ham of Cincinnati is not without honor at the tables of Knoxville, but it reaches them through New Orleans and Savannah by a route as long and expensive as that which brings its juicy rival from Westphalia to the same hospitable boards.

Knoxville is as near to us as Cleveland, if the distance be measured on the map, but how infinitely great is the difference of intercourse and accessibility. We reach Cleveland by an easy ride of ten hours; the fine fish of the lakes are served fresh on our tables, while the early strawberries from the gardens of Cincinnati gathered in the morning, supply a luxury for the tea tables of Cleveland within the same day. With Knoxville we have no regular direct intercourse. It is less accessible than London or Paris. Our social and commercial intercourse with California is greater than with East Tennessee, where exists a population of 600,000 intelligent and hardy Americans, few of whom have even seen the farms of the workshops of Ohio, or tested the virtues of the sparkling catawba.

We propose to break down the barrier of separation, to stretch the iron track over a region in which the whistle of the locomotive has never yet been heard and to open by the railroad and the

telegraph, a daily and hourly intercourse, mutually beneficial with a people who have been to us almost as strangers and foreigners. The produce of our farms will find a new outlet, and the fabrics of our ingenious mechanics will be scattered broadcast throughout the cotton fields of Georgia and the Carolinas. Charleston will be as near to us as N. York.

By the proposed road, we shall after travelling a productive portion of Kentucky, enter into Tennessee upon one of the richest mineral regions in the world. Coal, iron, copper, and other valuable minerals exist there in inexhaustible masses. An intelligent, industrious, energetic people, inhabiting a country eminently blessed in its native resources, but heretofore cut off by their interior location, from the great avenues of traffic, stand ready now to avail themselves of the advantages of their position, and to meet us in the profitable interchanges of trade.

The proposed connection is an exceedingly important one. The progress made by roads which are to form a part of the great chain, has been such as to leave but an insignificant link to be filled. This can easily be done by the amount of foreign aid that can now be certainly counted on.

The proposed road gives an increased importance to the Covington and Lexington and Lexington and Danville roads, and should, as it undoubtedly will, impart an additional value to their stock and securities.

Liabilities of Telegraph Companies.

The Cleveland Herald, of the 28th instant, gives the following abstract of a cause tried in the Court of Common Pleas of that city, as a matter of general interest to the business community and telegraph companies in particular:

Bowen and McNamee vs. the Lake Erie Telegraph Company, before Hon. S. Starkweather, Judge, May term, 1853.

This was an action brought by the plaintiffs, to recover of the defendants damages sustained by reason of a mistake in the transmission of a telegraphic despatch, sent over the line of the defendants from Monroe, Michigan, to Buffalo, New York, Nov. 25th, 1850. The despatch was as follows:

"Send one handsome eight dollar blue and orange, and 24 red and green, three 25 Bay State. Fill former orders with the best. high colors you can." BIDWELL & Co., Adrian, Michigan

To Bowen and McNamee, New York.

The proof was that the despatch, when it reached New York, read "one hundred" instead of "one handsome," and that the mistake complained of occurred in some office upon the defendants' line. That the plaintiffs, after having had the despatch repeated, (how far back did not appear) and receiving a second time "one hundred," shipped to Bidwell & Co. "one hundred eight dollar blue and orange Bay State" shawls; that the shawls were returned, and reached N. Y. after the shawl season had closed, by reason of which they were depreciated in value.

The plaintiffs claimed to recover damages for freight and the depreciation in value.

The defendants denied the commission of the error, and claimed that the despatch was so obscure as to be inappreciable, and not therefore the subject matter of damages, even if the error had been made; the telegraph companies were not held to the same accountability as common carriers, and that such errors as the one complained of might occur without gross negligence.

The cause was argued to the jury by Wm. Slade, jr., Esq., for the plaintiffs, and John A. Foote, Esq. for the defendant.

His Honor, Judge Starkweather, charged in substance, that telegraph companies holding themselves out to transmit despatches correctly, were under obligation so to do, unless prevented by causes over which they had no control; that the

defendant was bound to send the message in question correctly, and that if it failed in this duty, whereby damages had occurred to the plaintiffs, the plaintiffs must recover. That if the message was so obscure as to be inappreciable, that then the error complained of could not have increased its obscurity, and the plaintiffs could not recover; but if it was found sufficiently plain to be understood by business men and those possessing ordinary capacity, that it was appreciable, and if charged to the injury of the plaintiffs, it was the proper subject matter for damages. All these questions were for the jury upon the evidence of the case.

The jury returned a verdict for the plaintiffs for \$118.

St. Lawrence and Atlantic Railway.

The Montreal Herald of Tuesday last, contains an account of the meeting of the stockholders of the St. Lawrence and Atlantic railroad company, in reference to the amalgamation of the said road with the Grand Trunk railway of Canada.

The vice president of the company, Benjamin Holmes, Esq., read the following

REPORT.

"The proprietary having been called together on the present occasion mainly for the purpose of bringing under the consideration of shareholders, a project and agreement for the amalgamation of this company with the Grand Trunk railway company of Canada.

It is provided by the act of the Provincial legislature, 16 Vic. c. 39, that such an amalgamation may take place, and the same statute prescribes the course which is to be pursued for obtaining of the shareholders their formal assent to such agreements as the directors may submit to them.

The directors became early aware of the important advantages which must attend a consolidation of the railway interests of the province; and so soon as they were empowered to do so, they entered into a communication with the Grand Trunk railway company, with the object of preparing agreements on terms such as might be expected to receive the sanction of the shareholders.

In considering these terms, the board necessarily had under review the condition and prospects of the company's railway property as an independent undertaking; and though their financial position was so far advanced as almost to relieve them of apprehension in regard to future requisite provision of funds, and their works in such a state of progress as to render certain an early connection with the Atlantic and St. Lawrence railway, at Island Pond, the board could not but feel assured that great advantages to the shareholders would accrue from an amalgamation with the Grand Trunk line, not only immediate, but at a future date, through the guaranteed annual dividend to which the capital invested in the portion of the railway already productive would be admittedly entitled.

Of the whole extent of the company's line, 96 miles, extending from Longueuil to Sherbrooke, the proprietary are aware have been in operation since Sept. last; the remainder is so far advanced as to promise a connection with the Atlantic in the month of July next.

Here follows a table showing the ultimate cost of the road to be 1,246,924/ 2s. 6d.—and the amount required to finish the road 158,386/ 19s. 11d.

The report goes on to say:

The agreement which the Grand Trunk railway company propose to enter into with this company lies on the table for the information of the meeting. It is proposed that the railways chartered, and in progress, between Port Sarnia on the west, and Trois Pistoles and Portland, on the east and south, should form one system, and share a common fund of future profits, except the Atlantic and St. Lawrence company, which will be secured in the limited return of six per cent per annum on its

cost. The St. Lawrence and Atlantic company will be admitted on the following terms. Its entire liabilities will be assumed and all its engagements and contracts will be guaranteed by the Grand Trunk company—its shareholders will receive (reduced into sterling money) shares in the Grand Trunk company, corresponding in amount with those they now hold. They will have also the pre-emption of shares in the Grand Trunk Co. to the amount of \$7,500/ as set forth in the agreement.

The company will receive from the Grand Trunk company 75,000/ sterling to cover dividends of interest forborne, and to place the St. Lawrence and Atlantic shares, some time since paid up, on a footing with the shares of the Grand Trunk Line, which are only hereafter to be paid up. Lastly, since in the contracts entered into for the construction of the Grand Trunk railway, provision is made for the regular payment of interest at 6 per cent per annum, on all the bonds of the amalgamated company, as well as on all the shares issued—up to [the completion of the] contracts, the shares which may represent St. Lawrence and Atlantic stock will receive annual interest at this rate, on their full amount up to the time of the completion of the contract.

The directors have considered very fully the terms of the arrangement, which is here submitted. It is unnecessary for them to enter at large into a discussion of its details, or to offer more particularly their reasons for recommending its adoption, they conceive that the spirit in which the general plan has been designed is a fair one, and that the same spirit is carried throughout the minor provisions. They conceive also that there exists the amplest security that every engagement will be fulfilled by the parties to the amalgamation.

The directors find it necessary also on the present occasion to seek a declaration of forfeiture to of such few shares as are still unpaid, to enable the Company to close its accounts, complete the transfer and carry out the arrangement now submitted. The directors, on closing their report, cannot avoid conveying to the proprietary, an expression of their conviction, that to the ability, tact and zeal displayed by A. T. Galt, Esq., in the negotiation with which he, as President of the Co. was charged, is mainly to be attributed the very satisfactory proposed arrangement now to be determined for the transfer of the company's interests, and its identification with the Grand Trunk railway company of Canada.

Resolutions were then passed to "ratify, approve of, and in all respects confirm and adopt" the amalgamation proposition, and

"That from and after the 25th of July next, the property, real and personal, and all the funds, books, and all other assets of the company, of every description, be handed over to the said "Grand Trunk railway company of Canada," and the directors of this company be, and they are hereby accordingly authorised to do all things requisite and necessary to carry out, perfect and execute the said agreement of amalgamation, so that the same shall have full force and effect according to the several provisions thereof.

Boston and Providence Railroad.

The annual meeting of the Boston and Providence railroad, was recently held at Boston, the president in the chair.

The annual report was read. The receipts for the year, ending June 1, 1853, had

been.....\$469,656 62
Expenses..... 242,222 46

Net earnings.....\$227,434 17
which is equal to a surplus of \$6000, over seven per cent.

Included in the expenses is the laying of four and a half miles of new rails, also the interest on the bonds, and the cost of a new engine, altogether about \$80,000.

During the preceding year the receipts were \$411,363 14
Expense..... 223,745 63
Net income..... 187,617 51

Increase of net income for the year ending June 1, 1853, \$39,816 66.

The difficulties resulting from the competition for freight on the different lines between N. York and Boston have been adjusted, and a fair price is now paid.

During the year not the slightest accident has happened to any passenger in the trains. No passenger has sustained any injury for the last nine years—except from attempts to enter or leave the cars while in motion; and further, during the 19 years of the operation of the road, no passenger has lost his life excepting from the same cause. No suit had been brought during the year against the company, for injuries received on the road. In regard to this freedom from accident, the directors ascribe it to the good management of the superintendent, Mr. Lee.

The road to Hartford will be opened during the ensuing year, and also the road from Providence to Bristol.

The President stated that during the last two years eight and a quarter miles of the road had been relaid with new iron, without any charge to construction account, and that this renewal would be continued until the entire road had been relaid.

3325 votes were thrown for directors, nearly every one for C. H. Warren, Wm. Amory, Wm. Appleton, John Barstow, S. T. Dana, Jos. Grinnell, Geo. R. Russell, the old Board, except that Mr. Dana takes the place of Mr. Dwight, who resigned.

The directors have declared a dividend of three dollars per share, payable on the 20th of June.—This makes 5 and a-half per cent divided for eleven months' earnings, equal to six per cent per annum.

The Grand Trunk Railway of Canada

The great scheme for supplying Canada with the required extent of trunk railway accommodation is now before the public in a way that proves that something more than talking is meant. The plan is matured; six-sevenths of the contracts are let to the most eminent of English railway contractors, Peto, Brassey, Betts and Jackson; the Canadian Government has associated itself in a pecuniary point of view, with the success of the undertaking; the company is formed of some of the first English railway directors and capitalists in London and Liverpool, as well as of men of the highest standing in Canada. To make the railway, or rather the system of railways, it only remains now that the public subscribe the portion of capital offered to it.

Let us review briefly the principal facts which affect the undertaking as a desirable and profitable investment. First, there is no doubt that the undertaking is in the hands of parties—directors, contractors and officials—fitted in point of respectability and power to carry it out. Give them the money, and it is unquestionable that they will give the shareholders the property of the railway. Better names could not be associated with such an undertaking, for they include the first in this country and in Canada; the first in influence and standing; and the first in railway experience. In effect, the capital cost is guaranteed not to exceed the estimates; there can be an excess on only one seventh of the line, the other six-sevenths being contracted to be made for a fixed sum, by contractors of unequalled power and responsibility.—The undertaking includes several railways now in course of formation, 964 miles of line, of which 250 are now open, and 390 will be opened before the end of the year; altogether, railways made and railways to be made, the undertaking consists of 1,112 miles of railway, to cost 9½ millions sterling. If a traffic of £25 per mile per week be taken, the working expenses being 40 per cent, the dividend will be high—11 per cent, or thereabout. The capital arrangements being made, the ques-

tion is, will Canada produce for her railways a traffic of 25¢ per mile per week? That is, in point of fact, the only great question to be considered. Compared with the traffic of other countries, this amount of traffic is very moderate; but, we understand, that from the present receipts of some Canadian railways opened, such an amount is sure to result from the great trunk system.—*Herapath's Journal*, April 16th.

Quebec and Richmond Railroad.

Mr. William Chapman has just announced that definitive share certificates are now ready to be issued in exchange for provisional scrip, conditionally on the shareholder's signing a subscription contract, which has been prepared in conformity with the provisions of the company's act of incorporation, and which strictly limits the liability of each stockholder to the amount of the shares so subscribed for. It is necessary that the issue and registration of the shares should be completed with the least possible delay, in order that shareholders may be entitled to the full exercise of their privileges as shareholders, more especially in reference to proposals, which will shortly be submitted to the Proprietary, at a special meeting to be convened at Quebec, with the concurrence, and under the sanction of the Canadian Government, these proposals are, that the Quebec and Richmond railway company shall become amalgamated with the "Grand Trunk railway company of Canada." That the stock of the Quebec and Richmond railway shall become incorporated with that of the "Grand Trunk railway of Canada," at par, the latter company assuming all its liabilities. That the shareholders in the Quebec and Richmond railway Co. on the amalgamation being completed, shall have the opportunity of taking shares and debentures of the consolidated companies forming the "Grand Trunk railway company of Canada," to an amount equal to the stock then held by them, in the proportion of two-thirds in shares, and one-third in debentures. Interest at the rate of six per cent on the shares of the amalgamated companies, including the Quebec and Richmond railway company, will continue to be paid until the "Grand Trunk railway Co. of Canada" is opened for traffic throughout.

South Wales.

A meeting was recently held at Pembroke respecting the extension of the line to Pennar, when it was resolved:—"1. That this meeting have heard complaints of delays in oceanic steam communication, is of opinion that the mercantile transactions between the manufacturing and commercial parts of Great Britain and her colonies, as well as to America, can be made much more expeditious than at present, by the establishment of steam communication from Milford Haven. 2. That considering that the Pembroke river can, at comparatively little cost, be converted into extensive floating Docks, it is most desirable to petition both Houses of Parliament to consent to the extension of the South Wales railway to Pennar, on the south side of Milford Haven." Petitions to Parliament were also adopted, and intrusted to Earl Cawdor for presentation to the House of Lords, and to Sir John Owen for the Commons; and Lord Emlyn and Mr. Phillips, M. P., were requested to support their prayer.

Railways vs. Canals.

By a statement of Mr. Mellish, the oldest director on the Grand Junction canal, it appears that the canal in 1853, when the London and North Western Act was obtained, carried annually 708,257 tons of merchandise, local and through; and in the year 1852 no less than 1,144,579 tons. In the same year, 1852, the London and North Western carried 3,398,622, including coal. The canal used to make a profit of 1d. or 4-8ths of a penny per ton per mile, now it is only 3-8ths. The dividends were then 13 per cent, now about 3 per cent. Will any one after this say railways have done no good to trade by their economy and the facilities they afford to its development?—*Herapath*.

Canandaigua and Niagara Railroad.

In relation to the Canandaigua and Niagara Falls railroads the Buffalo Courier says:

"We learn from the best authority that this road will be completed from Canandaigua to Tonawanda by the first day of July. The iron is now being laid from Batavia to the latter place, and the work in such a state of forwardness as to leave no doubt of its completion by the time specified.—This road will pay. The business between Canandaigua and Batavia fully equals the expectation of the Directors, and more than pays expenses.—When finished to Tonawanda, a large freighting business will be added, and proportionably augment its revenue. The road runs through one of the finest agricultural regions of the State, with villages so near each other as to make it seem almost like a continuous village from one end of the line to the other. The rich farming lands of Ontario, Livingston and Genesee, will yield abundant products to keep the company's freight cars busily employed, while the inhabitants of the country through which it passes, and those living in towns adjacent, who are thus brought into close communication with the great trunk lines east and west, will fill its passenger cars to the satisfaction of the stockholders."

Southern papers state that an arrangement is in contemplation between the President and Directors of the Wilmington and Manchester Railroad, and the South Carolina Company, by which the trains of the former will be permitted to run across the Wateree Swamp, and connect with the Charleston train at the junction of the Camden Branch.

The staging on the Wilmington and Manchester Railway is now reduced to fifty miles, which distance is constantly decreasing, and it is expected the whole road will be finished by November next.

Amalgamation of the Liverpool and Birkenhead Docks.

At a meeting of the Liverpool Dock Committee, held on Thursday, May 5, Mr. Charles Turner, M. P., Chairman of the Committee, stated that during the past week the deputation from the committee had an interview in London with Baron Goldschmidt, his son, and Sir Joseph Baillie, (who represented the Birkenhead Dock Trustees) respecting the purchase of the Birkenhead Docks. The Birkenhead Trustees stated that £1,400,000 had been spent on warehouses and warehouse space, £700,000 on water space, and that if a sale was made to the Liverpool Trustees, the Birkenhead estate should be valued at that amount. They were willing to transfer the property to Liverpool on those terms, and to receive 3 per cent on the purchase money, taking Liverpool Dock bonds as security. The question was deferred until the next meeting of the committee.

Boston, Concord and Montreal Railroad.

On Monday, the 30th ult., the Boston, Concord and Montreal railroad, was opened throughout its entire length from Concord to Wells River Junction, a distance of 93 miles.

We are favored with a copy of the seventh annual report of the directors from which we gather the following statement of its cost.

Stock paid in.....	\$1,649,278 49
Bonds.....	622,200 00
Floating debt.....	264,890 55
Dividends unpaid, etc.....	3,848 01
	\$2,540,217 05

Gross receipts on 71 miles, for last year.....	\$150,538 26
Expense of running.....	70,878 57

Net earnings.....\$79,659 69

The directors express the belief that when its connections are properly made, the road can earn

a net income of \$150,000 per annum, or a sum equal to 6 per cent on its entire cost.

American Railroad Journal.

Saturday, June 11, 1853.

Railway Share List.

We give, in our present issue, a *Share List* of railways in the United States, which presents what was never before attempted,—a complete view of their financial condition, as well as the current value of their shares. We shall add, in our next number, a list of the leading bonds before the market.

We solicit the particular attention of railroad companies to this List, for the purpose of correcting any errors in our tables, or supplying any omission that may exist in them. As only two or three States require returns to be made, we are compelled to depend upon the reports of companies for a knowledge of their condition. We shall esteem it a great favor if railroad companies will supply us with the necessary data for completing our tables, at their earliest convenience.

Stock and Money Market.

We have no particular change to note in the state of the market for the past week. Money continues abundant. Fancy stocks are dull, more from lack of disposition to operate, than from the condition of the money market. There is not a large business doing in railway bonds, from the scarcity of first class securities. Sound stocks and bonds are well sustained, but the fancy market is inactive and drooping, and is likely to continue dull, we think, for some months to come.

The receipts of the New York and New Haven railroad for May, are

Passengers.....	\$57,346 00
Freight.....	9,662 00

Total.....	\$67,008 90
Paid Harlem road for 51,672 passengers.....	4,333 08

Total.....	\$72,674 82
May, 1852.....	59,227 53

Increase..... \$3,447 29

The receipts of the Hudson River railroad Co. for May were..... \$93,704

May, 1852..... 61,038

Increase 53½ per cent..... \$32,666

The earnings of the Rutland and Burlington railroad company for the month of April were..... \$40,376 08

In same month last year..... 20,385 33

Gain this year (nearly 100 per cent.) \$19,991 65

The receipts of the Erie railroad for May are not up to those of April, and show a small gain over those of May, 1852:

They were.....	\$389,412 33
May, 1852.....	369,285 56

Increase..... \$20,126 77

The aggregate for the past 5 months..... \$1,796,707

1952..... 1,314,588

Increase 35 per cent..... \$482,119

The earnings of the Chicago and Rock Island railroad for May were:

For passengers.....	\$27,699 64
For freight and mails.....	3,715 28

Total..... \$31,414 92

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Total cost of road and equip't.	Gross Earnings in 1852.	Net Earnings in 1852.	Dividend, 1852.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	90
Androscoggin and Kennebec..	55	809,878	905,300	1,994,429	131,006	.....	none	30
Kennebec and Portland.....	72	876,741	800,000	2,180,000	133,338	.....	none	40
Port., Saco and Portsmouth..	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland.....	20	227,981	291,200	In progress	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,270	622,000	2,540,217	150,538	79,659	none	....
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	10	108
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	....
Northern	82	3,016,634	.....	.....	328,782	163,075	5	60
Manchester and Lawrence....	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,513	8	107
Portsmouth and Concord....	47	.....	.....	1,400,000	.....	.....	none	....
Sullivan	26	.....	.....	673,500	.....	.....	none	9
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	46
Rutland	120	2,435,328	1,964,588	.....	324,790	165,340	none	35
Vermont Central	117	8,500,000	3,600,000	12,000,000	.....	.....	.....	18
Vermont and Canada.....	47	1,500,000	.....	1,500,000	Leased to	the Vt. C.	ent.	101
Western Vermont.....	51	392,000	700,000	.....	Recently	opened.	none	....
Vermont Valley	24	.....	.....	.....	.....	.....	none	....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	104
Boston and Maine.....	83	4,076,974	150,000	4,092,927	659,001	338,215	7	107½
Boston and Providence.....	53	3,160,390	390,000	3,546,214	429,484	212,625	6	92
Boston and Worcester.....	69	4,500,000	425,000	4,845,967	758,819	331,296	7	104½
Cape Cod branch.....	28	421,295	171,800	633,906	60,743	30,056	2½	39
Connecticut River.....	52	1,591,100	193,500	1,801,946	229,004	72,028	5	95½
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	107
Fall River.....	42	1,050,000	none.	1,050,000	229,445	99,589	8	....
Fitchburg.....	66	3,540,000	100,000	3,633,673	574,574	232,787	6	102
New Bedford and Taunton... Conn.	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County.....	26	547,015	819,743	1,245,927	67,251	23,415	none	67
Old Colony.....	45	1,964,070	282,300	2,293,534	322,213	101,510	none	86½
Taunton Branch.....	12	250,000	none.	307,136	137,406	24,399	8	....
Vermont and Massachusetts..	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17½
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	70
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	682,195	6½	102
Stonington.....	50	.....	.....	.....	.....	.....	.....	56
Providence and Worcester..	40	1,457,500	300,000	1,731,498	253,690	139,514	6	....
Canal.....	45	.....	.....	.....	.....	.....	10	....
Hartford and New Haven....	62	3,600,000	472,000	.....	600,408	332,223	none	124
Housatonic.....	110	.....	.....	2,500,000	329,041	168,902	none	....
Hartford, Prov. and Fishkill..	50	.....	.....	In progress	.....	.....	none	....
New London, Wil. and Palmer	66	558,861	800,000	1,511,111	114,410	.....	.....	....
New York and New Haven....	61	2,992,450	1,641,000	4,825,937	814,714	443,993	7	107
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	....
New London and New Haven.	55	750,500	650,000	1,380,610	Recently	opened.	none	45
Norwich and Worcester.....	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	56
Albany and Schenectady.... N. Y.	17	1,000,000	685,301	1,774,584	296,112	164,448	8	135
Buffalo and New York City..	91	900,000	1,550,000	2,550,500	Recently	opened.	none	85
Buffalo, Corning and N. York.	132	.....	.....	In progress	.....	.....	none	65
Buffalo and Rochester.....	76	1,825,000	184,903	2,415,014	619,976	415,323	10	182
Buffalo and State Line.....	69	879,636	872,000	1,921,270	Recently	opened.	....	128
Canandaigua and Niagara F..	50	.....	.....	In progress	.....	.....	.....	....
Canandaigua and Elmira.....	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna....	35	687,000	400,000	1,070,786	74,241	23,496	none	....
Erie, (New York and Erie)...	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	87
Hudson River.....	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	74½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	65
Long Island.....	95	1,875,148	516,246	2,446,391	205,068	44,070	none	35½
Ogdensburg (Northern).....	118	1,578,311	2,780,760	4,933,029	435,845	176,123	none	47
Oswego and Syracuse.....	35	350,000	201,500	607,803	90,616	43,609	4	70
Rochester and Syracuse.....	184	5,132,990	700,123	6,016,778	988,366	549,824	8	156
Rutland and Washington....	60	850,000	400,000	1,250,000	Recently	opened.	.....	....
Saratoga and Washington....	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Syracuse and Utica.....	53	2,400,000	126,000	2,661,477	616,918	376,025	10	180
Troy and Rutland.....	32	237,690	100,000	329,577	Recently	opened.	.....	33
Troy and Boston.....	39	430,936	700,000	1,043,357	Recently	opened.	none	....
Utica and Schenectady.....	78	4,124,000	none.	4,093,273	1,029,774	724,770	10	195
Watertown and Rome.....	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,498	1,388,385	478,413	10	149
Morris and Essex.....	45	1,022,420	128,000	1,220,325	140,164	80,351	4	....
New Jersey.....	31	2,197,840	476,000	3,245,720	603,942	316,259	10	141
New Jersey Central.....	63	986,106	1,600,000	2,379,880	260,899	124,740	3½	....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	....
Erie and North East.....	20	600,000	.....	750,000	Recently	opened.	....	125
Harrisburgh and Lancaster..	36	783,950	688,051	1,609,494	200,249	106,932	8	....
Philadelphia and Reading....	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	90½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings in 1852.	Net earnings in 1852.	Dividend, 1852.	Price of shares.
Philad., Wilmington and Balt. Penn.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	...
Pennsylvania Central	250	9,768,153	5,000,000	15,600,000	1,948,827	617,625	99	...
Philadelphia and Trenton	30	...	...	...	...	...	...	...
Pennsylvania Coal Co.	47	...	...	...	...	...	...	...
Baltimore and Ohio	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	77
Washington branch.	38	1,650,000	...	1,650,000	348,622	216,237	8	...
Baltimore and Susquehanna	57	...	...	...	413,673	152,536	42	...
Alexandria and Orange	65	...	...	In prog.	...	...	...	...
Manassas Gap	27	...	...	In prog.	...	...	...	...
Petersburgh	64	...	...	...	...	...	...	...
Richmond and Danville	73	...	...	In prog.	...	...	...	...
Richmond and Petersburg	22	...	...	...	...	...	...	...
Rich., Fred and Potomac	76	...	...	...	...	...	...	...
South Side	62	1,328,722	800,000	In prog.	...	...	...	...
Virginia Central	107	1,400,100	446,036	In prog.	176,485	74,902	none	...
Virginia and Tennessee	60	3,000,000	1,500,000	In prog.	...	...	none	...
Winchester and Potomac	32	180,000	120,000	416,532	89,776	12	...	...
Wilmington and Raleigh	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	...
Charlotte and South Carolina	110	...	...	...	...	...	...	...
Greenville and Columbia	140	1,004,231	300,000	In prog.	...	...	...	...
South Carolina	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Georgia Central	191	3,100,000	306,187	3,378,132	945,508	508,625	8	102
Georgia	211	4,000,000	1,214	934,424	456,468	7 1/2	...	...
Macon and Western	101	1,214,283	168,000	1,596,283	296,584	153,697	9	...
Muscogee	71	...	...	In prog.	...	...	...	...
Wilmington and Manchester	...	...	...	...	...	...	...	...
Southwestern	50	586,887	150,000	743,525	129,395	71,535	8	...
Alabama and Tennessee River	55	...	...	In prog.	...	...	...	...
Memphis and Charleston	93	776,259	400,000	In prog.	...	...	...	...
Mobile and Ohio	33	879,868	...	In prog.	...	...	...	...
Montgomery and West Point	88	688,611	...	1,330,960	173,542	76,079	8	...
Southern	60	...	...	...	...	...	...	...
East Tennessee and Georgia	80	835,000	541,000	In prog.	...	...	...	...
Nashville and Chattanooga	125	2,093,814	850,000	In prog.	...	...	...	...
Covington and Lexington	...	1,430,000	900,000	In prog.	...	...	...	...
Frankfort and Lexington	28	...	...	...	87,421	44,250	...	...
Louisville and Frankfort	65	...	...	...	...	...	...	...
Maysville and Lexington	...	...	...	In prog.	...	...	...	...
Cleveland and Pittsburgh	100	1,239,454	1,371,000	2,963,756	194,429	123,306	6	102
Cleveland, Painesv. and Ash.	71	...	...	...	...	...	...	137
Cleveland and Columbus	135	3,027,000	408,200	3,655,000	777,793	483,483	12	135
Columbus, Urbanna and Piqua	...	...	...	In prog.	...	...	...	...
Cincinnati and Lake Erie	61	...	...	...	...	...	...	...
Cincinnati, Ham. and Dayton	60	1,694,000	906,000	2,600,000	321,793	200,967	...	115
Cincinnati and Marietta	...	...	...	In prog.	...	...	...	...
Dayton and Western	40	310,000	550,000	925,000	Recently opened.	...	...	76
Dayton and Michigan	20	...	...	In prog.	...	...	...	...
Eaton and Hamilton	36	...	...	...	...	...	...	...
Greenville and Miami	31	...	...	...	...	...	...	...
Hillsboro	37	...	...	In prog.	...	...	...	...
Little Miami	84	2,370,784	...	2,634,157	526,746	314,670	...	10
Mansfield and Sandusky	...	900,000	1,000,000	1,855,000	...	...	...	...
Mad River	167	1,860,500	...	...	565,751	...	...	...
Ohio Cental	57	...	...	In prog.	...	...	...	...
Ohio and Mississippi	...	...	...	...	...	...	...	...
Ohio and Pennsylvania	187	1,750,700	2,450,000	...	Recently opened.	...	...	...
Ohio and Indiana	...	...	...	In prog.	...	...	...	...
Scioto and Hocking Valley	...	...	...	...	...	...	...	...
Toledo, Norwalk and Cleve'd	87	552,000	800,000	131,714	Recently opened.	...	...	140
Xenia and Columbus	54	...	...	...	...	...	...	...
Evansville and Illinois	31	...	...	In prog.	...	...	...	...
Indiana Central	...	...	...	...	...	...	...	...
Indiana Northern	131	...	...	...	Recently opened.	...	...	...
Indianapolis and Bellefontaine	83	...	...	...	...	...	...	...
Laurenceburg and Ind	...	...	...	In prog.	...	...	...	75
Lafayette and Indianapolis	62	...	...	...	Recently opened.	...	...	...
Madison and Indianapolis	88	1,650,000	750,000	2,400,000	516,414	268,075	10	102
Peru and Indianapolis	40	...	...	In prog.	...	...	...	...
Terre Haute and Indianapolis	72	632,887	663,100	1,353,019	106,593	71,446	4	108
Michigan Central	282	...	...	...	...	...	...	117
Rock Island and Chicago	315	2,499,410	2,629,000	6,430,246	292,187	293,046	...	...
Chicago and Mississippi	...	...	...	...	...	...	...	...
Galena and Chicago	92	1,932,361	500,000	In prog.	472,109	...	...	136
Illinois Central	...	...	...	...	...	...	...	...
Michigan Southern	...	...	...	...	...	...	...	140
Pacific	...	...	...	...	...	...	...	...

The Mint Coinage at Philadelphia for May was:

In Gold	\$2,823,506
In Gold Bars	2,295,716
In Silver	610,004

Total, including gold bars in April... \$5,729,226

The deposits of gold dust and silver bullion were:

In gold from California	\$4,400,000
Gold from other sources	25,000
Silver bullion	1,447,000

Total... \$5,872,000

The comparative gold deposits for the years '52 and '53, are:

	1852.	1853.
January	\$4,161,688	\$4,962,097
February	3,010,222	3,548,523
March	3,892,156	7,533,752
April	3,091,037	4,766,000
May	4,335,578	4,425,000

Total... \$18,499,681 \$25,285,372

The revenue of the Baltimore and Ohio railroad for the month of May, has been as follows:

	Main Stem.	Washington Branch.	Totals.
Passengers	\$54,522 50	\$26,625 33	\$81,147 83
Freight	150,427 51	5,693 33	153,120 00

Total... \$204,950 01 \$32,318 66 237,267 83

The receipts of the corresponding month (May) of last year, were \$141,734 13 from the Main Stem, and \$33,140 25 from the Washington Branch, making a total of \$174,974 38; thus showing an aggregate increase of \$62,394 29, of which over \$26,000 was from passengers, and \$37,000 from freight on the main stem.

The receipts of the Milwaukee and Mississippi railroad for the first four days of this month, were \$3,000. This was on 70 miles of road.

Ogdensburg Railroad.

The annual meeting of the stockholders of the Ogdensburg railroad was held at Rouse's Point, Monday. The annual report read at the meeting showed the total earnings for the year 1852 to be \$480,128; expenditures \$284,290. The report shows an increase of income over 1851 of 48 per cent, and of expenses 68 per cent. No dividends will be declared on the earnings of 1852, but the income will pay all expenses and interest on the debt, and should the income continue to increase as anticipated, the stockholders will soon be in the receipt of handsome dividends.

Boston and Providence Railroad.

The recent annual report of the Directors of this company gives the following statement of the operations of the road for the past year:

The receipts for the year ending June 1, 1853, were... \$469,656 62
Expenses... 242,222 45

Net earning... \$227,434 17

Included in the expenses is the laying of four and a-half miles of new rails; also the interest on the bonds, and the cost of a new engine; together about \$30,000; so that the running expenses have been about \$212,000; which is 47 or 48 per cent of the income of the road.

During the preceding year the receipts were... \$411,863 14
Expenses... 223,745 63

Net income... \$187,617 51

The increase of net income for the year ending June 1, 1853, has therefore been \$39,816 65.—

Logansport and Chicago Railroad.

The probable early completion of the Cincinnati and Chicago railroad, is directing considerable attention upon Logansport, which is the most important point upon the line of the road, between the termini. This is already a place of much business, but is chiefly important for its vast capacities for future growth. It is situated at the junction of the *Wabash* and *Eel* river, one of its most considerable tributaries. At this point, both rivers run for a considerable distance over beds of limestone, with a rapid fall, creating an immense water power. Already are two dams thrown across *Eel* river, upon which are numerous manufacturing and flouring establishments.

An additional dam is proposed, by which an additional fall of nineteen feet may be obtained. A dam is also in progress over the *Wabash*, by which the whole of that magnificent river will be available for hydraulic purposes. The two rivers fall about thirty feet within a distance of three miles. It is estimated that the water power that can be made available at Logansport is sufficient to drive 400 run of stones.

The value in the west of a water power like the above can hardly be estimated. It constitutes a nucleus around which must grow up a large city. In addition to this source of prosperity, Logansport is surrounded with all the elements of wealth, necessary to the growth of a large place. It is situated in the centre of one of the finest timbered portions of the State, and the manufacture of lumber has already become one of the important items in the business of the place. This timber finds a ready market at the highest price, in the prairies lying to the west, and in the eastern States.

At this point too, is found the finest quality of building stone, in the greatest profusion, the exportation of which bids fair to become a matter of considerable importance. The town is surrounded with a farming country of unsurpassed fertility, which is rapidly filling up with an active and thrifty population.

Logansport is to become one of the most important railway centres in the west. At this place the *Wabash* Valley and Cincinnati railways will cross each other at right angles. The *Peoria* and *Oquawka* road will also be extended to this place. This line will be extended east toward *Lima*, on the *Ohio* and *Indiana* road. The *Eel River* road already in progress, will pass through Logansport; and all together making it the point of concentration of six great lines of road, radiating in different directions.

To convey some idea of the present trade of this place, we give the following statement, showing the exports of some of the most important articles for the year 1852:

Wheat, bush.....	359,180
Corn, bu.....	125,380
Flour, bbls.....	35,230
Beef, bbls.....	3,166
Tallow, lbs.....	88,028
Pork, bbls.....	5,867
Bacon and Pork, lbs.....	711,219
Butter, lbs.....	71,219
Lard, lbs.....	679,124
Hides, lbs.....	159,992
Furs.....	34,108
Iron, pig, lbs.....	34,987
" bar, lbs.....	146,553
" coal, lbs.....	21,256
Iron ore, lbs.....	704,000

Logansport has thus far depended entirely upon the canal as a medium of commercial communication. This is closed for a considerable portion of the year. With the numerous lines of railways of which she is to become the centre, all her natural advantages will at once come into full use, which cannot fail to make her one of the most thriving cities in the west.

Panama Railroad.

The Isthmus of Panama, the route to regions, compared with whose riches, the fabled wealth of the *Indias* were but fables, is the most attractive spot in the physical geography of the world. As a necessary consequence, the enterprizes in progress to facilitate the transportation both of passengers and merchandise over it, possesses an interest equal to that attracted to the route itself; and we are certain that nothing can be more interesting to our readers than a brief account of the only railroad by which its passage is yet attempted.

The Panama railroad commences at the port of *Aspinwall*, situated upon the little island of *Manzanilla*, lying at the mouth of *Navy Bay*, and distant about 6 miles east of *Chagres* river. By the route adopted for the line of the road, the distance from *Navy Bay*, on the Atlantic, to *Panama* on the Pacific side of the Isthmus, is fifty miles. The general course of the road from *Navy Bay*, is slightly east of south, longitude of *Aspinwall*, being 75 deg. 55 min., west from *Greenwich*; that of *Panama*, 75 deg. 31 min. west. At the point of crossing the general direction of the Isthmus is from west to east.

Upon the route adopted for the road, the general surface of the country is level. The road strikes the *Chagres* river about 7 miles after leaving *Aspinwall*, and follows it to *Gorgona*, a distance of 30 miles from the former place. *Gorgona* is but slightly elevated above the Atlantic. The road leaves the river at this place, and commences the ascent of the dividing ridge between the two oceans, which is 275 feet above high water in the Atlantic. At the summit there is to be a cut of 25 feet which will reduce the elevation obtained by the road to 250 feet. The summit is about equi distant from *Gorgona* and *Panama*, or ten miles from each. The elevation upon either side is overcome in this distance. The steepest grade on the Pacific side will be 70 feet for one mile; that on the Atlantic side will not exceed 60 feet. The gauge of the road is 5 feet.

Navy Bay affords an excellent harbor with sufficient water for the largest ships. The maximum flow of the tide here do not exceed two feet, while at *Panama* the average flow is from 20 to 25 feet; so that at low tide the water in the Atlantic is some 20 feet higher than in the Pacific, which accounts, we presume for the greater supposed elevation of the former. At *Panama* the water is shoal, in shore, but a mole may be run out at comparatively small expense to a sufficient depth to float large ships.

The description we have given would lead one to suppose that a road across the Isthmus would be an easy task. It would in the United States,—it would not, under proper management, have been a very difficult one anywhere. But as it is, it has made a most slow and toilsome progress.—A small portion of the road was opened nearly, if not quite two years since. It was finished to its present terminus, *Barbacoas*, 24 miles from *Aspinwall*, something over a year ago, and was to have

been completed by the 1st of September next, according to the announcement made when the contract for its construction was made. But in place of such a result, we believe that the road has not advanced a yard since that time. The four years which have elapsed since the road was commenced, have not sufficed to open it for half its length. As the most difficult part of the work is to come, its final completion can only be seen in the dim future. Reasoning from the past, years must elapse before the locomotive will cross the Isthmus.

As might be expected, the slow progress of the work is beginning to have an influence upon its stock, which is rapidly declining from the high figure it recently commanded. Within a short time it has fallen about 25 per cent. This decline pretty conclusively proves that no more dividends of ten per cent from six months earnings are to be declared. A 20 per cent stock should not decline so rapidly in the face of the new dividend day which is close at hand.

The company have received some serious checks which have prevented them from making much progress during the dry season just closed. At *Barbacoas* the *Chagres* River is to be crossed. The bridge over it was to have been constructed during the dry season. The wood work for the bridge had been prepared in the United States, and had been taken to the spot. Two successive attempts have been made to throw the spans across, both of which failed from the effect of two sudden and unexpected freshets. At the time of the last disaster, a portion of the bridge had been nearly completed. This was swept away, and timbers carried down the stream. Some of them were recovered, but in so damaged state, as to render it necessary to order anew a portion of them from the U. S., and all attempts to reconstruct the bridge must be postponed until the commencement of the dry season, some six months hence.

It is certainly much to be regretted that the completion of a road of such importance to the commerce of the whole world should be so indefinitely postponed. No doubt it takes a much longer time to accomplish an equal amount of work upon the Isthmus than in the United States, still we are believe the great delay which has been suffered, and the yet greater one perhaps in prospect, is owing to a faulty management of the company's affairs. One great mistake has been in attempting to employ *white* laborers only, instead of *natives*, or persons accustomed to the climate. Men from the States cannot be profitably employed upon the Isthmus. This is now an admitted fact. It costs a very large sum to get them there, and to maintain them. After working a month or two, they give out, and become a charge upon the company, by whom they must be sent to their homes. This is the principal reason why the road has been prosecuted with so little efficiency. With the labor employed, it has been found impossible to make any safe calculation as to the future. With a native force, drawn from the neighboring States, the work would have progressed slowly to be sure, but steadily. Native laborers can be had for a few shillings a day including their board, and the moment they quit the service of the company the latter are freed from all responsibility in reference to them. It is to be hoped that the mistake of the past will lead this company to wise course for the future.

To our mind the managers of this concern have from the start, displayed a singular want of fitness for the stations they occupy. The immense ruins that everywhere exist in South America and Mexico, the remains of former greatness, show that vast works are practicable there, as with us. It is undoubtedly much more expensive to construct a railroad upon the Isthmus than in the U. S., and a much greater time is required. With us a work of equal magnitude with the Panama R. R. would be accomplished in a few months. Two years should have been sufficient for its accomplishment upon the Isthmus. Four have elapsed, and half of the distance has not yet been gained. In the mean time the business and travelling public have suffered incredibly, and the company have, by their delays, called numerous rival projects into existence, one of which already divides the business of the route, and others bid fair soon to come into use. But, perhaps, it is well that it should be so, for with more than one road the public will escape a monopoly which the above company has sought to surprise, and which has been productive of incredible hardship and suffering. By throwing wide open the door to a healthy competition, the traveller will secure a reasonable fare and good treatment.

Sale of American Railway Securities in England.

The abundance of money in England, and the absence of any domestic or local enterprises at home, to engage its surplus capital,—now so rapidly accumulating,—directs the attention of the monied men, and the enterprise of England, to other countries for employment of their surplus means. The railways of England have in the 25 years last past, absorbed something more than 250,000,000 *sterling*, and but for the application of money to this great modern discovery, it seems impossible to understand how the accumulated wealth of England could have been employed. The arts of peace have this way more recently absorbed the means, which in former times were engaged in the support of war.

The railways of the United States are beginning to attract the capital of England, and are gradually inviting large sums of money into our various leading lines. The grand trunk railway of Canada has recently secured in England \$35,000,000 of capital for that enterprise, which though bearing a colonial title, is really more an American than a Canadian scheme. The Central railroad of Illinois has within a year or two past obtained large sums in England, and so have the Erie and other leading American roads.

We daily hear of new projects going abroad for money, whose claims for credit at home are too weak to stand the test of careful scrutiny and examination.

We have so frequently written upon this question, that it is not necessary to our present purpose to repeat the general argument against the adoption abroad of schemes not entitled to entire confidence at home. We feel called upon therefore, to advise our English subscribers and correspondents, to exercise extreme caution in their investments in American railway securities.

It is far safer to rely upon the judgment of experienced men in this country, than to trust the statements of interested parties.

The ease with which railroad projects are mul-

tiplied in this country, and the extravagant tendency to speculation which now pervades certain portions of it, may throw a discredit over American railroad securities generally, which should only be applied to a limited portion of them.

Foreigners who buy into our roads for the purpose of investment, can always find sound, paying, lines, whose stock and bonds will always ensure good dividends. We do not desire to see any others than this class of buyers in the American market.

We again repeat the caution above mentioned to all parties in England and in Europe generally, who are seeking to employ their money at good rates of interest. They had better purchase from well known, responsible parties, at fair prices, than seek to make great profits in any doubtful or unknown scheme.

New Feature in Ocean Navigation.

It is stated in the recent English papers brought by the Arctic, that Scott Russell, the eminent mechanical engineer, has entered into a contract with the Eastern Steam Navigation company of England, for the construction of an iron steamer of the following dimensions:

She is to be 620 feet long, 100 feet beam, 6,000 horse power, and 12,000 tons burthen, to be propelled by four paddles and a screw; and the horse power will be thus proportioned:—2,000 for the screw, 2,000 for the midship paddle wheels, and 2,000 for the fore paddle wheels. The engines which have already been contracted for, are to be constructed immediately. It is considered that the immense weight of this vessel will enable her to run entirely free from any vibration caused by the action of the waves.

Experience has tended to show that the resistance of a vessel to the action of the waves, is in proportion to its weight or size. Years ago we saw the scheme for a monster steamship, proposed with this idea, by Mr. Henry Burden, of Troy, but the immense draught of water required by Burden's plan, rendered it impossible for such a vessel to enter New York harbor, and the scheme failed to command sufficient pecuniary support at the time.

The idea itself, is unquestionably a practicable one, and sooner or later it is to be carried out in trans-Atlantic navigation. What we desire in reference to this new experiment, is to know the necessary draught of water that such a steamer carries. We much doubt whether it would be possible for her to enter New York harbor, and certainly she could not be carried into the harbor of Boston. The depth of water in the harbors of New port, Portland, or Portsmouth, would enable her to enter either of them at any time of the tide, and this fact may have an important bearing in future movements in ocean navigation.

Much discontent pervades the public mind of England in regard to the adoption of Liverpool as the steamship terminus for America, on account of its bad entrance at certain conditions of the tide, and its remoteness from the direct route to London. The public attention is much turned toward Milford Haven, as the packet station for America, which will in a short time be connected with London by railway, now already opened as far as Caermarthen in connection with the Great Western railway of England. On the completion of the line to Milford Haven, at Pembroke, it is

very probable that we shall see this port adopted as the mail packet station for the steamers to N. America.

Journal of Railroad Law. COMBINING CORPORATIONS.

In the English Court of Chancery a question has been recently discussed which is allied to one lately examined in a District Court of Ohio. An injunction having been granted against the *Midland Great Western Railroad company* forbidding them from taking a lease of, or purchasing the *Grand Canal*, and from raising funds for the purpose of procuring Parliamentary permission so to do. The Canal company moved for the dissolution of the injunction.

This company having ascertained that they could not compete in transportation or business with the Great Southern and Western railroad Co., and the Midland Great Western railroad Co., between the roads of which companies the Grand Canal is situated, proposed to sell out their property to the latter. The petitioners, in whose behalf the injunction was issued, complained that this proceeding on the part of the railway company was wholly foreign from their legitimate sphere of action, and jeopardizing the interests of the stockholders without authority. Although it would be legal, under certain limitations, to lease property like that in question, it was evident that the railway company, although they contemplated making a lease in the first instance, provisionally, yet purpose to buy the Canal ultimately,—upon obtaining permission from Parliament. Without such permission, a purchase of the Canal would be unauthorized in law.

It was strongly urged that public policy demanded the completion of the arrangement. The Lord Chancellor refused to be governed by consideration of policy; but stated that he would govern himself wholly by a fair construction of the charters. The charters did not warrant any such purchase of the Canal. He disavowed any authority to forbid the companies from applying to Parliament for the purpose of procuring their sanction for the mutual arrangement contemplated. Upon the whole, his Honor refused, for the present, to interfere with the injunction which had been served upon the companies.

A CONDUCTOR PUNISHED.

The Albany Court of Oyer and Terminer has lately had occasion to deal with a conductor, who had grossly abused his authority. The facts were as follows:

The complainant, Mr. Root, had purchased at Middleport, on the Rochester, Lockport & Niagara Falls railroad, a ticket for Rochester. On entering the car, he gave up his ticket and received a check. At Medina, he left the cars for some reason, and took the next train for the purpose of continuing his journey,—and, as usual, placed the check in his hat. The Conductor declared that the check would not answer, and demanded the money,—which Root refused to pay, after "defining his position." As the train was approaching Halley, and while the cars were still in motion, the Conductor pushed Root from the cars, as he stood on the platform, and somewhat injured him. The Court sentenced the Conductor to \$100 fine and ten days imprisonment. Upon representations, however, touching the sickness of the prisoner's family, the

sentence was changed to a fine of one hundred and fifty dollars.

European and North American Railway.

The great scheme of a continued line of railway from Portland to Halifax, is now regarded as a settled fact. Some delays have been encountered in bringing all parts of the scheme into harmony, from the diversity of sentiment in the provinces.

The plan agreed upon at the Portland convention of 1850, of a connected line, under one management, though built by different private companies, and in separate sections,—failed to command success at the outset in Nova Scotia; the government of that province having undertaken to carry it out as a government undertaking to be built, owned and managed as a public provincial work.

It is not necessary to review the exciting events that have taken place in the different British N. American Provinces, since the inception of the undertaking in 1850. It is enough to say, that after repeated proffers of Imperial assistance, the British government withdrew all their pledges of aid, and the legislature of Nova Scotia on the first of March, 1853, came to the plan of the Portland convention, and proposed the necessary charter and Facility Bills, for the carrying out of the work in that province.

The steamer which sailed from Halifax on the 2nd of April last, carried information of the foregoing facts; the steamer which left Liverpool on the 16th of the same month, brought in return to Halifax a corps of engineers, and the needful pecuniary means to secure the immediate commencement of the work, under the new charter, by Messrs. Jackson, Brassey, Peto & Betts, the contractors for the European and North American railway in New Brunswick, and the Grand Trunk railway of Canada.

In Maine the corporators of the European and North American railway have advertised the opening of books on the 21st of June, inst., and we learn that the company is to be forthwith organized in that state, with a view to a consolidation of all the lines into one company.

The prospectus of the Grand Trunk railway of Canada, clearly includes the European and North American railway as a part of its grand scheme, and we suppose there can be no longer any doubt as to the early success of the entire line from Halifax to Montreal and Detroit, through or across the state of Maine.

Grand Trunk Railway of Canada.

The stockholders of the St. Lawrence and Atlantic railroad, met at Montreal, on the 30th of May last, to act upon the question of consolidating their line into the Grand Trunk railway of Canada, and their proceedings appear in another column of to-days paper.

The stockholders of the Atlantic and St. Lawrence railroad company meet at Portland, on the 10th of June next, to act upon the question of leasing their road for the term of 999 years to the Grand Trunk railway of Canada.

The plan agreed upon, proposes that the lease shall go into effect on the 25th of July next, or as soon as the line is opened through to Montreal, the road to be taken on the lease at six per cent per annum on its cost, amounting to about five millions of dollars.

By an arrangement between the Grand Trunk

railway and the Great Western railway of Canada, alluded to in our paper of last week, the lines are to work in union, so that cargoes for Detroit, will pass on to Portland, Maine, and vice versa, a distance of about 900 miles, without transshipment on the completion of the St. Lawrence bridge at Montreal.

Marietta and Cincinnati Railroad.

The attention of railroad contractors is invited to the advertisement of the president and chief engineer, of the Marietta and Cincinnati railroad, which appears in our columns to-day. By that advertisement it will be seen that the whole of the Great Ohio Valley railroad, from near Cincinnati to Bridgeport, opposite the city of Wheeling, is soon to be in process of construction.

The first contract of seventy-five miles was let about eighteen months ago, and is nearly ready for the iron which is now arriving in the country. Sixty-five miles were placed under contract last fall, and the two divisions now offered embrace between 80 and 90 miles.

This is the longest road in Ohio under one charter and it is designed to be one of the best in the state. Its shortest curve has a radius of two degrees, or 2865 feet. Its heaviest grades are not over fifty feet to the mile, and these for short distances are on straight lines. It is to be laid with the best compound rail, weighing 75 pounds to the yard. Nearly 100 miles will be completed the present year.

This road forms an important portion of what will be practically the shortest route from Cincinnati to Baltimore, and from Cincinnati to Philadelphia, New York and Boston. The line must also command the travel and trade of the rich states of Kentucky and Tennessee with the Atlantic cities, and with the valley of the Upper Ohio and Alleghany.

North Shore Railway between Quebec and Montreal.

We notice by the Quebec papers that the sum of 125,000*l.*—\$50,000, the amount required for an organization of the company, has been subscribed to the stock of the North Shore railway, proposed to be extended from Quebec to Montreal, on the northern shore of the St. Lawrence, and notice of a meeting, for an organization, to take place at Quebec, on the 1st of June inst., for the choice of directors.

New York and New Haven Railroad.

The annual report of the New York and New Haven railroad company shows that the total earnings of the company for the year ending April 1, 1853, were \$806,713 19. The current charges were \$380,052 82—paid Harlem road \$67,170 06, leaving with the surplus from last year of \$20,382 51, a dividend of \$12,800 on Harlem stock, and interest charged to cost of second track \$27,500, a sum of \$428,173 35 to pay interest, taxes, dividends, and other liabilities. \$20,000 were paid to the New Haven and Springfield road; \$21,676 20 for personal damages; the loss on extension lease is \$26,988 80—deducting which items there is a surplus of \$20,385 75 wherewith to commence the new year.

The cost of the road and equipments is now \$4,318,601 60, not including the expenditures for property not entirely appropriated to the use of

the road, and which cost \$654,685 54, making a total expenditure of \$4,978,487 14. The capital stock is \$3,000,000, and sundry loans, accounts, &c., \$132,487 14.

The passenger trains have run 356,228 miles; freight trains 89,228 miles; and other trains 7,872 miles, making a total of nearly five hundred thousand miles. The whole number of passenger moved in the trains by the above service is 966,753.

Brand's Liquid, for dissolving Incrustations on Steam Boilers.

We invite attention to the advertisement of Brand Brothers, of a preparation for removing incrustations on Steam Boilers. From numerous testimonials we learn that the preparation is in general use in Europe, where it is very highly esteemed. The patentees in this country offer to supply parties gratuitously with a sufficient quantity to test its qualities, and as the experiment can be made for nothing, and as the object to be effected is of the greatest utility and importance to parties using steam engines of every description, will find it for their interest to give this article, which is claimed to be a specific, a fair trial.

Resignation.

Mr. Loder has resigned the Presidency of the New York and Erie railroad. He has held the office since 1845, a period of nearly eight years.—No successor has been appointed, though we presume the office will be filled by Mr. McAlpine, the recently appointed Vice President of the road.

Mails Direct from England to Canada.

We learn by our London exchanges that under a contract made by the government of Canada, a line of mail packets is about to commence running between Liverpool and Quebec. All matter designed for this route is marked "By Canadian Packet." Postage rates are as follows:

Letters, $\frac{1}{2}$ ounce, 1*s.*—24 cents.

Above $\frac{1}{2}$, and not above 2, 2*s.*—48 cents, and so on according to the scale of inland letters.

Books are sent on the following terms:

Books of $\frac{1}{4}$ a pound weight, 6*d.*—12 cents.

"above $\frac{1}{4}$, and not exceeding 1 pound, 1*s.*—24 cents.

Newspapers will be sent free of postage.

North-western Virginia Railroad Company.

The second annual meeting of the stockholders of the above company was held on the 1st instant at Parkersburg. The annual report was read, and the former President and Directors unanimously re-elected. No other business of general interest was transacted. The Board consists of the following gentlemen—President, Thomas Swann. Directors, George Brown, John Hopkins, Columbus O'Donnell, William McKim, Charles M. Keyser, Thomas C. Jenkins and Benjamin Deford, of Baltimore; and James Cook, John R. Murdock and George Neale, Jr., of Parkersburg. At a subsequent meeting of the Board, George Brown, Esq., was appointed President *pro tem.*, during the absence of Mr. Swann, now on his way to England.

Railroad Iron.

1250 Tons Erie Pattern Guest and Co's make, weighing 57 $\frac{1}{2}$ lbs. per yard, to be shipped from Wales in July and August, for this port—for sale by BOORMAN, JOHNSTON & CO., 90 Broadway, New York.
June 9, 1853.

New York and Erie R. R.

PASSENGER TRAINS
leave Pier foot of Duane street,
as follows, viz:—

BUFFALO EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. Y. City R. R., without change of baggage or cars.

CINCINNATI EXPRESS, at 6 a. m. for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations.

WAY, at 3.30 p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 8 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

RICHARD NORRIS.

HENRY LATIMER NORRIS.

Richard Norris & Son,

NORRIS' LOCOMOTIVE WORKS, BUSH HILL,
PHILADELPHIA.

MANUFACTURE to order Locomotives, exclusively, on any plan, or of any size—of best materials and workmanship. Their Works having been this year greatly enlarged, and furnished with the most approved Tools, they are enabled now, having a large number of Workmen employed, to execute orders with despatch.

June 9, 1853.

"Gardner's Rock Drill."

DESIGNED for Tunnelling, Quarry use, and Rock Excavations of all descriptions, by the use of which a saving of 50 to 75 per cent is made.

Applications for Territorial Rights and Machines must be made to the Patentee.

G. ARTHUR GARDNER,
Trinity Buildings, Broadway,
New York.

June 9, 1853.

GREAT WESTERN MAIL LINE.—SIXTY MILES DISTANCE SAVED, by taking the MICHIGAN SOUTHERN AND NORTHERN INDIANA RAILROAD.

Through tickets for Chicago, St. Louis, Milwaukee, Racine, Kenosha, Waukegan, and Sheboygan, by New York and Erie Railroad via Dunkirk, and Buffalo and New York City Railroad; People's Line of Steamboats, Hudson River Railroad, via Buffalo, connecting at Buffalo with the splendid steamers EMPIRE STATE, J. WILSON, Commander, Mondays and Thursdays; SOUTHERN MICHIGAN, D. PERKINS, Commander, Wednesdays and Saturdays; NORTHERN INDIANA, I. T. PHEATT, Commander, Tuesdays and Fridays; leaving Buffalo every evening (Sundays excepted.) These steamers are low pressure, built expressly for the Lake trade, and for finish, speed, strength and safety, have no superiors anywhere.

The connections with the Express Trains at Toledo and Monroe, for Chicago and St. Louis, are perfect, and can be relied upon.

Forty hours from New York to Chicago. Time and money saved by taking this Line.

Passengers preferring it, can take the Lake Shore Railroad to Toledo, the Michigan Southern and Northern Indiana Railroad to Chicago, thence by the Rock Island Railroad to La Salle, forming the only continuous line of Railroad to the Illinois river.

For through tickets or freight apply to

JOHN F. PORTER, Agent, 193 Broadway, cor. Dey st.

To Contractors.

PROPOSALS for grading, masonry, and bridging of the Western Division of the Covington and Ohio railroad will be received at the office of the Engineer, at Guyandotte, Cabell county, Virginia, between the twentieth and thirtieth of June next.

They will embrace about 45 mile sections with Bridges over Twelve Pole, Guyandotte and Mud rivers.

Also between the 1st and 15th of July next, proposals will be received at Covington, Virginia, for the Grading, Bridging and Masonry of that portion of the Eastern Division, lying between the town of Covington and Hayne's farm, on Jackson river—a distance of 10 or 11 miles of very heavy work, including much heavy retaining wall, two large bridges over Jacksons river, and probably two tunnels.

The successful bids will be declared as soon as practicable after the 15th of July. Contractors will be required to commence the work at once, and finish within a year. Plans and specifications will be ready between the twentieth and thirtieth of June—names of securities must be given in the Bid.

By order of the Board of Public Works.

CAAS. B. SHAW,

Chief Engineer of the Cov. & Ohio R. R. Co.,
Dewisburg, Virginia.

To Engineers and Steamboat Captains.
EXPLOSIONS PREVENTED!

BRANDS' LIQUID,

FOR DISSOLVING INCRUSTATIONS IN STEAM BOILERS.

BRANDS' LIQUID is the name of a fluid recently in use throughout all Europe, by the application of which the incrustations in Steam Boilers are dissolved or totally avoided, without affecting in the least the material of the boiler. Chemical examinations and experience have fully ascertained that, by the application of this fluid, no harm whatever is done to the material of which the boiler consists.

To dissolve the hardened incrustation in Steam Boilers, pour every 10 or 14 days, in proportion as the boiler is daily for a longer or shorter time heated, the quantity of Brands' Liquid to the water in the boiler as shown in the following table:—

TABLE FOR CLEANING INCRUSTED BOILERS.

STEAM BOILERS.		QUANTITY	
Which are daily from 10 to 16 hours heated, and which have a power of evaporation of		Of BRANDS' LIQUID wanted.	
From	1 to 10 Horse Power,	Every 10 to 14 days,	Per year—Barrel of 40 galls.
"	10 to 20 "	4 to 6 Quarts,	1 1/2 Barrels.
"	20 to 30 "	6 to 9 "	1 "
"	30 to 40 "	7 to 10 "	1 1/2 "
"	40 to 50 "	10 to 14 "	2 "
"	50 to 65 "	12 to 17 "	2 1/2 "
"	65 to 110 "	13 to 19 "	2 1/2 "
"	110 to 160 "	15 to 21 "	3 "
"	160 to 220 "	18 to 26 "	3 1/2 "
"	220 to 300 "	20 to 29 "	3 1/2 "
"	300 to 400 "	22 to 31 "	4 "
"	400 to 500 "	24 to 35 "	4 1/2 "

If Brand's Liquid is regularly used, the incrustated Boilers are within three to five months clean; and to prevent any further incrustation in such or new Boilers, the use of Brand's Liquid must not be interrupted, but about two-thirds of the stated quantities in the table given to the water in the Boilers.

The Boilers of Locomotives require every two days, in proportion to their power and time of service, only two and a-half to four quarts of Brand's Liquid, which every second day is poured into the water in the Tender.

As often as the water in the water-gauge, on Stationary, Ship or Locomotive Boilers, becomes of a muddy appearance, the Boiler must be blown out and cleansed from the stones and dirt which have settled to the bottom of the Boiler.

The incrustation which in this manner is removed is soft, or in pieces, which are commonly of a crumbling and brilliant texture and have a brown color.

In some parts of the country, and in Marine Boilers, the incrustation is often very hard, and to remove this, the larger quantities in the given table are required. The pieces of this incrustation which are removed by the use of Brand's Liquid have lost their glassy texture, and though they commonly retain some hardness, they have a brown color, and a corrosive and decayed appearance.

To remove the incrustation of Marine Boilers, larger quantities of Brand's Liquid are required, in proportion as by the removal of the brine a quantity of the feed-water is blown out. By any simple contrivance Brand's Liquid must be brought into the boiler in small portions, or mixed with the feed water.

Brand's Liquid is not injurious to the Boiler if it is used in large quantities, even if the Boiler is entirely filled with it and heated, but, in general the quantity as is stated in the table must not be exceeded, because in connection with large quantities of incrustation the Liquid generates much priming and motion of the water, which might prove injurious to the annexed machinery, especially in Ship Boilers and Locomotives which have no large steam-chests.

The above table is made by practical experience, so that only a gentle working of Brand's Liquid is allowed, entirely free from any danger, for the Boiler once properly cleaned, the proprietor will by experiments easily ascertain the minimum quantity of Liquid that is required for the Boiler.

Should it be required to clean old incrustated Boilers by the use of Brand's Liquid in a few days, then it is only necessary to pour one-half to three-fourths of a hoghead at once into the water in the boiler, and heat it from six to eight days gently to boiling heat, for which operation the Boiler must be put out of service.

In Locomotives where the steam-chests are small, Brand's Liquid must be used oftener in small quantities as before stated. A Locomotive out of service may be cleaned within 6 or 8 days by the use of a large quantity of Brand's Liquid, (one-fourth to one-half a hoghead).

It would be needless to enter into a long discussion on the advantages in using Brand's Liquid for cleaning steam generators, being fully aware that it destined for the use of the most intelligent part of the public, and it may therefore suffice to mention its advantages in a few words, as follows:

1. Less repair of Boiler.
2. Increased generation of steam, or saving of fuel.
3. The expense of hammering and loosening the incrustation is saved.
4. Less interruption of business.
5. The Boilers remain tighter.
6. The duration of the Boilers is increased, especially of locomotives and Tube-Boilers in general.
7. Three-quarters of the causes of Boiler-explosions are removed.

Price per barrel \$20.

The patentees are so confident of the merits of this invention, that they offer one barrel *gratis* to parties willing to make a trial, to be paid for only in case of success and of future orders.

Brand's Liquid is used with the best effect by the Cincinnati Water Works, and many other establishments in the West.

Address **BRAND, BROTHERS,**
Toledo, Ohio,
Sole Patentees both in Europe and the United States.
Or, **F. DUFAIS,**
43 New Street, New York.
May 28, 1853.

The Troy Iron Bridge Co.

ARE prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or more, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address **BLANCHARD & FELLOWS, Troy, N. Y.**
April 1st, 1853.

Etna Car Works.

HILLMEYER & SMALL, YORK, PA., PROPRIETORS.
WE are manufacturing to order and by contract, Baggage, Freight, Express, Stock, "Reading" and other patterns of Coal Cars, Lumber and Gravel Cars, of every variety, at short notice, and on favorable terms.

Our facilities for manufacturing are extensive, and our means for transportation to all parts of the country speedy and economical.

The Wheels we use receive our own personal attention, are made of the best Cold Blast Charcoal Iron, of both spoke and plate patterns, solid and open hubs.

All Cars built by us, and now in daily use on the Pennsylvania Central, Baltimore, Susquehanna, York and Cumberland Roads, have been appraised as first class, and carry the largest capacity allowed on any roads. We are prepared to furnish Wheels and Axles separately or fitted, Springs and other parts of Cars at short notice. Orders and Contracts for Railroad Companies solicited.
May 20th 53

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
90 Beaver st,

April 1, 1853.

Notice to Contractors.

PROPOSALS for the grading, bridging and masonry of the Western division of the Covington and Ohio Railroad, will be received at the Office of the Engineer at Guyandotte, Cabell County, Virginia, between the 20th and 30th of June, next.

They will embrace about forty-six mile sections, bridges over Twelve Pole, Guyandotte and Mud Rivers, and a tunnel of 1500 or 1600 feet in length, at the bend of Mud River.

Also, between the 1st. and 15th. of July next, proposals will be received at Covington, Virginia, for the grading, bridging and masonry of that portion of the Eastern division, lying between the town of Covington and Hayne's Farm, on Jackson's river—a distance of 10 or 11 miles of very heavy work—including much heavy retaining wall, two large bridges over Jackson's River, and probably 2 tunnels.

The successful bids will be declared as soon as practicable after 15th July.

By order of the Board of Public Works,
CHARLES B. SHAW,
Chief Engineer Covington & Ohio R. R. Co.
Lewisburg, Va., May 24, 1853.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's Office of the Pittsburg, Maysville, and Cincinnati Railroad, in M'Connellsville, until the 20th July, for the Graduation and Masonry of the line of road (about 35 sections) between the Muskingum river and the Central Ohio Railroad.

Bids enclosing proper testimonials, will be received for the whole or any number of the above sections.

Plans and specifications will be ready for examination after the 10th of July.

The division between the Muskingum and Hocking rivers will be offered for contract, as soon as the location is completed. ROBT M'LEOD,

Chief Engineer.
M'CONNELLSVILLE, June 4th, 1853.

Notice to Contractors.

MARIETTA AND CINCINNATI RAILROAD.

Lettings of Eastern and Western Divisions.

PROPOSALS will be received up to the 12th of July, at the Engineer's office in Marietta, for the graduation, Masonry, etc., of the seventh and 8th Divisions of this road, extending from Marietta to Zane's Island, opposite the city of Wheeling.

The line will be divided into about one mile sections, on some of which there will be heavy masonry, and other work worthy the notice of the most responsible contractors.

Plans, Profiles and Specifications will be ready for examination at Marietta, and on the line of the 8th Division, near Wheeling, on and after July the 4th.

Proposals will be received at the same time and place for the construction of about 20 miles, being that portion of the road between Blanchester and Milford, 14 miles out of Cincinnati, on the Little Miami Railroad.

Plans, Profiles and Specifications for this division will be ready for examination at the Engineer's Office, in the Manchester Building, Third Street, Cincinnati, on and after the first day of July.

The line of the road from Marietta and Belpre to Blanchester, being already under contract, and well advanced in construction; the work now offered forms the only remaining link to complete the connexion from Cincinnati to Philadelphia, by way of the Pennsylvania railroad.

Recent subscriptions of \$1,150,000 by the Pennsylvania railroad Co., the city of Wheeling and individuals, to the capital stock of the company, will ensure the prompt completion of this great work from Cincinnati to Wheeling.

WM. P. CUTLER, President.

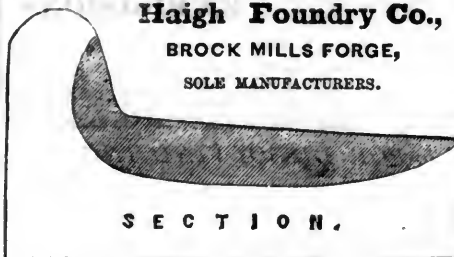
A. KENNEDY, Engineer.
Marietta, May 30. 1853.

Gooch's Patent Steel Tires.

Haigh Foundry Co.,

BROCK MILLS FORGE,

SOLE MANUFACTURERS.



GEORGE WOODWARD, 10 Ferry Street, New-York, sole agent to the HAIGH FOUNDRY CO.'s, offers their make of GOOCH'S PATENT STEEL TIRES; Charcoal Iron Tires, finished or in the rough, superior to any other English make for hardness and endurance; WROUGHT IRON DRIVING WHEELS, Axles, and every description of forgings, at the lowest scale of prices commensurate with the high character of the material and Workmanship.

GAS CANNEL and Coal, supplied, to order, direct from the GIBLOW and SWINLEY mines, of the most superior quality.
New-York, 31 March, 1853.

RICHARDSON'S

PATENT

OIL

CUPS



FOR Locomotive and Stationary Engines. For sale by
BRIDGES & BROTHER, Agents,
64 Courtland st., New York.

CAUTION.

RAILROAD Companies, and the public generally, are hereby cautioned against purchasing "Richardson's Patent Oil Cups," or the right to use the same, except of the undersigned, proprietor of the patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vermont, will be promptly attended to. E. DEWOLF, Jr.
June 1, 1853.

Railroad Letting.

PROPOSALS will be received at our office in Cincinnati, until Wednesday, the 8th day of June next, for the clearing, grubbing, grading and masonry, of the line of railroad from Cincinnati to Cambridge city, Ind., about 60 miles.

Plan and profile of the road will be ready for examination ten days before the letting.

This road passing through a dry and healthy country, where supplies are abundant, offers great inducements to Contractors. There will probably be one short tunnel, and the grading and masonry will be heavy. The work to be commenced immediately after the letting, and will be paid for by monthly estimates.

Offers for part pay in stock of the road will be favorably considered. A. DE GRAFF & CO.

VENTILATION.

THE Subscriber being patentee of natural or spontaneous ventilation, will be glad, in order to diffuse its blessings as rapidly and widely as possible, to enter into arrangements with individuals or corporations, for the exclusive right, upon very moderate and reasonable terms.

Its operation is simple and purely philosophical—is easily and cheaply produced by mechanical means—and equally adapted to the largest and smallest building or apartment. The subscriber is prepared to furnish such plans, drawings and instructions, as will enable builders of Railroad Cars, School and ordinary sized Dwelling Houses, to carry out the operation without the necessity of awaiting his personal supervision.

A few testimonials may be inspected at the office of this paper.
Address, (postage paid,) H. RUTAN,
June 1, 1853. Cobourg, Canada.

Inspection of Railroad Iron.

THE Undersigned, having a thorough practical knowledge of the manufacture of Railroad Iron, and a most efficient staff of men at the works, he is enabled confidently to undertake the charge of inspection. References to the principal companies in England, America, Canada, etc. W. D. STARLING,

June 1, 1853.

Change Alley, Lombard st., London.

OILS

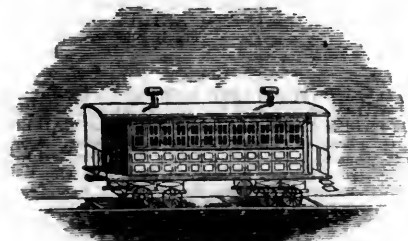
FOR RAILROADS,
MACHINERY AND BURNING.

LITCHFIELD & CO.



MANUFACTURERS OF
OILS AND CANDLES,

154 Front St., corner of Maiden Lane, New York,
Devote special attention to the preparation of the best Oil for Burning, Machinery, and for LUBRICATING ENGINES AND CARS, at the lowest prices. Orders promptly filled.
June 1, 1853.

Elmira Car Shop.

THE Undersigned is prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

WM. E. RUTER.

Elmira, N. Y., June 1, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

Railroad Iron.

THE Undersigned, having been engaged for many years as a sworn Metal Broker in the City of London exclusively as a buyer of Rails, begs to inform parties about to make contracts, that he has always on hand orders to sell for reputed manufacturers upon the best terms.

W. D. STARLING,
Metal Broker, Change Alley, Lombard st. London.
June 1, 1853.

Hooe, Stanforth & Co.,
MINERVA WORKS,
SHEFFIELD,

Steel Converters and Refiners;
Manufacturers of Improved Cast Steel Engineering and Machine Files;
Locomotive Engine, Railway Carriage and Wagon Springs.

Saws of every description, Engineers' Hammers, etc., etc., etc.

An assortment of Steel from the above Works constantly on hand by RICHARD MAKIN,
Agent for the Manufacturers,
24 Broadway.

To Contractors.**HUNTINGTON AND BROAD TOP MOUNTAIN RAILROAD.**

PROPOSALS will be received at the Engineer's Office, Huntington, Penn., until the 28th day of June next, for the graduation and masonry of thirty-five miles of the above railroad.

Plans and Specifications will be exhibited in this Office for three days previous to the letting.

S. W. MIFFLIN, Engineer.

PACIFIC RAILROAD LOAN.**\$4,000,000 Loan**

ON THE

MORTGAGE BONDS OF THE PACIFIC RAILROAD COMPANY OF MISSOURI.

THIS Company will receive proposals until the 11th of July next, for four millions of dollars of their construction bonds, to be issued in sums of one thousand dollars each, payable at the city of New York twenty years after the date thereof, with coupons attached for the payment of interest at the same place semi-annually, on the first of January and first of July in each year, at the rate of 7 per cent per annum.

These bonds are secured by a first and only mortgage on the Southwestern Branch railroad, 300 miles in length, and one million of acres of land on the line of that branch, granted by Congress to aid in its construction; and also by second mortgage on the Pacific railroad, 290 miles in length. About 130,000 acres of land, not included in the mortgage are set apart to aid in meeting interest.

Forty miles of the Pacific railroad, from St. Louis westward, is about completed, and 85 miles further, reaching Jefferson city, the capital of the state, is under construction. About \$1,600,000 has already been expended by the company in the completion of the first division, and in the construction of an excellent machine and car shop, and engine house, and the necessary real estate, and the surveys required to prepare the whole 600 miles of railway for contract.

The Pacific railroad line extends from St. Louis to the vicinity of Independence, near the mouth of the Kansas, 290 miles, and its southwestern branch diverges about forty miles west of St. Louis, and runs near Springfield to the southwestern part of the state, a little north of Ta-le-quah, the capital of the Cherokee nation, 300 miles.

The charter was granted with the view, and the right, of ultimate extension to the Pacific Ocean, with an authorized capital of ten millions, and privilege of increase under general law.

Capital subscribed in Missouri over \$2,000,000, of which about 40 per cent. is paid up. State loan to the company authorized \$4,000,000, of which \$700,000 has been issued and sold at a premium. For such stock now issued, the state holds a lien on the Pacific railroad only. Land granted by Congress, now the property of the company, about 1,250,000 acres.

One of the other of the lines of this company will be the Central National line of railway to the Pacific ocean. Reconnoissances and surveys of the United States government will connect with both.

The whole amount of bonds which can be issued under the mortgage is ten millions of dollars. The whole of these bonds are convertible into land of the Company, and one-half into stock of the Company, within a limited time, at the option of the holder.

The Company reserve the right to accept proposals for all or any portion of the amount.

Ten per cent of the amount allotted to each subscriber will be required on notice of the acceptance of his proposals, and the balance as called for by the Directors, not exceeding ten per cent. monthly. Any subscriber may, however, at his option, pay up in full, and receive his bonds at any time.

Interest will in all cases be adjusted, on payment of the final instalments.

Proposals will be received at the office of Messrs

Riggs & Co., 56 Wall street, N. Y., inclosed, sealed and endorsed, "Proposals for Loan of \$1,000,000 of Pacific Railroad of Missouri." Laws, Reports, Documents and Map, showing the condition, relations and prospects of the work, and all necessary information relative to its affairs, &c., may be obtained after the 1st of June on application to Messrs. CAMANN & Co., or Riggs & Co., at 56 Wall street, or the subscriber, personally, or by letter.

By authority of the Board of Directors,

THOMAS ALLEN, President.

St. Nicholas Hotel, N. Y., May 20, 1853.

Pease & Murphy,**FULTON IRON WORKS,**

FOOT of Cherry st., E. R. Office, 27 Corlears, corner of Cherry st. Manufacturers of Land and Marine Engines.

N. B. Engines and Boilers repaired.

6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

50 South Third street.

Ap1 1m

NEW YORK**Lubricating Oil Manufacturing Co.**

12 BROADWAY,

PROPRIETORS AND MANUFACTURERS OF

DEVLAN'S PATENT LUBRICATING OIL,

FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon Slides and Journals, by the use of bad oil. It will wear longer than Sperm, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.

ap30 3m

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer, Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidly, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

PURCHASE AND SALE OF AMERICAN SECURITIES,

COLLECTION OF DIVIDENDS,

DEBTS, LEGACIES, ETC.,

And for the Purchase and Inspection of Railroad Iron, Chairs, or any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.

" George Peabody & Co, London.

" Curtis, Bouve & Co, Boston.

Richard Irvin, Esq., New York.

Robert Ralston, Esq., Philadelphia.

C. C. Jamieson, Esq., Baltimore.

38

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.

Portland, April 9, 1853.

A Good Enterprise.

THE concentration of six or seven Railroads at Fort Wayne, Indiana, viz: Ohio and Indiana, Fort Wayne and Chicago, Fort Wayne and Cincinnati, Fort Wayne Southern, Wabash Valley, Fort Wayne, Union and Cincinnati, and the Fort Wayne and Mississippi Air line railroads; will require and offers favorable inducements for an extensive establishment for the manufacture of Railroad Cars, and other machinery. Persons willing to embark in an enterprise of this kind, would receive encouragement from most of the roads above named, if application be made soon.

Fort Wayne, May 18, 1853.

* The above is from responsible parties, who will lend efficient aid to the enterprise proposed.—[Ed. R. R. J. It.

To Railroad Track-Layers.

PROPOSALS, under seal, are requested at the Railroad Journal office, New York, on the 10th July next, for laying the track of the Mobile and Ohio, Tennessee and Alabama, and Paducah and Tennessee railroads;—aggregate length, 512 miles. Plans, specifications and other required information, will be furnished at the time and place above mentioned.

JOHN CHILDE,

Chief Engineer.

MOBILE, May 17th, 1853.

Notice to Contractors.

PROPOSALS will be received until noon the 20th June, for the Graduation and Masonry of the Franklin and Warren Railroad, extending from a point on the eastern State Line of Ohio, in the County of Trumbull to Ashland, Ashland county, Ohio, a distance of about 106 miles.

The line will be ready for examination June 13th. For particulars apply at the Engineer's office, Franklin, Portage county, Ohio.

The remaining distance of the road extending from Ashland to Dayton, or Maysville, will be ready in a short time.

M. KENT,

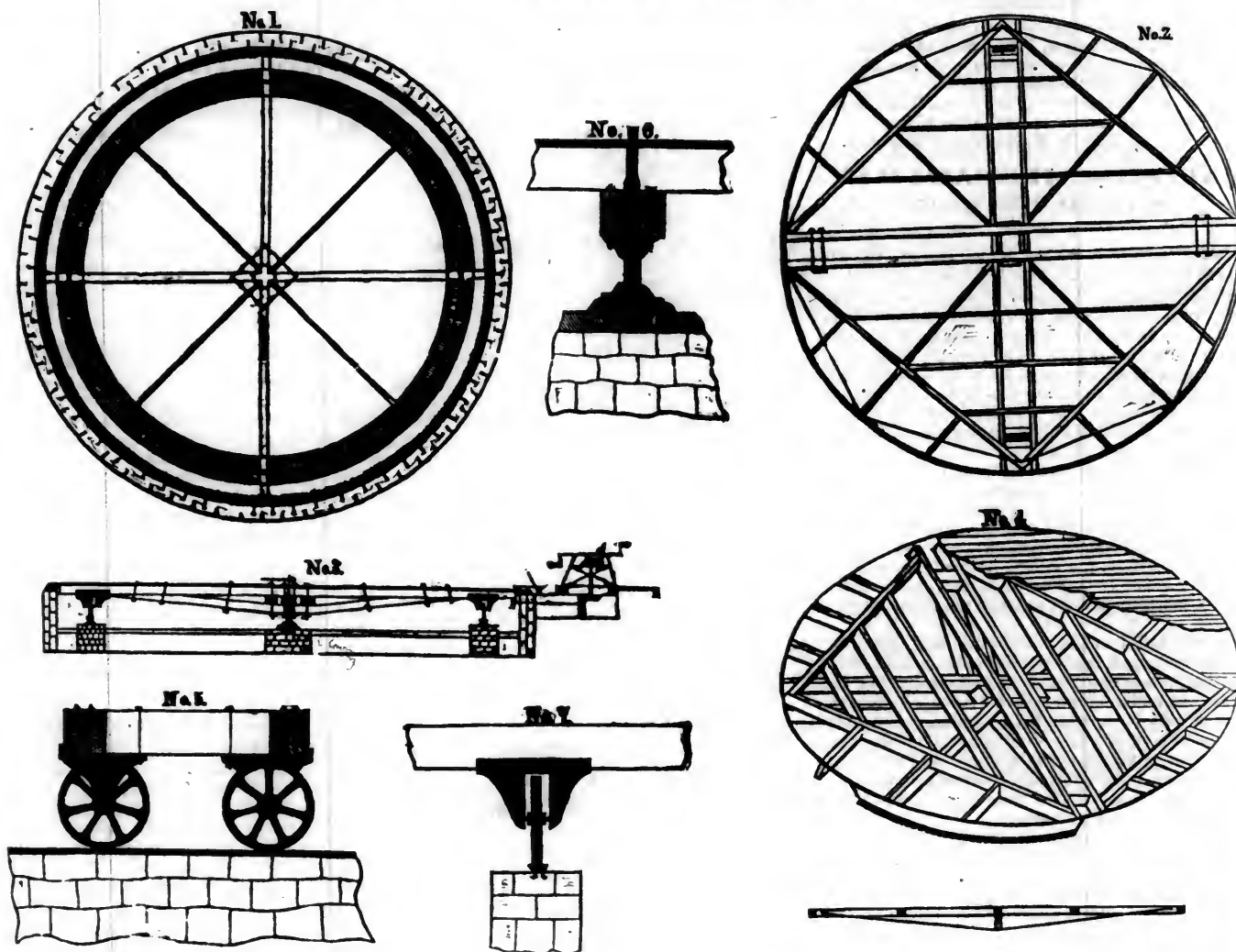
President F. & W. Railroad.

SAM'L H. KNEASS,

Chief Engineer.

FRANKLIN, May 19, 1853.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by ONE MAN in 25 SECONDS.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.

A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LAHAYE'S Patent Self-acting Brake.

THE attention of Railroad Companies is respectfully called to this improvement, used exclusively on all Passenger Cars upon the Philadelphia and Reading Railroad, and now being attached to those building for the Camden and Atlantic Railroad, and several other Roads.

Lahaye's Self-acting Brake can be attached to any Car without interfering with the ordinary Hand Brake, is simple in its construction, and reliable in its action.

By trials made with this Brake, Passenger Trains, at a speed of 30 miles per hour, have been brought to rest within a distance of 250 feet.

For Right to use, or any other information, apply to

O. A. NORRIS,
American Railway Agency, 12 Farguhar Buildings,
May 20, 1853. Philadelphia.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.
JAS. PRENTICE,
Feb 9 1853. 315 Broadway, N. Y.

Oxford Furnace, N. J. ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.
Sept. 11, 1852. ly*

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes imported to order on the most favorable terms.
February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX, No. 25.]

SATURDAY, JUNE 18, 1853.

[WHOLE No. 896, VOL. XXVI.

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, June 18, 1853.

Marietta and Cincinnati Railroad.

The whole of this road is to be immediately placed under contract. Its line is the longest under one charter of any in Ohio, and, when completed, the road will be one of the most magnificent works of the kind in the United States. Ample means are now provided for the whole line, and the work of construction will be urged forward with all possible dispatch; and the character of the parties having it in charge is a sufficient guarantee that the work will be pushed forward with energy and vigor.

The original design for a road extending from Cincinnati to Marietta, on the Ohio, nearly on the same parallel, and cutting off the long bend of the river. The contemplated outlet to the seaboard was through the Baltimore and Ohio railroad, of which *Parkersburg*, on the Virginia side of the Ohio, was one of its proposed termini. Since the plan of the road was first undertaken, the great Penn. road has reached the Ohio, and the advantages of a connection with this work, as well as

the Baltimore and Ohio road, became so apparent that the company, and wisely we think, determined to push their line to Wheeling, an important town on the Ohio, and which is now in connection by railroad with Baltimore, and is soon to be with Philadelphia, by a very direct line of road. The above road will form the Ohio Trunk for both the Penn. and the Baltimore and Ohio roads, and will constitute one of the shortest lines between Cincinnati and the Atlantic ports.

We think the extension of the road from Marietta to Wheeling to be not only a good project in itself, but as adding largely to the value of the whole line. There is now no *northern* and *southern* road through the western half of Ohio, while in the eastern half there are some four or five in operation and progress. That portion of this road north of Marietta, will form just the avenue wanted for the large trade and travel between the Lakes and southern Ohio, and Kentucky. It will also be a convenient route for business men, by touching the points of concentration of trade. At Wheeling, a junction will be formed with the Cleveland and Wheeling road, a greater portion of which is opened. On the southern portion of the line, a junction is to be formed with the Scioto and Hocking Valley road; which last will form a junction with the extension east, of the Maysville and Big Sandy road, and through this with the railroad system of Kentucky. In this manner the Marietta road will become the connecting link between important systems of roads lying beyond either termini, with the additional advantage of having no prospect of any immediate rival.

The road is strong in local support, which is a good indication that it will enjoy a lucrative traffic. The greater part of the country traversed by this road, possesses an excellent soil; parts of it are among the old settled and richest portions of Ohio. Ross County in particular is hardly inferior to any one in the State in the excellence of its soil, the extent of its productions, and in the wealth of its inhabitants. That portion of the route having poorest soil, abound in coal and iron ore, of the best quality, and from which a very large traffic is anticipated. Cincinnati is already supplied with coal from the coal fields of southern Ohio, from which a large portion of the State is to be supplied with fuel. The Marietta road must be one of the

most important channels through which the products of the mineral region to find their way to other portions of the State.

The road will be 237 miles long, and it is estimated to cost \$5,356,325. The available stock subscriptions already secured amount to \$2,800,000. This sum includes subscription of \$750,000 made by the Pennsylvania railroad company. This subscription by a company under such careful and prudent management as is the latter, may be regarded as high testimony in favor both of the parties having in charge, and the prospective income of the Marietta road, and has, as the act is entitled to, exerted a strong influence in giving to the securities of the company the high credit they now enjoy.

The above road will prove a vast benefit to the whole of south-eastern Ohio, which, up to the present time, has been without the advantages of railroad communication. Its cost is estimated at \$24,000 pr. mile. We believe its stock will be a paying one under all contingencies, and that, consequently, its securities must prove an excellent investment for capitalists.

Grand Trunk Railway of Canada.

The Atlantic and St. Lawrence railroad company formally voted at a meeting of the stockholders, held at Portland on the 10th inst., to execute a lease of their road to the Grand Trunk railway of Canada. The resolution authorising the lease is as follows:

Voted. That Alexander T. Galt, Esq., be and he is hereby authorised and empowered in behalf of the Atlantic and St. Lawrence railroad company to enter into a preliminary contract with the Grand Trunk railway company of Canada, for a lease of the Atlantic and St. Lawrence railroad and all its equipment and property to the said Grand Trunk railway company, in perpetuity, or so far, and to such extent, as the charter of this company and the laws of the several states through which it passes will allow;—upon the general basis following, that is to say,—That the said Grand Trunk railway shall pay six per cent per annum in half-yearly payments on all the outstanding stock of the company and assume all the liabilities of this company upon mortgage, contracts, or otherwise; the organization of the company and all their obligations to the several states aforesaid, under the laws of the same, to be preserved and to remain inviolate.

Mr. Galt who was present, addressed the meet-

ing at some length. His remarks were reported in the Argus, as follows:

Mr. Galt commenced by referring to the great importance felt by those interested in England, in securing an uninterrupted line of railway in the west. Of the immense obstacles that had been contended with and overcome. Of the favor with which this project was viewed in Canada, both by the government and by the management of the road. The scheme is one of a most momentous character.—The plans must be laid for the great future rather than for the present. The scheme itself involved the most gigantic outlays. No single company could consider them for a moment. It was only a stupendous combination as this proposed to be, that could steadily contemplate them and master them. The construction of the bridge, even, over the St. Lawrence would cost \$7,000,000!—This bridge must be constructed, or the whole scheme would fall through. When in London two great questions were presented; one, this immense bridge, the other, can the continuous line be secured. If either of these fail, we need go no farther. Happily, they could both be settled in aid of the great plan.

As to the terms of the lease, they are simple and explicit. The Grand Trunk railway assumes all the liabilities of this road and agrees to pay 6 per cent semi-annually to the stockholders, and proposes to commence on the first of July next.—The Canadian company have no interest guaranteed to them. They take their dividends from the working of the road. Mr. Galt thought the whole line would pay six per cent. The completion of this arrangement will make Portland the outlet of eight hundred and nine miles of railroad—and freight from Lake Huron will reach here without breaking bulk. The arrangements for the hire of steamboats are absolutely necessary. In connection with a line of boats from England or Ireland to Portland, a ticket may be taken from Trieste, Havre, etc. to the terminus of the road. The capital embarked is immense,—\$50,000,000!

Mr. G. said, it appears more likely to-day that the road will be extended West from Lake Huron than a few years since it did that we should meet here on this business to-day. The fruition of this plan will make Portland a principal city for steamships. It will really verify the Utopian idea of making a ferry of the Atlantic. In addition to all this, (said Mr. G.) the European and N. A. railroad will undoubtedly be carried thro' to Halifax,—giving decidedly the shortest route from Europe to the interior of this continent. As to the progress of the work, he would state that the whole line from Sarnia to Montreal and Quebec, is under contract. Twenty per cent has been paid in, and the road will unquestionably be completed from Sarnia to Montreal in three years. It will take a year or two longer to finish the Bridge, which is to be one of the most stupendous enterprises in the world, and an attraction sufficient, he trusted, to induce the stockholders of this road and the citizens generally, to visit Montreal. It is to be of iron, on stone piers, with spans of 220 feet each, and of height sufficient to allow free passage underneath, of the tallest craft on its waters.—There will be no less than two thousand five hundred miles of railroad connected with that Bridge and Montreal.

If the stockholders should vote to lease the road it would have effect to release the capital of Portland, &c., which they have so generously put into it—six per cent being secured on it, they may realize when they please on their stock—and thus can again use all the means which are to be demanded for the improvements which will be required by the immense strides she will make in growth.

At the conclusion of Mr. Galt's remarks, the following complimentary resolutions were unanimously passed:

Resolved, That in carrying forward the great work of an international line of railway from the harbor of Portland to the St. Lawrence at Mont-

real, and its further extension under one management to the extreme limit of Canada at Lake Huron; the stockholders of the American portion of the line have, from the earliest inception of the undertaking—during all the successive stages of its progress, and more especially in that most critical period of its history, when the line was placed under contract in 1849, and in the recent negotiations by which its entire capital has been advanced to a permanent six per cent paying stock, have regarded with unqualified admiration the efforts of ALEXANDER T. GALT, Esq., toward carrying out this work—under whose guidance, and thro' whose instrumentality chiefly it has been accomplished,—and that the best thanks of the stockholders are hereby tendered to him therefor, and that the Directors be authorized and instructed to present to Mr. Galt such a testimonial as may be deemed suitable, to mark our sense of his efforts and ability in this behalf.

The stockholders also confirmed the contract entered into in March last, by which a bonus of \$10,000 per year, for a period of ten years, was agreed to be given to Robert McKean, on consideration of their running their line of steamers to Portland, during the winter months.

The above is the closing act of one of the most successful attempts in railroad construction, ever achieved in this country. Nearly eight years since the city of Portland, containing a population of not over 17,000 souls, undertook,—in obedience to the prevailing idea of the time, that the degree of the commercial progress of our eastern cities, depended upon the intimacy of their relations with the fertile regions of the west,—the construction, single-handed, of a railroad to the boundary line of Canada, a distance of 150 miles, and costing over \$5,000,000, expecting to meet at that point its Canadian complement, commenced at about the same time. To construct the road, it became necessary for the city to lend its credit to the work, to the extent of \$2,500,000, or more than \$100 to each individual. For a long time the scheme was considered as in the highest degree visionary, and its accomplishment impossible. But by dint of patient industry and perseverance, the Portland people pushed the work slowly and steadily forward, in the face of great physical and financial difficulties, and they now find themselves rewarded, not only in having accomplished their original project, the whole cost of which is a paying stock, but in making their city the ultimate terminus of a magnificent system of railroads which is to cost some \$50,000,000! Never in the history of railways in this country, have similar efforts been crowned with such wonderful success.

The entire line, from Montreal to Portland will be opened for business about the middle of July. In grades, alignment and distance, it is by far the best avenue between the St. Lawrence and the Atlantic. We believe it must at once enter upon a good business. We see no reason why the state of Maine, and to a very considerable extent, the British lower provinces, will not receive the supplies of western produce over this road. Should such be the fact, a new business will at once be developed, equal to the full capacity of the road. Independent of the through traffic, the route traversed is already supplying a very large local business, which is rapidly increasing. On the whole we believe the Grand Trunk has not made a bad bargain in assuming the Portland and Montreal road, and it is certain that the city of Portland has been remarkably fortunate in becoming the Atlan-

tic terminus of the Canadian system of improvements.

Railway Accidents--their Causes and means of Prevention.

(Continued from Page 277.)

It is to be observed that an improper use of the discretion allowed to the driver not only endangers the safety of the train which he himself is conducting, but in a greater that of the trains in front and rear of his own train. It might be impossible to provide a time table for these trains for any length of time before the trains are run, but it is worthy of consideration whether the responsibility as to the hours at which trains are to pass along each railway or part of a railway in either direction, should not be placed upon one person, who should be a responsible officer of the Company, without whose permission no engine or train should be allowed to pass along the railway.

The attention of the late Board of Commissioners of railways, and of your lordships, has been particularly directed to this subject, by accidents that occurred during the year 1851.

Upon the occurrence of an accident of a very serious nature upon the Great Western railway, where it appeared that an excursion train had been along the line of railway, unprovided with a time table, the Commissioners pointed out to the company how desirable it is, not only on account of the comfort and convenience of the passengers, but also with a view to their safety, that these excursion trains, in which numbers carried are so very great, should be conducted with the utmost regularity; and that arrangements should be made for them along the lines on which they travel, so that their hour of arrival and departure at all stations should be fixed and known beforehand.

In like manner, in communicating to the London and North Western railroad company, the result of the investigation into a serious accident that occurred at Bicester, the Commissioners urged upon the Directors the great necessity of working their excursion traffic with the utmost regularity. They observed that these excursion trains are generally advertised some days before the public are conveyed by them, and they suggested that there could, consequently, be no difficulty in arranging so that they might be worked throughout their journey to time tables, in the same manner as the ordinary trains, and supplied in every respect with all requisites to secure them as safe and regular a journey as those trains. In reference to this subject, it is right to observe, that the manager of the London and North Western railway, whose experience in these matters must give great weight to his opinion, considered that the nature of the traffic during the extraordinary season of 1851 rendered it impossible to fix any specified time for the transit of these trains. The question is one, however, which requires constant and careful consideration, as it cannot be doubted that the taste for this description of amusement having been once acquired in the country, it will continue to a very great extent.

The preceding observations, which are equally applicable to several other cases in which accidents have occurred, have reference particularly to those accidents in which one of the elements concurring to produce them has been the absence of time tables; this is especially to be observed on some railways with reference to goods and mineral trains; but another circumstance which tends alike to produce danger is, that when time tables are provided, the trains are not worked with punctuality to the times denoted in them. This want of punctuality may arise from several causes:

1. From an improper arrangement of the times in the tables, either from not taking sufficiently into account the character of the line itself, or the detentions to which particular trains are subject at particular stations. The remedy in this case can always be applied by re-adjusting the time tables experimentally, until they suit the condition of the line and the requirements of the traffic.

2. From the motive power not being sufficient

to allow of the appointed times being kept. The deficiency may arise either from the excessive weight of trains or from atmospheric causes, such as damp or frost, by which a bad state of rails is induced, and the adhesive power of the engines diminished, or it may arise from very boisterous weather. The remedy in this case is equally evident; no engine should be tasked to do more than it has adequate power to do with certainty at all times, and in all ordinary conditions of weather.—It being impossible in a long journey to calculate upon the changes and vicissitudes to which a train may be subject from the weather, it would appear but right that the maximum of load to be drawn by any given engine should never exceed the maximum of power to be depended upon under all conditions not of an extraordinary character. On this point, it seems hardly necessary to observe that the locomotive engine is a machine which will permit of very great accuracy in the performance of its work, and will, if not unfairly tasked, work with as much certainty as a well regulated time piece.

The simple method for reducing such rule to practice is, that companies should ascertain, either experimentally or otherwise, this precise load, with reference to the conditions of the particular railway, and the nature and speed of the traffic each engine is intended to convey, which might be registered and known by the driver of the engine, and should, on no account, be exceeded. Such a provision corresponds with that usually inserted in the by-laws of railway companies, by which they book passengers at road side stations, or stations intermediate between the terminal stations, conditionally upon there being sufficient room for them in the trains.

3. Want of punctuality may arise from purely accidental failures of machinery, such as the fracture of some part of the engine. These causes of delay appear to be comparatively of very rare occurrence.

It only remains to advert to the cases in which inattention to regulations or carelessness of the servants of the company are involved. It would appear that in 23 out of 41 cases, into the circumstances attending which investigations were made, considerations of this nature were involved.

These may be divided into two distinct denominations:—

1st. Occasional. Those caused by inexperience or carelessness of individuals.

2d. Habitual. Those caused by general inattention to regulations on the part of the servants of the company, exhibiting, as a natural consequence a laxity of discipline throughout the whole management of the railway.

On this subject, as to which it is very difficult to give any accurate statement, and to separate the two classes, it appears that there is much ground for apprehension that on some railways the disregard of regulations is habitual, and the general discipline lax, from the fact that breaches of the regulations issued by the directors of railway companies for the guidance of their servants are of very frequent occurrence under the immediate supervision of the superior officers of the railways, and in which many of them participate, or of which at any rate, they are cognizant. This may be induced by the regulations themselves not being very explicit, as appears to have been the case in some of these accidents, as, for instance, the collision that occurred on the Eastern Counties railway at Ponder's End, on the 8th of January, 1851; or by defective supervision and inspection on the part of the railway companies over their servants, such as would appear to have been the case upon the Midland railway, as shown by the accidents, the reports and correspondence relative to which are to be found in appendices 48 and 53.

Discipline upon railways is of the greatest importance both to the public and to the companies, who are subject by the occurrence of serious accidents, to great losses, and to the payment of compensation to injured persons; but notwithstanding the direct interest which the companies

thus have in maintaining discipline, and enforcing the regulations which they themselves have considered necessary for the safe conduct of traffic upon their lines, it has been the duty both of the Commissioners of railways and of the Lords of this committee, to animadvert in some cases in very pointed terms upon the neglect of these regulations.

It is a subject to which it is desirable that the attention of railway companies should be especially called, both as affecting the safety of the public, and the profits of their undertakings, as the only security the public can have in this respect is in the companies themselves, who alone have the power, by the adoption of carefully considered regulations and careful supervision to enforce an efficient state of discipline.

It appears advisable, in considering this question that some few observations should be made upon a proposition which is considered by many as holding out a prospect of obtaining a greater degree of safety upon railways, viz: to prescribe an interval of time to be observed upon all railways between succeeding trains, and which should at all times be strictly enforced.

This proposition, as has been stated above has been adopted on some railways, but for the reasons there given, does not appear alone to afford a sufficient security for the safe working of a railway. There are other reasons why any rule as to this interval could not be generally applied. The object to be gained in fixing an interval of time between trains following each other on the same line of rails is, that upon an accident occurring by which the stoppage of a train is occasioned, and the line of railway obstructed there shall be sufficient time to admit of a signal being sent out to protect the rear of the train that is stopped. This time must depend on the nature of the signal. In fine weather a light or a flag is employed, according as to the necessity for its use may arise, by night or by day, which may be seen for a considerable distance, provided the view be unobstructed either by curves or objects in the vicinity of the railway. In foggy or thick weather a detonating signal is attached to the rail, which upon being exploded by the passage of an engine, gives a loud report, and thus communicates the required signal to the driver.

This latter signal requires that the man, whose duty it is to fix it should actually have arrived at the place where the signal first becomes available and is therefore the most unfavorable condition under which signals could be applied.

Upon the people in charge of a train receiving a signal to stop, it is their duty to apply the means provided upon the train for arresting its progress with the greatest alacrity. The distance to be traversed by the train before it will come to rest will depend, first upon the alacrity with which the means are applied, and secondly, upon the extent of these means as compared with the weight and speed of the train, taking also into consideration the inclinations and curves upon the line and the condition of the weather.

The distance, therefore, from any obstacle at which a signal must be given in order to secure the safety of the traffic, requires to be ascertained with reference to each railway, and the weight of engines and trains in general use upon it, the speeds at which they travel, and the means for arresting their progress provided upon each train.

The interval between succeeding trains should be made up, therefore,

1st. Of the time consumed in stopping the first train.

2nd. Of the time consumed by the guard or man who is responsible for applying the signals in going out to the required distance with those signals. This time, in a case in which considerations of public safety are involved, should be determined under the most unfavorable conditions in which the signals can require to be applied, such as a dense fog.

A liberal margin, should, however, be allowed in each consideration, in the interval so calculated, which will seldom be less than ten minutes, and

may be more. Upon railways where the means provided for arresting the progress of a train are very powerful, it might be reduced.

Few companies adopt a less interval than ten minutes; all, however, have rules by which it is imperative upon their servants to exhibit at all signal stations, the "Danger" or "Stop" signal for a certain interval after the passing of every train, so as to prevent at each of these points, which average a distance of not more than three miles apart on all the railways in this kingdom, a diminution in the interval considered necessary by the managers of the railways to be maintained between the trains.

In any regulations of this nature, as in all others that may be adopted, safety would still depend upon the vigilance of the servants of the companies, and the efficiency of the machinery.

From these considerations it appears manifest, that to prescribe a certain fixed interval of time, applicable alike to all trains, taking the responsibility out of the hands of the companies, would be improper, as each line with its gradients and curves, and the train arrangements in force upon it, would require separate consideration. To enforce upon all companies an uniform regulation in this respect, would, moreover, be unjust; for upon a line of light traffic, where trains do not succeed each other with great rapidity, fewer servants may be employed upon the trains, and fewer brakes used for stopping the trains, a longer interval of time being adopted, whereas, upon a line of heavy traffic railway companies occasionally may find it in their interest occasionally to station men within signalling distance along the line of railway, in order to save the same time consumed by a guard running out with and placing his signal when his train shall, from any cause, have been obliged to stop.

The prescription of a minimum interval, as deduced from a line of great traffic, would tend to diminish rather than increase safety in travelling, as it might lead those companies which do not use the precautions employed upon the line of great traffic to adopt the minimum interval without examination of the data and details upon which it was founded, and so relieve them in a great degree of that responsibility which should attach to them.

Probably one of the best means that can be recommended for promoting the safety of the public upon railways is an extended use of the electric telegraph, by means of which the traffic upon a railway may be so worked that no two trains shall be upon the same part of the line between neighboring telegraph stations at the same time. All lines do not possess this adjunct to their establishment, which requires a considerable outlay of capital, and a large establishment of clerks. Upon some lines the telegraph stations are not sufficiently near to one another to allow of its being used for this purpose, so that, although the use of the telegraph may, no doubt be very much extended, its adoption upon all lines, and its employment in the manner here described, cannot be enforced.

Jeffersonville Railroad.

The new Board of directors of this road met yesterday, and organized by the re-election of W. G. Armstrong, Esq., as president. Much business was transacted, and amongst it the board resolved upon the immediate construction of the extension of the road from Edinburg to Indianapolis, and the president was ordered to advertise for proposals for construction; the lettings to be made on the first Monday in July, and to contract for iron sufficient for the track, to be delivered immediately. A resolution was also adopted, directing that a manifest should be transmitted to the Louisville agency immediately upon the arrival of each freight train, and that all freight bills should be collected by the Louisville agent, and that he should be kept regularly supplied with tickets, and control the sale of all tickets in Louisville.

The prospects and business of the road were shown to be in a highly favorable condition and daily increasing.—*Louisville Courier*.

Journal of Railroad Law. AN IMPEACHMENT OF DIRECTORS.

On the 9th of May an inquisition was commenced by the Coroner, at Hambleton, England, concerning the death of the engineer and fireman of the York and North Midland railway company, who had recently been killed, in consequence of the engine having run off the line. The Board of Trade directed their Inspector, Captain Galton, civil engineer, to take part in the proceedings on this occasion, and accordingly the Coroner availed himself of the evidence and opinions of the former, in investigating the facts of the case proper, for the consideration of the jury.

It seems that the speed of the engine at the time of the accident was 50 miles an hour. Capt. Galton did not consider it safe to travel the road in question—which he had well examined and found defective,—with a heavy engine at a high speed.

The Coroner submitted the following questions to the Jury. "Was the speed too high?" "Was there any defect in the engine or in the road?" If either of these questions are affirmatively answered, who is to be blamed? After an absence of 20 minutes, the jury brought in a verdict of *Manslaughter* against the directors.

Two of the jurors dissented,—but twelve of them the required legal number, united in the verdict above stated.

THE LIABILITY OF PRINCIPALS TO AGENTS.

The Court of Appeals of this state has affirmed the judgment of the Supreme court, in the case of *Keegan, vs. the Western railroad Co.*

This action was brought to obtain a judgment for injuries sustained by the plaintiff from the explosion of the boiler of a locomotive engine, on which he was fireman. The engine was known to the company to be defective before the explosion. A verdict for damages was returned.

This case illustrates the true nature and scope of the rule in respect to claims for damages as between principals and agents.

It is true that a principal is not liable to one agent or servant, for an injury sustained by him in consequence of the negligence of another agent or servant employed in the same general business;—and a principal would not, necessarily, be liable to an agent for damages occasioned by a defective engine. But principals are exonerated from liability under those circumstances only where the injury happened *without any actual fault or negligence of theirs.*

If an agent is injured by the misconduct of the principal, the former can recover damages, as in the case of any other wrong doers. The law requires that both the principal and the agent should faithfully discharge the respective duties belonging to their positions, or suffer a just penalty for neglect,—but beyond this, the liability of neither party is extended.

HOW LONG DOES THE LIABILITY OF A COMMON CARRIER OF GOODS CONTINUE?

Generally, this liability continues until the goods carried are duly delivered or restored. But to ascertain the precise time, when they are restored or delivered, is not always easy.

This point was examined by our Court of Appeals last April, in the case of *Miller against the Steam Navigation Co.*

The defendants were common carriers, between

New York and Albany, and received goods directed to plaintiff at Albany, "care of F. M. Adams, Albany," agent of a line of canal boats, to whom the goods should have been delivered to be forwarded. The goods arrived at Albany in the barge on the morning of the 17th of August, 1848, and were chiefly discharged from the barge to a floating vessel or warehouse kept by defendants in the Albany Basin, to receive goods, preparatory to their delivery to canal lines. But on the ensuing evening occurred the disastrous fire, by which Albany suffered for a time so severely,—and the float, barge and goods were consumed.

The Supreme Court rendered judgment for the plaintiff, and this was affirmed by the Court of Appeals.

It was held that there was no evidence to be drawn from the foregoing facts that the defendants intended to store the goods, but that on the contrary, they were placing them in a proper condition for delivery, and that they continued to be liable as common carriers for their safety.

Equation of Distance upon Grades.

The comparison of any ascending grade to its equivalent length of level, is made by engineers to show the extent of its relative mechanical and financial disadvantage. Its mechanical disadvantage involves know physical elements, and can be ascertained; but the financial disadvantage of an incline is measurable only by the increased outlay for operating and maintaining it, for any assumed service. It is in this respect that many "equations of distances," which are estimated with reference to the prospects of any particular line, are of no accurate and reliable or practical character; for in practice the expense of working some of the inclines estimated, may amount to ten times what would be inferred from their ascertained mechanical disadvantage. To suppose an extreme case: let a vertical rise of 35 feet occur at any point in the line of a road,—its ascertained mechanical disadvantage would be equivalent to an excess of from one to two miles of level line, while every one knows that to work such an ascent, that is to *lift* the traffic to that height, would cost more than the operation of ten miles of level road—while the advance of the train during the ascent, would be nothing.

The assumption of the mechanical resistance, as the measure of the disadvantage, is partial, not final. The expense for operating any incline for the through traffic of a line must tell the whole story, as the expenses cover the entire means employed to encounter this mechanical disadvantage.

The mechanical estimation of ascending grades is based upon the opposing element of gravity developed in their encounter. This is a fixed and ascertained sum for each and every inclination. The other resistances of friction, etc., are generally assumed as constant at the working velocities. By having the constant resistance per ton, the resistance of gravity, on any grade, may be added to it, and the whole tractive or adhesive power of the engine be divided by their sum, for the whole tons power of the locomotive on that grade.

The mechanical disadvantage of an incline is not the same in two cases, in one of which an engine is worked up to its full force, and where in the other, it is not so worked. The estimate made in the

equation of grades to levels assume that the engine is worked to its full capacity.

We will give some data, etc., which may prove useful in considering this question.

1st. *The power of the Locomotive.* Is its power to be measured by its adhesion or its traction?—It is usual to estimate the power of an engine by its *weight*, but its weight is only a medium for the application of its *tractive* power, and the medium may be in excess of the power exerted. The power of an engine is the effect of the steam transmitted to the circumference of the drivers. If the weight is in such equilibrium, or excess, as to insure a progress, without slip, to the drivers, under the maximum pressure of steam, then the *tractive* power is the limit of the power of the engine; if otherwise, the adhesive tenacity is the measure of the power. Most engines have a large surplus of adhesion, and the correct measure of the power of the engine is, therefore, that given by traction. The Philadelphia and Reading Company, and the Baltimore and Ohio railroad, have reduced the weight on the drivers of many of their engines by the substitution of trucks and leading wheels, and their engines do as much work as before. This change has, moreover, been made when the drivers were fitted with chilled tires, which have been considered as less efficient, in point of adhesion, than wrought iron tires.

The square of the diameter of one cylinder \times effective pressure per square inch \times length of stroke, in inches, and the whole product divided by the diameter of the wheel, in inches, gives the tractive power of any engine. As nearly all such estimates of draught are made with regard to freight trains, it is usually allowed to include only the friction and concussion resistances, and the resistance of gravity on grades. The friction resistance is usually estimated at $8\frac{1}{2}$ lbs. per ton of 2,000 lbs.; the concussion resistance (increasing directly as the velocity) as 3 lbs. per ton, at 10 miles per hour; while the gravity resistance is always '3787 of a pound per ton of 2000 lbs., for one foot rise per mile. To these resistances must be added the friction of the engine and tender, equal to about 5 lbs. per square inch, on the piston of the engine, (with coupled drivers.)

Let us now ascertain the duty of an engine of 19×22 inch cylinder, 43 inch drivers and steam at 80 lbs. per inch on piston; the computation to extend to the duty on a level and on a grade of 116 feet per mile.

The traction (exclusive of the resistance of five lb. per square inch on piston for engine and tender friction,) is 13852 lbs.—

This will draw 13852
 $\frac{13852}{8.5+3} = 1204.7$ tons of 2000 lbs. each on a level.

$\frac{13852}{8.5+3+(116 \times '3787)} = 249.9$ tons of 2000 lbs. each, on grade of 116 feet per mile.

The resistance of the atmosphere, 15 pounds per square inch, should not be reckoned, except in estimating the expansive power of steam; the pressure taken from the safety valve showing only the excess of pressure above the atmosphere.

The resistance from curves are not, nor can they be, satisfactorily stated. Centrifugal force is one element of their resistance, but this is partly or wholly neutralized in a long train moving at a slow rate, from the inward pressure, or pressure

against the inner rail, caused by the indirect application of the draught.

The following table is calculated for an engine of 16x20 inch cylinders, 54 inch drivers, with a pressure of steam above that employed to overcome friction of engine and tender, of 75 lbs. per square inch on piston. This is a case of very general application.

TRACTION OF ENGINE, 7,111 LBS.

Grade—feet per mile.	Load drawn—2000 lbs. on each grade.	Resistance from gravity of engine on level.	Multiplier for No. of engines to do the same work
Level.....	618	0.	1.
20 feet per mile.....	373	7.57lbs.	1.656
30 " ".....	311	11.36 "	1.987
40 " ".....	267	15.15 "	2.314
50 " ".....	233	18.93 "	2.652
60 " ".....	208	22.72 "	2.971
70 " ".....	187	26.51 "	3.304
80 " ".....	170	30.30 "	3.635
90 " ".....	156	34.08 "	3.961
100 " ".....	144	37.87 "	4.291
110 " ".....	134	41.66 "	4.612
116 " ".....	128	43.93 "	4.828

The results of the above table and of other calculations, based upon the data from which this table is calculated, agree very nearly with the practical results obtained in the working of these grades. The table submitted in the report of John B. Jervis, Horatio Allen, and others, commissioners appointed by the legislature of New York to locate certain portions of the New York and Erie railroad, January 14th, 1847, gives the following statement.

The following table shows the ratio of freight carried by the same engine on different grades and also the multiplier or number of engines required on different inclinations to carry the same load, the unit being a level:

Grade of road.	Ratio.	Multiplier.
Level.....	1.000	1.
Ascending 20 feet per mile.....	.476	2.098
" 30 " ".....	.372	2.689
" 45 " ".....	.276	3.630
" 50 " ".....	.252	3.960
" 60 " ".....	.215	4.647
" 65 " ".....	.1997	5.006
" 68 " ".....	.1913	5.227

The above table is based upon an estimate of the constant resistances at less than eight and a-half pounds of 2240 pounds, per ton, and it is from this minimum allowance that a 68 feet grade is shown to require more than 5 engines to what would be required on a level; whereas, our table taking the constant resistance at eleven and one-half pounds per 2000 lbs., gives but 3 3-10 engines as the equivalent for a 70 feet grade, and the latter result comes much nearer the result realized in practice.

The mechanical advantage of a descending grade cannot be considered, in many cases, to exceed that of a level. It can never amount to more than a reduction of one sixth of the level distance, and it may therefore be stated that a grade of 80 feet per mile has by our table an average mechanical disadvantage each way of

$$\frac{1+3.635}{2} = 2.318.$$

An opinion prevailed to some extent, during the recent discussion of the Tunnel Question, in Mass

that a grade of 80 feet per mile, was compared with a grade of forty feet per mile, as three to one. The reasoning was, that as every 20 feet rise was equal to an excess of one mile horizontal, so two rises must give an excess of two miles above a 40 feet grade: but the simple point, hid in spite of its plainness, was that a 40 feet grade was already equal to three miles horizontal (by the common rule), and that a grade of 80 feet, being equal to two miles more, made the two grades to each other as 5 to 3; a proportion much nearer the actual results.

The following is the general rule adopted from the data given by Pambour.

DATA.

1. Friction of engine gear alone, without load, 6 lbs per ton, weight of engine.
2. Friction of wheels, axles, etc., of engine and tender, 9 lb., per ton.
3. Friction of train by itself, 8 lbs., per ton.
4. Friction of engine gear, is 1 lb., additional per ton, for every additional ton of train.
5. Atmospheric pressure on pistons, 14.7 lbs. per square inch.
6. Equal quantities of steam are producible in equal times, the pressure of steam being inversely as the velocity.

Let W = tons weight of engine.

" w = " " " tender.

" L = " " " wagons and load.

" L' = " " " engine, tender and load.

The force necessary to balance the resistances alone being $6W+9(W+w)+9L=6W+9L'$.

The atmospheric resistance being represented at the circumference of the wheel by A, then the whole resistance on a horizontal plane will be $A+6W+9L'$.

The sum of the first two terms being constant, call $A+6W=C$

Then the whole resistance = $C+9L'$

Let now,

$$\frac{C+9L'}{2240 L'} = \frac{1}{f}$$

The slope of the grade, as $\frac{1}{66}$, $\frac{1}{s}$

Then the increased force of traction on grades will be $2240 L'$

s and this brings an increased strain on the engine gear of $2240 L'$

8 s the additional friction of engine gear being $\frac{1}{6}$ that of train.

With the above details the following rules are given for the equation of grades to level distance:

Descending planes more than 8

$$\frac{9f}{s}$$

will have their own length for that of equivalent horizontal plane.

Descending planes having slopes between

$$\frac{8}{9f} \text{ and } \frac{4}{27f} \text{ will have their own length } \frac{6}{5} \text{ of that}$$

of equivalent horizontal plane.

Descending planes less than 4

$$\frac{27f}{s}$$

will have their equivalent horizontal planes

$$8s-9f$$

8s times their own length.

Ascending planes, will have their equivalent levels $8s+9f$

8s times their own

length.

We will apply these rules to a grade of 80 feet per mile, and to 40 feet, respectively:

Weight of engine 24 tons, of 2000 lbs.

" engine and tender 40 tons, of 2000 lbs.

" train E. and T. 240 tons, do.

The resistance, (leaving out A) will be,

$$144+2160=2304 \text{ lbs.} = C+9L'$$

$$\frac{C+9L'}{2000L'} = \frac{1}{f} \text{ or } \frac{2304}{480,000} = \frac{1}{208}$$

$$\frac{1}{s} = \frac{1}{66}$$

Grades of 80 and of 40 feet per mile will, each of them, exceed 8

9f so the mechanical advantages of their descent must be the same as upon a level plane. ASCENDING.—80 FT. GRADE

$$\frac{528+1872}{528} = 4.54 \text{ times the length of a level.}$$

ASCENDING.—40 FEET GRADE.

$$\frac{1056+1872}{1056} = 2.77 \text{ times the length of a level.}$$

The average ascent and descent of the 2 grades would, therefore, be $1+4.54$

$\frac{1}{2} = 2.77$ times a level on

2 80 feet grade, and

$$\frac{1+2.77}{2} = 1.88 \text{ times a level on 40 feet grade.}$$

Alleghany Valley Railroad.

The prospects of this great work are very bright and flattering. The whole line from the city of Pittsburg to the New York state line, near Olean, where it will connect by other roads with the N. York and Erie, and the New York central line, is under contract, and the work is being pressed with great energy.

A large subscribed stock capital has been secured, amounting to over.....\$3,300,000 The estimated cost of the work completed and equipped, is in round numbers..... 5,000,000

Leaving but \$1,700,000 hereafter to be supplied by further subscriptions to the stock or by an issue of mortgage bonds.

The president of the company, the Hon. Wm. F. Johnson, late governor of the state of Pennsylvania, an exceedingly energetic and efficient man, is now here on the business of the company. Messrs. Winslow, Lanier and Co., are its financial agents, through whom the bonds of the city of Pittsburg and the county of Alleghany, in which the city is situated, will be disposed of. These bonds are now in their hands, and will shortly be offered to capitalists. They present one of the strongest securities ever offered. The population of the city and county is nearly 200,000, and their taxable property over \$30,000,000; while their debt is comparatively small, and most of it represented by railroad stocks, owned by them, all of which are worth par and upwards in the market.

Milwaukee and Mississippi Railroad.

From a recent examination of the country through which the Milwaukee and Mississippi railroad is laid out, we are inclined to give this latter road a very great importance and bearing in connection with the Oakland and Ottawa road. Besides being connected by local ties of the strongest character, they have a general similarity in several of the most important characters. For instance, both form important links mutually dependent on each other in the straightest line and the shortest route between New York or Boston and the Great Pacific centre of commerce at San Francisco; both of these roads open up immense tracts of country for settlement and improvement, the whole trade of which their position naturally commands as surely as the lowest level diverts the course of a river, and draws to its channel the neighboring streamlets, as they seek the least unobstructed way to the ocean. Both of these roads also terminate at their eastern extremities in the best and most commodious harbors for shipping and navigation on the western lakes.

The Milwaukee and Mississippi road, however, has the advantage over our road in some respects, but they are of such a nature that they will contribute materially to the prosperity of the Michigan road while the latter will amply repay the benefits conferred by the travel and trade it will bring to Milwaukee from the east.

The Mississippi and Milwaukee railroad is laid out on a line little south of west, from Milwaukee to Janesville, a few miles east of which last named place the road takes a northerly direction to Madison. From Madison this road is to be consolidated with the Prairie du Chien road, the length of which is about one hundred miles due west, and will connect Milwaukee at that point with the upper waters of the Mississippi. The road from Milwaukee to Janesville, 71 miles in length, is already completed and in operation; we may say successful operation also, for the receipt of freight alone carried out of Milwaukee on one of the days of last week, we are informed, amounted to over \$400. That part of the road which will connect Milwaukee with Madison is about 40 miles in length, is now rapidly prosecuted, and will be completed about the first of next January. This portion of the road runs through a series of counties which compare very favorably in population with the counties of this state, through which runs the Central railroad. For instance, the five counties from Milwaukee to Madison, have the following population according to the last United States census:

Milwaukee.....	31,077	Rock.....	20,708
Waukesha.....	19,174	Dane.....	16,641
Jellerson.....	15,317		

Beyond Madison to the Mississippi, lie two counties which have the following population:

Iowa.....	9,530
Grant.....	16,170

Compare these figures with the seven counties of Michigan through which runs the Central railroad as follows, to wit:

Wayne.....	42,756
Washtenaw.....	28,567
Jackson.....	19,432
Calhoun.....	19,162
Kalamazoo.....	13,179
Van Buren.....	5,800
Berrien.....	11,417

And it will be seen that if these counties may be relied upon for trade and travel over the Canada railroad, by the projectors of that enterprise, the above named populous counties of Wisconsin may be easily counted upon for a proportionate travel, which will materially add to the receipts of both the Oakland and Ottawa roads, and also to the Canada Great Western road.

We are informed that the route of the road from Madison to Prairie du Chien is now being surveyed, and that it will be under contract by the 1st of August next. This, when completed, will form a still more extensive region of country for the Oakland and Ottawa road to draw its receipts from.

A glance at the map, to the eye of the most inexperienced, will show that the Mississippi and Milwaukee road terminus, at Prairie du Chien, will form as complete a trap to catch all the business and pleasure travel seeking the upper waters of the Mississippi and its tributaries, as could possibly be devised. The location is just at that point where the great river itself, after flowing from the north-west, begins to take a more direct course to the south, and will naturally cause every pound of freight, and every traveller destined for the eastern cities, to stop there, as the nearest point to the great eastern markets. And what is more advantageous still, from an examination of the whole region of country which will be drained by the M. & M. R. R., this Company may defy rivals, so far as the north-west is concerned. To the south of them there will be many rivals for the traffic of the west, but the connection once established between the Mississippi river and the Atlantic, by way of the New York Central line, the Great Western through Canada, the Detroit and Grand Haven, and the Milwaukee and Mississippi railroads, and the Milwaukee and Mississippi railroad Company may, if judiciously managed, defy all competition for that immense travel and traffic which is now in its infancy, but is fast growing in importance, from the mouth of the Wisconsin river along the upper waters of the Mississippi, and its tributaries, throughout nearly a thousand miles of river navigation, and which must eventually make the Milwaukee road a most profitable one. We do not wonder that Milwaukee is anxious for its completion. It must make her the great depot for Northern Wisconsin, Minnesota and Nebraska.

Nor among the aids which the Oakland and Ottawa road will derive from the Wisconsin road, should it be overlooked that the latter will run through one of the richest lead regions of the United States. According to the geological map accompanying the report of David Dale Owen, on the geology of the territory on the upper Mississippi, this road will pass directly through the lead bearing region, in the southern portion of Wisconsin. This will also add to the business of the two roads, and help to furnish it with the most valuable freight.

Taken altogether, advantages are presented by the Milwaukee and Mississippi road, as furnishing a business of the most important, lucrative and desirable kind to the Oakland and Ottawa road, the moment the latter is finished, and which must increase in the same ratio that the population and wealth of Wisconsin, Iowa, Minnesota, Nebraska, and of the whole north-west grows, more numerous and large, that we know of no investment in railway enterprise that promises better returns.—*Detroit Advertiser.*

The North Route to the Pacific.

Governor Stephen's corps of Engineers and suite have arrived at the initial point of their survey in Minnesota, and will start westward as soon as the Chief of the corps arrives.

The following plan of operations has been furnished by a member of the corps to the Madison Democrat for publication:—

The especial object of the exploration is, determination of a railroad route from the head waters of the Mississippi to Puget Sound. In consequence of the meagreness of the information in reference to the country to be gone over, particularly in the Rocky and Cascade Mountains, a general topographical survey must be had of these Mountains, between the 46th and 49th parallels, and of most of the intervening country, in order to determine the general course of the railroad, and furnish the data to guide the civil engineers in determining the route. The explorations involved are, therefore, as follows:

1st. A general reconnaissance of the country.—This will embrace the general features of the country, as mountain ranges and passes, windings of rivers and streams, their dividing ridges, prairie, and every thing which shall be necessary in the construc-

tion of a general map of the country passed over.

The result of this examination done by reconnoitering corps assigned to the special duty, will be to determine the most advantageous route to be pursued for the railroad, and to direct the movements of the party entrusted with locating it.

2nd. The survey and location of the railroad.—This will be along the route, resulting from the labors of the reconnoitering corps, and will embrace all the facts bearing upon the construction of the road. The route will be run by compass courses day by day, and measured by an adometer, and the results thus obtained, checked by the daily determinator of latitude and longitude, will form the base lines to which will be referred all objects observed in the survey.

3d. The decisive points which must determine the location of the road, are the mountain passes of the Cascade and Rocky mountain ranges; and it may occur that the location of the road between the two ranges, and for a long distance east of the Rocky mountains, must be suspended until these passes be examined and selected; and much of the general reconnaissance must be made after the selection of these mountain passes, which are the controlling points of the survey.

OBSERVATIONS.

1. Permanent posts, for one year, to be kept up for a longer period if additional appropriations are made.
2. Parties in the field to be continued 6 months, the permanent posts a result of their labor.
3. At permanent posts will be barometrical and hygromatrical observations, also, quantities of rain and snow will be carefully observed, also observations as to the wind and storms.
4. Parties in the field will all observe for temperature, winds and storms. Some four main parties will use the barometer, and, if practicable, make observations as to rain and moisture.

Railroad Accidents--What has been done may be done again.

Since the appalling calamity at Norwalk, the press has teemed with articles suggesting plans to prevent railroad accidents. Allow me to state a fact which throws some light on the subject. For nearly five years only one accident has occurred on the Utica and Schenectady railroad by which there has been loss of life; yet there have passed over that road in the meantime, more than two millions of passengers—nearly equivalent to one-tenth of the population of the United States. From this one and only accident, only three lives were lost, and some of them would have been saved had the persons obeyed the directions of the managers of the train. In this instance no blame whatever attached to the officers of the road. It was occasioned by a sudden washing away of the road in circumstances against which human foresight could not provide. It is questionable whether another railroad of equal length in the world can show so favorable a statement in regard to the loss of life as the Utica and Schenectady. This is attributable mainly to the noiseless vigilance and efficient management of Mr. Vibbard, than whom a more competent railroad superintendent cannot be found.

Amid the wholesale censure so freely lavished on railroad officers, it is but just that credit should be given where credit is due. That Mr. Vibbard merits the tribute of public gratitude for this able management, all who have observed his course will readily acknowledge. Great credit is likewise due to the directors, and particularly to Mr. Corning the president of the company. Mr. Corning has had the sagacity to see, what others in like positions are slow to learn, that instead of attempting to manage the details of a road in the directors room, one competent head should be selected for that purpose. The responsibility of running the trains being devolved on one man, and he a faithful and competent man, the Utica company have carried these two millions of people expeditiously promptly and safely, and for this they deserve the lasting gratitude of the public. Now, why cannot other roads do equally well? What has been

The following named gentlemen were chosed Directors for the ensuing year, namely :—Wm.

Raymond Lee, John Howe, C. J. Hendee, Harison Fay, A. Wentworth, Jr., John Conant, and Benj. T. Reed.

American Railroad Journal.

Saturday, June 18, 1853.

Railway Share List.

We give, in our present issue, a *Share List* of railways in the United States, which presents what was never before attempted,—a complete view of their financial condition, as well as the current value of their shares. We shall add, in our next number, a list of the leading bonds before the market.

We solicit the particular attention of railroad companies to this List, for the purpose of correcting any errors in our tables, or supplying any omission that may exist in them. As only two or three States require returns to be made, we are compelled to depend upon the reports of companies for a knowledge of their condition. We shall esteem it a great favor if railroad companies will supply us with the necessary data for completing our tables, at their earliest convenience.

Stock and Money Market.

The stock market has presented no new feature. For the past week there has been some fluctuation among the fancies, but premium securities show no change, unless it is that they are a shade higher. There is a steady and fair demand for railroad bonds. Money is very abundant, but the season of the year does not form speculation.

The dividend on *Erie* is one of the leading topics in the street. Nothing is known of the matter outside the Direction. Our opinion is adverse to the propriety of declaring one. We take it for granted that none will be declared without the satisfactory evidence that one has been *earned*. It is useless to discuss the question till the action of the Directors is known. We do not wish to prejudice the matter. Our recent articles attacking the management of the road, have been followed by important changes and reforms. If these reforms shall be carried out, our objects will be secured. They cannot be effected in an instant.—We are willing to wait a reasonable time. We expect, however, to see the adoption of a correct line of policy at once. A proper plan for the *future* must be adopted, even should it be found difficult immediately to bring the working of the road to an ideal standard. Should a dividend be declared, we expect it will be accompanied by a balance sheet, showing the condition of the Company.—Such statements can be omitted no longer. The old apology, that a knowledge of the condition of the company's affairs would destroy public confidence, and in this way defeat the enterprise, are no longer allowable. The work is *completed*, and the sooner every thing is known about its cost and management the better. We expect much from Mr. McAlpine. We are confident he is making good use of his time. *He* can have no motive but a proper one. He is not implicated in the past history, nor is he a speculator in the stock and securities of the road. We are satisfied that other changes must take place, which will clear the Co. of all persons engaged in speculating in its stock and bonds. We think that nothing can be more improper than for persons, occupying high and responsible positions on a railroad, use such posi-

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net Earnings in 1852.	Dividend, 1852.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	95
Androscoggin and Kennebec.. "	55	809,878	905,300	1,994,429	131,006	.....	none	80
Kennebec and Portland..... "	72	876,741	800,000	2,180,000	133,338	.....	none	40
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland..... "	20	227,981	291,200	In progres	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,270	622,000	2,540,217	150,538	79,659	none	53½
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	10	108
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	....
Northern	82	3,016,634	.....	.....	328,782	163,075	5	58
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	99
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	108
Portsmouth and Concord.... "	47	.....	1,400,000	.....	.....	.....	none	....
Sullivan..... "	26	.....	673,500	.....	.....	.....	none	9
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	46
Rutland	120	2,435,328	1,964,588	.....	324,790	165,340	none	35
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	18
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	101½
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	....
Vermont Valley	24	.....	.....	.....	.....	.....	none	....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	100
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	109
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	429,484	212,625	6	88½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	104½
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	57½
Eastern..... "	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	95
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	107
Fitchburg..... "	66	3,540,000	100,000	3,633,673	574,574	232,787	6	103
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	67
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	86½
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	118,679	18,648	none	17½
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	60
Western..... R. I.	155	5,150,000	5,319,520	9,953,759	1,339,873	682,195	6½	102½
Stonington..... "	50	.....	.....	.....	.....	.....	.....	56
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	124
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	....
Hartford, Prov. and Fishkill. "	50	.....	.....	In progres	.....	.....	none	....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	....
New York and New Haven... "	61	2,992,450	1,641,000	4,825,937	814,714	443,993	7	109
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	55
Albany and Schenectady.... N. Y.	17	1,000,000	685,301	1,774,584	296,112	164,448	8	139
Buffalo and New York City.. "	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and Rochester..... "	76	1,825,000	184,903	2,415,014	619,976	415,223	10	182
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	....	128
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	....
Canandaigua and Elmira.... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	....
Erie, (New York and Erie)... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	87
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	388,783	none	72½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	65½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	36
Ogdensburg (Northern).... "	118	1,578,311	2,780,760	4,933,029	435,845	176,123	none	43
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Rochester and Syracuse.... "	184	5,132,990	700,123	6,016,778	988,366	549,824	8	156
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	....	....
Saratoga and Washington... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Syracuse and Utica..... "	53	2,400,000	126,000	2,661,477	616,918	376,025	10	182
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently opened.	.....	....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently opened.	.....	none	....
Utica and Schenectady.... "	78	4,124,000	none.	4,093,273	1,029,774	724,770	10	195
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,498	1,388,385	478,413	10	149
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	140,154	80,351	4	....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	3,279,880	260,899	124,740	3½	....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	93½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net earnings in 1852.	Dividend, 1852.	Price of shares.
Philad., Wilmington and Balt. Penn.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	....
Pennsylvania Central	250	9,768,153	5,000,000	15,600,000	1,943,827	617,625	....	100
Philadelphia and Trenton	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	72 1/2
Washington branch	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna	57	.....	.....	.....	413,673	152,536	.....	42
Alexandria and Orange	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh	64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville	73	.....	.....	In prog.	.....	.....	.....	.....
Richmond and Petersburg	22	.....	.....	.....	.....	.....	.....	.....
Rich., Fred and Potomac	76	.....	.....	.....	.....	.....	.....	.....
South Side	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee	60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina	242	3,858,840	3,000,000	7,002,306	1,000,717	609,711	7	125
Georgia Central	191	3,100,000	306,187	3,378,132	945,508	508,625	8	102
Georgia	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscookee	71	.....	.....	In prog.	.....	.....	.....	.....
Wilmington and Manchester	.....	.....	.....	.....	.....	.....	.....	.....
Southwestern	50	586,887	150,000	743,525	129,895	71,535	8	.....
Alabama and Tennessee River	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington	28	1,430,000	900,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington	65	.....	.....	.....	87,421	44,250	.....	.....
Louisville and Frankfort	.....	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh	100	1,239,454	1,371,000	2,963,756	194,429	123,306	6	102
Cleveland, Painesv. and Ash.	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus	135	3,027,000	408,200	3,655,000	777,793	483,483	12	132
Columbus, Urbanna and Piqua	.....	.....	.....	In prog.	.....	.....	.....	.....
Columbus and Lake Erie	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	115
Cincinnati and Marietta	.....	.....	.....	In prog.	.....	.....	.....	.....
Dayton and Western	40	310,000	550,000	925,000	.....	.....	.....	80
Dayton and Michigan	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton	36	.....	.....	.....	.....	.....	.....	.....
Greenville and Miami	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami	84	2,370,784	.....	2,634,157	526,746	314,670	10	120
Mansfield and Sandusky	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River	167	1,860,500	.....	.....	565,751	.....	.....	.....
Ohio Central	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi	.....	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania	187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd	87	552,000	800,000	1,317,140	.....	.....	.....	145
Xenia and Columbus	54	1,092,187	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern	131	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine	83	.....	.....	.....	.....	.....	.....	.....
Lawrenceburg and Ind.	.....	.....	.....	In prog.	.....	.....	.....	75
Lafayette and Indianapolis	62	.....	.....	.....	.....	.....	.....	.....
Madison and Indianapolis	88	1,650,000	750,000	2,400,000	516,414	268,075	10	102
Peru and Indianapolis	40	.....	.....	In prog.	.....	.....	.....	.....
Terre Haute and Indianapolis	72	632,387	663,100	1,353,019	106,593	71,446	4	108
Rock Island and Chicago	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi	.....	.....	.....	.....	.....	.....	.....	.....
Galena and Chicago	Ill.	.....	.....	.....	.....	.....	.....	136
Illinois Central	92	1,932,361	500,000	In prog.	472,109	.....	.....	130
Michigan Southern	315	2,499,410	2,629,000	6,480,246	292,187	293,046	.....	145
Michigan Central	282	.....	.....	.....	.....	.....	.....	117
Pacific	Miss.	.....	.....	.....	.....	.....	.....	.....

tions for the purposes of speculation. There can be no doubt that the interests of the Erie road have suffered vastly from this cause. We believe that a spirit of reform is awakened among the stockholders of the Erie road, that will not be quieted till its whole management is thoroughly purged.

The following statement shows the aggregate amount of tolls collected on all the Canals of this State up to May 31, for several years, and the amount collected during the fourth week in May in each year:

	Fourth week in May.	Total to May 31.
1846	\$116,016	\$598,760
1847	196,175	709,380
1848	138,305	621,323
1849	136,672	615,110
1850	121,393	596,328
1851	127,399	773,330
1852	107,222	545,199
1853	129,652	593,775
Increase in 1852 to May 22	.....	\$26,146
Increase for 4th week in May, 1853	.....	22,430

Total increase.....\$48,576

The subjoined table shows on what description of freight these tolls have been collected, compared this year with last:

	1852.	1853.	Dec're	Incr'e
On up freight, merchandise	\$176,363	\$205,305	.....	\$28,942
On down freight from other States	697,511	219,279	.....	21,718
On down freight from this State	171,275	159,192	2,084	.....
Total	\$545,199	\$593,775	.....	\$50,660
Decrease	.....	.....	.....	\$2,084

\$48,576

The earnings of the Greenville and Miami railroad for the first five months of the year, show a steady gain, and are beyond the estimates. The figures are—

January	\$8,800 25	April	\$9,271 54
February	8,970 25	May	11,257 39
March	9,578 94		
Total	.....		\$47,964 37

These earnings have been made with an incomplete equipment. June promises to show a still larger advance.

The receipts of the Cleveland and Pittsburg railroad for May, 1853, are as follows:

For passengers	\$18,731 32
For freight, mails, etc.	16,632 62

Total	\$35,364 44
Receipts for May, 1852	25,332 30

Increase.....\$10,032 14

The business of the Ohio and Pennsylvania railroad has been as annexed:

Receipts in May, 1853	\$47,366 00
Receipts in May, 1852	20,893 65

Increase.....\$26,472 35

First 5 months in 1853	\$186,934 24
First 5 months in 1852	76,984 37

Increase.....\$109,949 87

This is a gratifying exhibit, for the first month in the beginning of the through trains. The through trains only began to run on the 16th of May. The

next two or three months will show the importance of this great route.

The earnings of the Macon and Western railroad company for May were:

Passengers.....	\$6,812 27
Mails.....	1,080 04
Freights.....	8,717 80

	\$16,609 61
Corresponding month last year.....	18,257 96

Decrease.....\$1,648 35

The earnings of the Greenville and Miami railroad for the first five months of the year show a steady gain, and are beyond the estimates. The figures are:

January.....	\$8,800 25
February.....	8,970 25
March.....	9,578 94
April.....	9,271 54
May.....	11,257 39

\$47,964 37

These earnings have been made with an incompetent equipage. June promises to show a still larger advance.

The receipts of the Pennsylvania railroad for month of May were as follows:

From passengers.....	\$116,932 22
From freight.....	76,546 12

Total for the month.....	\$198,478 34
Corresponding month last year.....	161,583 92

Increase.....	\$31,894 42
Total receipts from Jan. to May, inclusive, 1853.....	\$1,292,588 53
Corresponding period last year.....	857,990 20

Increase this year.....\$434,563 33

The following statement will show the earnings of the Cincinnati, Hamilton and Dayton railway for May:

Earnings.....	1852.	1853.
From passengers.....	\$15,368 61	\$21,694 43
From freight.....	7,133 62	12,500 27
From mails and express..	180 92	866 40

Total.....	\$22,717 15	\$35,061 10
		22,701 15

Increase, 54 per cent.....\$12,359 95

The receipts of the Hudson River railroad Co. for May were.....	\$93,704
May, 1852.....	61,038

Increase 53½ per cent.....\$32,666

The earnings of the Rutland and Burlington railroad company for the month of April were.....	\$40,376 08
In same month last year.....	20,385 33

Gain this year (nearly 100 per ct.)\$19,991 65

The receipts of the Erie railroad for May are not up to those of April, and show a small gain over those of May, 1852:

They were.....	\$389,412 33
May, 1852.....	369,285 56

Increase.....	\$20,126 77
The aggregate for the past 5 months..	\$1,796,707
1952.....	1,314,588

Increase 35 per cent.....\$482,119

The earnings of the Chicago and Rock Island railroad for May were:

For passengers.....	\$27,699 64
For freight and mails.....	3,715 28

Total.....\$31,414 92

The revenue of the Baltimore and Ohio railroad for the month of May, has been as follows:

	Main Stem.	Washington Branch	Totals.
Passengers..	\$54,522 50	\$26,625 33	\$81,147 83
Freight.....	150,427 51	5,693 33	153,120 00

Total.....\$204,950 01 \$32,318 66 237,267 83

The receipts of the corresponding month (May) of last year, were \$141,734 13 from the Main Stem, and \$33,140 25 from the Washington Branch, making a total of \$174,974 38; thus showing an aggregate increase of \$62,394 29, of which over \$26,000 was from passengers, and \$37,000 from freight on the main stem.

The receipts of the Milwaukee and Mississippi railroad for the first four days of this month, were \$3,000. This was on 70 miles of road.

Dayton and Western Railroad.

We gave last week the recent exhibit published by this company. We learn that the road, is now in good running order, the ballasting of the track having been nearly completed, and that the daily receipts from ordinary business equal about \$200 per day, and are rapidly increasing. From the Indiana state line, the Central road is making rapid progress, and will be completed in September next. A greater part of the business of this road will be thrown upon the Dayton and Western.

The route occupied by both is not only identified with the great route of travel which has been followed since the first settlement in the west, but the one upon which the most important interior towns of both states have grown up, making it the convenient as well as the necessary route for every business man. The city of Dayton, already commands a large portion of the trade of the country traversed by the Dayton and Western road, and must either remain the market, or the point *in transitu*, of the products of the country lying west to the markets of the east. We see no reason why the stock and bonds of this road will not become favorite securities for investment.

Rutland Railroad.

Wm. Raymond Lee, Superintendent of the Boston and Providence railroad, has been recently chosen President of the Rutland railroad.

Alexandria, Loudoun and Hampshire Railroad.

A meeting of the stockholders of this company was recently held at Alexandria. The following notice of their proceedings we copy from the *Alexandria Gazette*:

"The stockholders of the Alexandria, Loudoun and Hampshire railroad company held their first annual meeting yesterday. The usual business attending an organization was transacted, and an interesting discussion of the policy and prospects of the Co. took place, upon a resolution in relation to the surveys for a route, which was finally laid upon the table.

Lewis McKenzie was unanimously elected President of the Company, and James McIlhenny, of Loudoun, and George H. Smoot, of Alexandria, Directors on the part of the Stockholders.

Messrs. Robert H. Miller, of Alexandria, Noble S. Braden of Loudoun, and John Bruce, of Winchester, were appointed the committee to examine into the affairs and proceedings of the Company, and report thereon at the general meeting, to be held in this place on the third Tuesday in October next.

The by-laws of the Manassas Gap railroad company were adopted as far as applicable, and Messrs Cassius F. Lee, David Funsten, and A. Sidney Tebbis

were appointed a committee to report to the next meeting such changes therein as they deem expedient.

The annual meetings of the Co. were ordered to be held in Alexandria, on the third Thursday in October, in each year."

Great Western Railway.

We have the report of the Directors of this Co., submitted at the annual meeting of the stockholders, held at Hamilton, on the 6th inst., which pre-the following statement of the affairs of the Company:

The amount expended upon the road up to 30th April, 1852, was.....£233,039 8 5
Amount expended from April 30th, '52, to April 30th, '53.....£939,718 14 5

Total expenditure up to April 30, 1853.....£1,322,758 2 10

It will be seen that a large amount of work has been performed since the last annual meeting, and the progress already made is such as to insure the greatest advancement of the work during the present season. All the important structures are in rapid progress of completion, the grading is in an advanced state, and arrangements are made for a vigorous prosecution of the work along the whole line. Most of the rails, of the best description, and purchased before the recent advance in iron, are already delivered, and the balance are on the way from England, via Quebec.

The Directors express a confident belief that by adopting the most energetic measures to press on the work, they will be able to open the line from the Detroit river to Niagara by the 1st of January next. This delay beyond the time anticipated in the last report, will result from the excess of the present estimates of work and cost over those submitted at the last annual meeting.

The Directors state that Mr. Stuart, who first surveyed the road and estimated its construction, was succeeded by Mr. R. G. Benedict, in September, 1851, before the financial position of the company had allowed them to commence the undertaking on a large scale. Mr. Stuart's estimates amounted to £1,326,000. After receiving instructions to make the structures of the line available for a double track, and after making detailed measurements of the line, Mr. Benedict submitted a revised estimate, which exceeded the former by £286,000 currency. This led to a careful investigation, on the part of the Directors, which resulted in the resignation of Mr. Benedict, and Mr. J. T. Clark, who had been, for some time time, appointed as Commissioner, was appointed Chief Engineer, November 9th, 1852. Mr. Clark is an Engineer of high standing in the United States, and has had extensive experience in the construction of public works there; and these facts, combined with the knowledge he had acquired of the Great Western line, rendered him the most eligible person to fill the office to which he has been appointed. Mr. Clark's present estimates have exceeded the amended estimates of Mr. Benedict by £336,295 currency; making a gross excess, over the first estimates, of £622,295 currency.

The Directors regret exceedingly that they have been the medium of deceiving the stockholders by transmitting such loose and unreliable statements of their prospects, but believe the extent of the deception may be measured by the ascertained extra cost and loss of time, and that the stockholders may rely upon the statements and esti-

mates of the present able and efficient Chief Engineer.

The Directors cannot avoid expressing their conviction that the road, when completed, will compare satisfactorily with any works on this side of the Atlantic, and that the whole cost of the line, when completed and furnished with the equipments for the conduct of the traffic, will not much exceed £7,500 sterling, per mile; a rate that will sound startling to those acquainted with the cost of European railways.

Twenty locomotives are contracted for; also 25 eight wheel passenger cars, 20 emigrant cars, 350 freight and gravel cars, and a fair proportion of mail, express, baggage, repair and hand cars, all of which will be delivered in ample time. Permanent and substantial workshops and stations have been contracted for at Hamilton and London, these points being the centres of important business and the proper points for the workshops of the line. At other places, inexpensive buildings will be erected, which can be increased or perfected as the business becomes developed.

The arrangements referred to, in the report of 1852, in regard to the issue of shares in England, have been fully completed, and in the early part of the present year a further amount of shares and bonds was offered to the stockholders, and readily subscribed for, making the present number of shares in England, and the amount of convertible bonds—the issue of which is authorised by a distinct legislative enactment—equal to about £1,200,000 currency; the various calls upon which have been paid with the utmost regularity.

The present session of the provincial legislature have granted an act authorising the increase of the capital from £1,500,000 to £2,000,000 currency.

After the incorporation of the Guelph and Sarnia line into the Grand Trunk prospectus, a memorandum of an arrangement was drawn, which will be recommended to the Boards of the two companies as the basis of a friendly agreement, by which neither company will suffer from interference or competition.

As the proceedings of the Grand Trunk company rendered it extremely important to secure the "control of the Hamilton and Toronto railway, it has been arranged that this company take a lease of that line, at a rent of six per cent on its guaranteed cost, with an equal participation in all dividends paid by the Great Western company." The directors strongly recommend this lease to the adoption of the stockholders, as a means of cementing the Great Western interests and of keeping the whole in a profitable and independent position.

After the sanction of the Guelph and Sarnia line, the directors became convinced of the necessity of extending their branch from London to Sarnia, this being part of the original scheme and forming from its position and route a valuable part of the company's system. An act has accordingly been procured, at the last session, authorising the construction of this branch by an independent company, with power to amalgamate with the Great Western, so that the line may be opened under this or under the original powers of the Great Western as may be found desirable. The directors believe that satisfactory arrangements can be completed for the construction of the Sarnia Line under the original charter, and recommend that

authority be given them to commence its construction.

The following capital account is appended.

GREAT WESTERN RAILWAY CAPITAL ACCOUNT.

DR.	Expenses Since dittoes last re- port. April 30, 1853. Total.		Grand total.
	£	£	£
Eastern Division— 42½ miles, Niagara to Hamilton, Grading, masonry, bridging and superstructure,— exclusive of iron. 6,337 109,996 116,333			
Central Division, 27.9 miles, Hamilton to London. Items as for eastern division....	188,883	221,216	410,100
Western Division, 110.3 miles, London to Windsor. Items as for eastern division....	10,152	160,298	170,450
Galt branch, 12.02 miles. Items as for Eastern division....	11,245	21,918	33,164
Cost of iron.....	59,532	212,691	272,223
Right of way.....	40,770	58,166	98,936
Engineering for the whole line.....	23,087	22,408	45,495
Locomotives, cars and machinery....			46,244
Interest on shares and bonds.....			69,844
Expenses at London agency.....			33,935
Other charges.....			26,032
Total expenditure till April 30, 1853....			1,322,758
Balance.....			451,155

£1,773,913

CONTRA: CR.

By amount paid on 49,155 shares. £842,913	5	10
By " " Bonds issued in 1852, and convertible into shares on or before 1856.....	443,500	0 0
By amount Bonds issued in 1853, non-convertible, redeemable in 1873.....	212,500	0 0
By Loan from the Provincial Government.....	244,444	9 0
By Premiums on sale of Provincial Bonds.....	30,555	11 0
	£1,773,913	5 10
By Balance.....	£451,155	0 0
By amount receivable on Stock..	148,477	0 0
	£599,632	0 0

Statistics of New Hampshire.

The following statistics of New Hampshire will be found interesting. They are from the recent message of Gov. Martin:

The aggregate banking capital in the State is \$3,226,000, inclusive of Savings Institutions, the capital of which is \$2,182,218.

There are 6244 miles of railroad in the State, in running order, which have cost \$18,346,086 64; the last annual receipts have been \$1,768,465 98, and the net revenue averaging nearly 4½ per cent on the whole investment.

The educational institutions in the State are represented to be in a flourishing condition. The number of persons engaged in educational pursuits is stated to be 92,833; the amount of money applied for the purposes of education \$271,747; and the number of educational institutions of every grade 2,394.

The State debt has increased during the last year from \$66,195 08 to nearly \$74,000. The

quadrennial session of last fall has been the principal cause of this extra expense.

The lands improved and under tillage number 2,251,488 acres; value of farms \$55,245,997; farm implements and machinery \$2,314,125; live stock \$8,871,901; orchard products \$248,563; domestic manufactures \$393,445. We raise an average crop of 185,658 bushels of wheat; 183,117 do. of rye; 1,573,670 do. of Indian corn; 973,381 do. of oats; 70,856 do. of peas and beans; 70,256 do. of barley; 65,265 of buckwheat; 4,304,919 do. of potatoes; and we produce 1,108,476 lbs of wool; 6,977,056 lbs of butter; 3,196,563 lbs of cheese; 1,294,863 lbs of maple sugar.

There are in the same State 44 cotton establishments in operation, covering an investment of \$10,950,560; manufacturing 113,106,247 yards of cloth, using 93,026 bales of cotton; consuming 7,679 tons of coal; involving a value of raw material of \$4,839,429; employing 2,911 male, and 9,211 female operatives; disbursing to the former \$75,718, and to the latter \$124,131 per month—making an average to the males of \$25 45, and to the females \$13 47 per month; and producing an aggregate value of products of \$8,830,619. Woollen establishments, 61; investments \$2,437,700; yards of cloth manufactured, 9,712,840; pounds of wool used, 3,604,103; tons of coal, 3,600; value of raw material \$1,267,293; number of males employed, 926; females, 1,201; entire wages per month, males \$21,177; females, \$17,451; average wages per month for the former, \$22 84; the latter, \$14 51; value of the entire products, \$2,127,745.

Wabash and Erie Canal.

About the first of the next month the Wabash and Erie Canal will be called completed. It is contemplated that the water will be let in at that time, although the canal will not be in running order for several weeks thereafter. Indeed, it will require several weeks to let the water in properly, and with the proper precautions. This stupendous work is by far the greatest and most costly public improvement in the State. The first act of Congress granting lands to this canal was passed in 1827, and additional grants were made in 1841 and 1845. The work, however, was commenced in 1832, and completed to Lafayette in 1842; to Covington in 1846; to Coal Creek in 1847; to Terre Haute in 1849; to Point Commerce in 1851; to Evansville in 1853. Thus it has been over twenty years since this great canal was commenced. The length of the Wabash and Erie canal, in Indiana, is 375 miles, and in Ohio, from the State line to Toledo, on Maumee Bay, 84 miles; making, in all, 459 miles.

The value of such a tremendous artificial channel of trade to Evansville, its Ohio terminus, cannot be estimated at this time. Our people may talk about air line railroads, &c., most valuable and desirable improvements as they are, but this canal will be worth more to Evansville than all else combined. Bringing down the tolls, as it is intended, to the lowest notch, heavy freight will be carried on this canal at rates with which railroads cannot compete. A large portion of the year it will supercede the Wabash river as a channel for bringing to the Ohio river the produce of the rich Wabash valley, and conveying back merchandise, &c.

Yet, immense as must be the trade poured into the lap of Evansville by this great improvement, scarcely an effort has been made to accommodate this trade, by the erection of warehouses, &c.—The business, however, will soon bring the means for its accommodation, yet a considerable portion of trade must be lost to this city during the summer for the want of proper warehouses. We hope in the fall, when we shall sum up the buildings erected during the season, to have the pleasure of placing in the list, several large and substantial warehouses and commission stores on the canal.

Be this as it may, we hail with joy the final completion of the canal. Now for a celebration!—There is no work in the whole west comparable to this, and certainly in view of its speedy completion

we should be discussing, if not preparing a celebration worthy of the enterprise, the completion of which it is intended to commemorate. What say our friends at Terre Haute and Lafayette?—*Evansville Journal.*

Morris and Essex Railroad.

The annual report of the Board of Directors of the Morris and Essex railroad, submitted to a meeting of the stockholders, held at Dover on the 8th inst., states the receipts for the year to have been \$149,941 48, of which there were from passengers \$91,267 02; freights \$54,892 69; mails \$3,471 77. The expenses amounted to \$71,689 79, leaving a surplus of \$79,251 69. Gross receipts for the year ending May 31, 1852, were \$129,234 29, and the expenses \$74,377 06; increase in receipts over the previous year of \$20,707 19, and a decrease of expenses of \$2,678 26. The surplus last year over expenses \$10,282 35. Two semi-annual cash dividends amounting to \$39,701 20, were declared, and a stock dividend of ten per cent. has been placed to the credit of the stockholders, amounting to \$92,280; of this \$79,363 17 was placed to the debt of redemption purchase, closing that account. The balance of \$12,916 83, to profit and loss.

Attica and Alleghany Railroad.

The object of this road is to open a communication between the coal fields of north-western Pennsylvania and western New York, as well as to supply railroad accommodations to one of the best agricultural portions of this State. The road commences at Attica, and runs to the Pennsylvania State line, a distance of about 74 miles, where a junction will be formed with the Alleghany Valley road, of Pennsylvania, now in progress. From Attica a direct railroad communication exists with Rochester, so that with the roads now in operation and progress, a direct railway connection will be soon opened by that city and Pittsburgh. The entire line of the Attica and Alleghany road is in progress, to be completed by the first day October, 1854.

Another project connected with the above, and which must add greatly to its value and importance, is the proposed road from Buffalo the Pennsylvania coal fields, and which will, probably, connect at a common point in the Attica line, about 30 miles from the Attica and Buffalo; both branches using one trunk line for the remainder of the distance. The project of a railroad to the coal fields has, for some time past, attracted much attention in Buffalo, and the great necessity for such a work must secure its early construction. Buffalo must have an uninterrupted communication with the coal beds at all seasons of the year. At the present all her supplies of fuel have to be collected during the season of navigation. An abundant supply of coal is an indispensable element to her progress. The Alleghany Valley road too is much needed, to supply western New York, with every variety of lumber, which is found in the greatest abundance in northern Pennsylvania, which is now the source of supply of this article to a very great extent of country. The above road is not only required to meet the pressing wants of an already existing business, but it runs through a section of country that can easily contribute a larger portion of the cost of construction.

In this connection we give a copy of a letter from the President of the Buffalo and Alleghany

Valley road, which, as before stated, will be likely to become a part of the above road.

Buffalo and Alleghany Valley Railroad.

Since the scheme for opening a railroad communication between the city and the coal fields of Pennsylvania, was first projected, I have regarded it with earnest favor; so much so, as to be willing while no other means of its accomplishment were presented, that the city credit should be used for that purpose. And although I should have preferred that the city subscribe directly for the stock, as in the case of the Brantford road, I even concluded to support the application of the Buffalo and Pittsburgh road for the loan of the bonds of the city, when, about ten days ago I learned, for the first time, that another organization was contemplated, intended to accomplish the same purpose without any such auxiliary aid. Application was then made to me to interest myself in that enterprise; I said "I must know more about the route," "didn't wish to hazard the loss of both roads," "must be satisfied that the new route was feasible, and would be run"—and that a favorable connection could be made with the Attica and Alleghany Valley railroad. Since then, all the time at my command has been devoted to a thorough investigation of this subject and with the following results:

The Attica and Alleghany Valley railroad company, organized last fall, have now under contract their entire road, from Attica southwesterly about 25 miles to Arcade, and thence south about 48 miles to the State line of Pennsylvania. A large force is at work upon this road. It will be completed to Arcade this fall, and is to be finished to the State Line by Sept., 1854.

Arcade, or a point between there and Yorkshire two and a half miles west, is directly in line of the survey made by Mr. Wallace, for a road from Buffalo to the coal fields, and which he pronounces the most feasible route to that region.

A company has been organized under the title of the "Buffalo and Alleghany Valley Railroad Company," over \$1,000 per mile has been subscribed, ten per cent paid in in cash, a charter secured, a board of directors, consisting of Hon. C. O. Shepard, and C. J. Parker, of Arcade; Lewis Marsh, of Yorkshire, B. H. Colgrove, of Sardinia, P. D. Riley, of Holland, Wm. C. Russell, of South Wales, Robert Person, James M. Paine, Jabez Allen, and Aaron Riley, of Aurora, and Silas Hemmaway, Wm. Wallace, and A. L. Baker, of Buffalo, elected and each member of that board expresses the determination that the road shall be speedily built.

A favorable contract has been made for the construction of the Buffalo and Alleghany Valley railroad to be graded to Aurora, by Nov. 1853, and completed to the Junction by July, 1854.

An arrangement has been made with the Attica and Alleghany Valley railroad company, by which the Buffalo and Alleghany Valley railroad Company have secured, among other things,

The right to connect with that road near Cattaraugus Creek, and to pass over that portion of their road south of the Junction, without any hindrance, and on the time table of the latter road, upon just terms.

2. The right, at the option of the Buffalo and Alleghany Valley railroad Company, to stock that road against their, or consolidate the two roads on just terms by arbitration.

3. The right to build a second track, if it shall be found necessary, over and upon their right of way, from the Junction to the State line, and when that shall be done, to use both tracks as a double track road.

Now, fellow citizens, the facts above stated have induced me to believe that all the desirable ends to be secured by lending your credit to the Buffalo and Pittsburgh company, are within your reach without assuming the burden of a \$400,000 loan.

The substitute road is but 30 miles long. It passes through the valley of the Cazenovia Creek, over the most productive region of Erie County. It re-opens a communication between your stores

and markets and the valleys of the Cattaraugus and Upper Tonawanda, which has been suspended by the Erie railroad.

It gives you the same benefits, in respect to cheapening fuel, which are promised by the other Co.

And last, though not least in importance, it renders it entirely unnecessary to increase your already large and constantly augmenting liabilities.

A. L. BAKER.

The Chilled Cast Iron Slip Tire.

The economy of any mechanical arrangement must depend upon the expense of its first application and subsequent maintenance; its safety against sudden failure, and on its duration for constant service. Many years ago a valuable improvement was made and introduced upon the Baltimore and Ohio railroad. Without any noisy pretension, the thing sustained itself, and it has now become a permanent part of the motive power of that great road. This improvement, was the application of the cast iron tire, confined without strain, to a cast iron wheel. Upon every point in which the merits of any mechanical application may be discussed, the chilled tire has proved its superiority over the wrought iron tire.

Its first cost on the present engine stock of the Baltimore and Ohio railroad, is \$40,000 less than if wrought tires had been adopted; its yearly saving in expense for maintenance is from \$25,000 to thirty thousand dollars. In the whole experience in the use of nearly or quite 1,500 of these tires upon that road, but two have ever broken through the rim, and these were among the first used. The duration of the tire is equal to the best wrought tires, and in the particular case of the Baltimore and Ohio road exceeds their duration. Its safety under all the circumstances of severe shocks, hard wear, and in intense frosts, is unquestioned. Its adhesion is ample, as is attested by the fact of the substitution of six chilled tires in place of eight wrought iron tires, under all the heavy burthen engines of the Philadelphia and Reading, and the Baltimore and Ohio railroads. The whole chilled wheel, (which presents the same wearing surface as the chilled tire, but is infinitely inferior in point of economy) is now becoming very generally used on the New England roads, and so far as its service and efficiency are concerned, it gives the best satisfaction. The removable tire is the only economical application of the chilled surface, and the present patented method of its attachment as adopted on more than one hundred of the Baltimore and Ohio engines, is the most elegant and affords the most security, when compared with any plan yet tried. This tire is recommended particularly for freight, gravel and depot engines.

Hudson River Railroad.

The election for directors of the Hudson River railroad, was held on the 13th inst., and the following gentlemen were chosen: Messrs. James Hooker of Poughkeepsie, Erastus Corning of Albany, John Wilkinson of Syracuse, James C. Forsyth, of Kingston, Nelson J. Beach, of Poughkeepsie, and Edwin D. Morgan, Henry Young, John David Wolfe, Edward Jones, Moses H. Grinnell, Drake Mills, Joseph Tuckerman, and J. Boorman Johnston of New York. And at a subsequent meeting of the board, Edwin D. Morgan, was re-elected president, Nelson J. Beach, vice-president, Thomas M. North, secretary, and John M. Hopkins, treasurer.

Cleveland, Medina and Tuscarawas Railroad.

This company was incorporated in 1851, under the name of Coshocton, Wooster and Cleveland railroad company, but the name was subsequently changed as above.

The route of this road commences at Rawsonville, Grafton, on the C. C. & C. railroad, 25 miles from Cleveland, thence runs to Medina, 13 miles, thence to Seville, to Dalton, to Dover, to New Philadelphia, thence to a point on the Ohio river, opposite Wheeling. The length of the proposed road will be 130 miles.

This road will cross the C. Zanesville and Cincinnati railroad near Orrville; the Penn. and Ohio railroad is at Fairview, and the Steabenville and Indiana railroad near New Philadelphia.

There are now under contract 41 miles to Dalton, to be completed to that point ready for the cars by the first of May, 1854. It is expected the road will be open and cars running to Medina by the 1st of January next.

The following will show some of the characteristics of the line :

	Miles.
Length of line.....	41 8
Length of straight line.....	36.3
Length of curved line.....	5.5
Degrees of curvature.....	5.75
Per centage of curved line.....	14.100

The average cost of the road from Grafton to Dalton—where it enters the coal fields—fully equipped and provided with station buildings, all done in a first rate manner it is estimated will not exceed \$14,576 per mile.

Winchester and Alabama Railroad.

From the second annual report of the directors of this road, we learn that upon that portion of its line, lying within the state of Tennessee, one-half of the grading has been completed; the masonry entirely, and the bridging nearly finished, and that no obstacle now exists to an early completion of the road.

The means applicable to the Tennessee portion of the line are as follows :

Stock subscribed by the Town of Winchester.....	\$25,000
Stock subscribed by the Town of Nashville.....	50,000
Do do do Individuals.....	44,500
State loan of \$8000 per mile.....	192,000
	<hr/> \$311,500

The estimated cost of the Tennessee portion of the road, 24 miles, is \$279,200, to which is added \$70,000 for equipment.

The road is to be extended into Alabama, to connect with the Memphis and Charleston railroad at some convenient point east of Huntsville. The Alabama portion of the line will be about twenty miles long. This portion of the line has been surveyed, and will probably be placed under contract without delay.

Ohio.

Cincinnati, Wilmington and Zanesville Railroad.—The annual meeting of the stockholders of this road was held in Circleville on the 19th inst. The Directors of last year were unanimously re-elected. They are F. Corwin and L. Fitzhugh, of Clinton county; D. McLean, of Lafayette; W. Griswold, of Pickaway; W. Medill and D. Tallmadge, of Fairfield, and J. A. Adams, of Muskingum.

Mr. Corwin was unanimously re-elected President, W. M. Triplet, Secretary, and J. Radabaugh Treasurer. We learn that the road is expected to be completed to Zanesville by the fourth of July, 1854.

Railroad Items.

The Grand Jury of Beaver county, Penn., has recommended the County Commissioners to subscribe one hundred thousand dollars to the stock of the Cleveland and Pittsburg railroad.

The Directors of the Binghampton and Utica railroad have elected Alfred Munsen, of Utica, Pres.; Edward Tompkins, Vice President, and J. M. Tower, of Waterville, Secretary.

The city of Milwaukee has voted in favor of loaning the city credit for two hundred thousand dollars to the Fond du Lac and Oshkosh railroad. The vote was 746 in favor to sixteen against the measure.

The election in Buffalo for loaning the credit of the city to the Buffalo and Pittsburg railroad, has resulted in a majority of two hundred in favor of the loan.

The second branch of the Baltimore City Council have passed the ordinance to guarantee the bonds of this road for one million dollars, which had previously passed the first branch.

The Peru and Indianapolis railroad to Tipton, 40 miles, will be completed this week, and the business upon it is remarkably large for an incomplete line, over one hundred passengers daily passing over it. For a distance of 23 miles the road has been in operation for some time. The whole line to Peru will be finished and in operation early in the coming fall.

The business of the Madison and Indianapolis railroad continues good, and notwithstanding the competition of other lines, will for the current six months ending with the present month, show a handsome increase over the corresponding period of last year. The usual semi-annual dividend will be declared next week.

The second annual report of the chief engineer of the Syracuse and Binghampton railroad, states that an average of fifteen hundred men have been employed on the heavy sections of the road since November last, and that there is no doubt that the road bed will be ready for the rails by the first of September next. The contracts for grading and masonry were let in July last, in three divisions of 25, 29, and 27 miles each. The estimated cost of the road is \$1,809,095.

The directors of the Junction railroad of Ohio, were re-elected last week in general meeting of the stockholders at Elyria. At the same time Judge Lane and E. C. Litchfield were made commissioners to settle the details of consolidation with the Norwalk and Toledo.

A meeting of merchants was held in Philadelphia, on Monday, to take into consideration the propriety of subscribing to the capital stock of the Maysville and Big Sandy railroad company, in Kentucky. A committee was appointed to obtain the requisite amount by private subscription.

The entire issue of \$200,000 by the Wilmington and Manchester railroad, 7 percent. Second mortgage bonds has been negotiated, so as to justify the immediate completion of the road.

James C. Hall, Esq., has been chosen president of the Ohio and Penn. railroad, in place of A. T. Ellis, resigned.

Cumberland and Pennsylvania Railroad.

A company has recently been organized for the construction of a railroad from Cumberland, Md., to the Pennsylvania state line, and the following gentlemen chosen directors, viz: John M. Forbes, of Boston, John F. Winslow, of Troy, Warren Delano, and J. B. Varnum, of New York, and John A. Graham, of Mount Savage. The charter of this company authorises the construction of a road from Cumberland to the Pennsylvania line, and also of lateral roads extending in any direction from the main line. Under a recent amendment the company are authorised to purchase the railroad owned by the Mount Savage company, running from Cumberland to the mines at Frostburg. Arrangements have been made to consummate this purchase, with a view to the extension of the Mount Savage road from a point about five miles from Cumberland to the Pennsylvania line, there to connect with the contemplated road from Chambersburg, through Bedford to the same point.

The new company also intend to extend the Mt. Savage road to Lonaconing, the George's Creek Valley, passing over the Frostburg hill by means of an inclined plane. When this road is completed the coal of the George's creek valley will be afforded an outlet to the Chesapeake and the Ohio canal by a continuous railroad of about 23 miles in length.

Concord Railroad.

We have the twelfth annual report of this company, for the year ending March 31, 1853, which presents the following statement of its affairs :

Receipts of the road.....	\$305,805 66
Expenses.....	163,968 67

Leaving a balance of.....	\$141,836 99
From which was paid for tax on capital stock...	\$10,003 44
Two dividends of 4 per cent each.....	118,800 00
Manchester and Lawrence Co., on apportionment of joint through business.....	3,500 00—\$132,303 44

Balance to deterioration and contingent account.....	\$9,533 55
Expenses on construction account for the year.....	\$10,924 00
Total expenditure on construction account to date.....	1,409,097 79

Leaving an unexpended capital of..	\$75,902 21
From which, deducting loan to Portsmouth road, there is a balance of.....	25,902 21

The tonnage for the year has been 76,711 tons up, and 173,250 down; in all 249,961 tons. Passengers carried one mile 4,987,842, or equal to 144,560 over the whole road.

New York and Erie Railroad.

Homer Remsdell, Esq., of Newburg, has been appointed President of the N. Y. and E. railroad, to fill the vacancy occasioned by the resignation of Mr. Loder.

"Gardner's Rock Drill."

DESIGNED for Tunnelling, Quarry use, and Rock Excavations of all descriptions, by the use of which a saving of 50 to 75 per cent is made. Applications for Territorial Rights and Machines must be made to the Patentee. G. ARTHUR GARDNER, Trinity Buildings, Broadway, New York. June 9, 1853.

Notice to Contractors.

CATTAWISSA, WILLIAMSPORT AND ERIE RAILROAD.

SEALED proposals will be received at the Engineer's Office, in Cattawissa, Columbia Co., Pa., until the first day of July next, for the Grading, Masonry, and Track-laying of that part of the Cattawissa, Williamsport and Erie railroad, extending from Cattawissa to Milton, a distance of about 25 miles.

The work will be divided into sections of about one mile in length, and profiles, &c., of the work will be seen at the Engineer's Office in Cattawissa for ten days previous to the day of letting.

THOMAS A. EMMET,
Chief Engineer.

Valuable Works on Engineering, Mechanics, Railways, Steam Engines, etc.

CRESY'S ENCYCLOPEDIA OF CIVIL ENGINEERING.....	\$17 00
MAHAN'S ELEMENTARY COURSE OF CIVIL ENGINEERING.....	3 00
MILLINGTON'S ELEMENTS OF CIVIL ENGINEERING.....	3 50
GREGORY'S COMPLETE COURSE OF CIVIL ENGINEERING.....	2 00
LAW'S RUDIMENTARY CIVIL ENGINEERING, in 3 parts.....	94
DEMPEY'S PRACTICAL RAILWAY ENGINEER.....	11 00
QUESTED'S RAILWAY SURVEYING.....	1 75
RITCHIE ON RAILWAYS.....	1 75
LECOUNT'S RAILWAYS—Their Construction and Management.....	1 37
WHISHAW'S RAILWAYS OF GREAT BRITAIN AND IRELAND.....	7 00
BORDEN'S FORMULÆ FOR CONSTRUCTING RAILROADS.....	2 50
TRAUTWINE ON RAILROAD CURVES Do. ON EXCAVATIONS AND EMBANKMENTS.....	1 00
(LIST TO BE CONTINUED.)	

** A large assortment of Engineering and Mechanical Works kept constantly on hand, and all new works received as soon as published.

JOHN WILEY,
Importer, Publisher and Bookseller,
167 Broadway, New York.

June 16, 1853.

GREAT WESTERN MAIL LINE—SIXTY MILES DISTANCE SAVED, by taking the MICHIGAN SOUTHERN AND NORTHERN INDIANA RAILROAD—Through tickets for Chicago, St. Louis, Milwaukee, Racine, Kenosha, Waukegan, and Sheboygan, by New York and Erie Railroad via Dunkirk, and Buffalo and New York City Railroad; People's Line of Steamboats, Hudson River Railroad, via Buffalo, connecting at Buffalo with the splendid steamers EMPIRE STATE, J. WILSON, Commander, Mondays and Thursdays; SOUTHERN MICHIGAN, D. PERKINS, Commander, Wednesdays and Saturdays; NORTHERN INDIANA, I. T. PHATT, Commander, Tuesdays and Fridays; leaving Buffalo every evening (Sundays excepted). These steamers are low pressure, built expressly for the Lake trade, and for finish, speed, strength and safety, have no superiors anywhere.

The connections with the Express Trains at Toledo and Monroe, for Chicago and St. Louis, are perfect, and can be relied upon.

Forty hours from New York to Chicago. Time and money saved by taking this Line. Passengers preferring it, can take the Lake Shore Railroad to Toledo, the Michigan Southern and Northern Indiana Railroad to Chicago, thence by the Rock Island Railroad to La Salle, forming the only continuous line of Railroad to the Illinois river. For through tickets or freight apply to JOHN F. PORTER, Agent, 103 Broadway, cor. Day st.

RICHARD NORRIS.

HENRY LATIMER NORRIS.

Richard Norris & Son,
NORRIS' LOCOMOTIVE WORKS, BUSH HILL,
PHILADELPHIA.

MANUFACTURE to order Locomotives, exclusively, on any plan, or of any size—of best materials and workmanship. Their Works having been this year greatly enlarged, and furnished with the most approved Tools, they are enabled now, having a large number of Workmen employed, to execute orders with dispatch.

June 9, 1853.

To Engineers and Steamboat Captains.
EXPLOSIONS PREVENTED!BRANDS' LIQUID,
FOR DISSOLVING INCRUSTATIONS IN STEAM BOILERS.

BRANDS' LIQUID is the name of a fluid recently in use throughout all Europe, by the application of which the incrustations in Steam Boilers are dissolved or totally avoided, without affecting in the least the material of the boiler.

Chemical examinations and experience have fully ascertained that, by the application of this fluid, no harm whatever is done to the material of which the boiler consists.

To dissolve the hardened incrustation in Steam Boilers, pour every 10 or 14 days, in proportion as the boiler is daily for a longer or shorter time heated, the quantity of Brands' Liquid to the water in the boiler as shown in the following table:—

TABLE FOR CLEANING INCRUSTED BOILERS.

STEAM BOILERS.		QUANTITY	
Which are daily from 10 to 16 hours heated, and which have a power of evaporation of		Of BRANDS' LIQUID wanted.	
From	1 to 10 Horse Power,	Every 10 to 14 days.	Per year—Barrel of 40 gals.
"	10 to 20	4 to 6 Quarts,	1/2 Barrel.
"	20 to 30	6 to 9 "	1 "
"	30 to 40	7 to 10 "	1 1/2 "
"	40 to 50	10 to 14 "	2 "
"	50 to 65	12 to 17 "	2 1/2 "
"	65 to 110	13 to 19 "	2 1/2 "
"	110 to 160	15 to 21 "	3 "
"	160 to 220	18 to 26 "	3 1/2 "
"	220 to 300	20 to 29 "	3 1/2 "
"	300 to 400	22 to 31 "	4 "
"	400 to 500	24 to 35 "	4 1/2 "

If Brand's Liquid is regularly used, the incrustated Boilers are within three to five months clean; and to prevent any further incrustation in such or new Boilers, the use of Brand's Liquid must not be interrupted, but about two-thirds of the stated quantities in the table given to the water in the Boilers.

The Boilers of Locomotives require every two days, in proportion to their power and time of service, only two and a-half to four quarts of Brand's Liquid, which every second day is poured into the water in the Tender.

As often as the water in the water-gauge, on Stationary, Ship or Locomotive Boilers, becomes of a muddy appearance, the Boiler must be blown out and cleansed from the stones and dirt which have settled to the bottom of the Boiler.

The incrustation which in this manner is removed is soft, or in pieces, which are commonly of a crumbling and brilliant texture and have a brown color.

In some parts of the country, and in Marine Boilers, the incrustation is often very hard, and to remove this, the larger quantities in the given table are required. The pieces of this incrustation which are removed by the use of Brand's Liquid have lost their glassy texture, and though they commonly retain some hardness, they have a brown color, and a corrosive and decayed appearance.

To remove the incrustation of Marine Boilers, larger quantities of Brand's Liquid are required, in proportion as by the removal of the brine a quantity of the feed-water is blown out. By any simple contrivance Brand's Liquid must be brought into the boiler in small portions, or mixed with the feed water.

Brand's Liquid is not injurious to the Boiler if it is used in large quantities, even if the Boiler is entirely filled with it and heated, but, in general the quantity as is stated in the table must not be exceeded, because in connection with large quantities of incrustation the Liquid generates much priming and motion of the water, which might prove injurious to the annexed machinery, especially in Ship Boilers and Locomotives which have no large steam-chests.

The above table is made by practical experience, so that only a gentle working of Brand's Liquid is allowed, entirely free from any danger, for the Boiler once properly cleaned, the proprietor will by experiments easily ascertain the minimum quantity of Liquid that is required for the Boiler.

Should it be required to clean old incrustated Boilers by the use of Brand's Liquid in a few days, then it is only necessary to pour one-half to three-fourths of a hogshead at once into the water in the boiler, and heat it from six to eight days gently to boiling heat, for which operation the Boiler must be put out of service.

In Locomotives where the steam-chests are small, Brand's Liquid must be used often in small quantities as before stated. A Locomotive out of service may be cleaned within 6 or 8 days by the use of a large quantity of Brand's Liquid, (one-fourth to one-half a hogshead).

It would be needless to enter into a long discussion on the advantages in using Brand's Liquid for cleaning steam generators, being fully aware that it destined for the use of the most intelligent part of the public, and it may therefore suffice to mention its advantages in a few words, as follows:

1. Less repair of Boiler.
2. Increased generation of steam, or saving of fuel.
3. The expense of hammering and loosening the incrustation is saved.
4. Less interruption of business.
5. The Boilers remain tighter.
6. The duration of the Boilers is increased, especially of locomotives and Tube-Boilers in general.
7. Three-quarters of the causes of Boiler-explosions are removed.

Price per barrel \$20.

The patentees are so confident of the merits of this invention, that they offer one barrel gratis to parties willing to make a trial, to be paid for, only in case of success and of future orders.

Brand's Liquid is used with the best effect by the Cincinnati Water Works, and many other establishments in the West.

Address **BRAND, BROTHERS,**
Toledo, Ohio.
Sole Patentees both in Europe and the United States.
Or, **F. DUFAIS,**
43 New Street, New York.

May 23, 1853.

The Troy Iron Bridge Co.

ARE prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or under, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address **BLANCHARD & FELLOWS, Troy, N. Y.**

April 2nd, 1854.

Etna Car Works.

BILLMEYER & SMALL, YORK, PA., PROPRIETORS.

WE are manufacturing to order and by contract, Baggage, Freight, Express, Stock, "Reading," and other patterns of Coal Cars. Lumber and Gravel Cars, of every variety, at short notice, and on favorable terms.

Our facilities for manufacturing are extensive, and our means for transportation to all parts of the country speedy and economical.

The Wheels we use receive our own personal attention, are made of the best Cold Blast Charcoal Iron, of both spoke and plate patterns, solid and open hubs.

All Cars built by us, and now in daily use on the Pennsylvania Central, Baltimore, Susquehanna, York and Cumberland Roads, have been appraised as first class, and carry the largest capacity allowed on any roads. We are prepared to furnish Wheels and Axles separately or fitted, Springs and other parts of Cars at short notice. Orders and Contracts for Railroad Companies solicited.

May 30th

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
90 Beaver st.

April 1, 1853.

Gerard Ralston,
21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE
**PURCHASE AND SALE OF
AMERICAN SECURITIES,**
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:
Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co, London.
" Curtis, Bouve & Co, Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.
Portland, April 9, 1853.

New York and Erie R. R.

PASSENGER TRAINS
leave Pier foot of Duane street,
as follows, viz:—

BUFFALO EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. Y. City R. R., without change of baggage or cars.

CINCINNATI EXPRESS, at 6 a. m. for Dunkirk.
MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations.

WAT, at 3.30 p. m. for Delaware and all intermediate stations.
NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 8 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 6 p. m.
The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

To Contractors.

PROPOSALS for grading, masonry, and bridging of the Western Division of the Covington and Ohio railroad will be received at the office of the Engineer, at Guyandotte, Cabell county, Virginia, between the twentieth and thirtieth of June next.

They will embrace about 45 mile sections with Bridges over Twelve Pole, Guyandotte and Mud rivers.

Also between the 1st and 15th of July next, proposals will be received at Covington, Virginia, for the Grading, Bridging and Masonry of that portion of the Eastern Division, lying between the town of Covington and Hayne's farm, on Jackson river—a distance of 10 or 11 miles of very heavy work, including much heavy retaining wall, two large bridges over Jacksons river, and probably two tunnels.

The successful bids will be declared as soon as practicable after the 15th of July. Contractors will be required to commence the work at once, and finish within a year. Plans and specifications will be ready between the twentieth and thirtieth of June—names of securities must be given in the Bid.

By order of the Board of Public Works.
CHAS. B. SHAW,
Chief Engineer of the Cov. & Ohio R. R. Co.,
Lewisburg, Virginia.

To Contractors.

HUNTINGTON AND BROAD TOP MOUNTAIN RAILROAD.

PROPOSALS will be received at the Engineer's Office, Huntington, Penn., until the 28th day of June next, for the graduation and masonry of thirty-five miles of the above railroad.

Plans and Specifications will be exhibited in the Office for three days previous to the letting.
S. W. MIFFLIN, Engineer.

PACIFIC RAILROAD LOAN.

\$4,000,000 Loan

ON THE

MORTGAGE BONDS OF THE PACIFIC RAILROAD COMPANY OF MISSOURI.

THIS Company will receive proposals until the 11th of July next, for four millions of dollars of their construction bonds, to be issued in sums of one thousand dollars each, payable at the city of New York twenty years after the date thereof, with coupons attached for the payment of interest at the same place semi-annually, on the first of January and first of July in each year, at the rate of 7 per cent per annum.

These bonds are secured by a first and only mortgage on the Southwestern Branch railroad, 300 miles in length, and one million of acres of land on the line of that branch, granted by Congress to aid in its construction: and also by second mortgage on the Pacific railroad, 290 miles in length. About 130,000 acres of land, not included in the mortgage are set apart to aid in meeting interest.

Forty miles of the Pacific railroad, from St. Louis westward, is about completed, and 85 miles further, reaching Jefferson city, the capital of the state, is under construction. About \$1,600,000 has already been expended by the company in the completion of the first division, and in the construction of an excellent machine and car shop, and engine house, and the necessary real estate, and the surveys required to prepare the whole 600 miles of railway for contract.

The Pacific railroad line extends from St. Louis to the vicinity of Independence, near the mouth of the Kansas, 290 miles, and its southwestern branch diverges about forty miles west of St. Louis, and runs near Springfield to the southwestern part of the state, a little north of Ta-le-qual, the capital of the Cherokee nation, 300 miles.

The charter was granted with the view, and the right, of ultimate extension to the Pacific Ocean, with an authorized capital of ten millions, and privilege of increase under general law.

Capital subscribed in Missouri over \$2,000,000, of which about 40 per cent. is paid up. State loan to the company authorized \$4,000,000, of which \$700,000 has been issued and sold at a premium. For such stock now issued, the state holds a lien on the Pacific railroad only. Land granted by Congress, now the property of the company, about 1,250,000 acres.

One or the other of the lines of this company will be the Central National line of railway to the Pacific ocean. Reconnoissances and surveys of the United States government will connect with both.

The whole amount of bonds which can be issued under the mortgage is ten millions of dollars. The whole of these bonds are convertible into land of the Company, and one-half into stock of the Company, within a limited time, at the option of the holder.

The Company reserve the right to accept proposals for all or any portion of the amount.

Ten per cent of the amount allotted to each subscriber will be required on notice of the acceptance of his proposals, and the balance as called for by the Directors, not exceeding ten per cent. monthly. Any subscriber may, however, at his option, pay up in full, and receive his bonds at any time.

Interest will in all cases be adjusted, on payment of the final instalments.

Proposals will be received at the office of Messrs

Riggs & Co., 56 Wall street, N. Y., inclosed, sealed and endorsed, "Proposals for Loan of \$4,000,000 of Pacific Railroad of Missouri." Laws, Reports, Documents and Map, showing the condition, relations and prospects of the work, and all necessary information relative to its affairs, &c., may be obtained after the 1st of June on application to Messrs. CAMANN & Co., or Riggs & Co., at 56 Wall street, or the subscriber, personally, or by letter.

By authority of the Board of Directors,
THOMAS ALLEN, President.
St. Nicholas Hotel, N. Y., May 20, 1853.

Pease & Murphy,

FULTON IRON WORKS,
FOOT of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B. Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

Ap1 1m 50 South Third street.

NEW YORK

Lubricating Oil Manufacturing Co.

112 BROADWAY,

PROPRIETORS AND MANUFACTURERS OF

DEVLAN'S PATENT LUBRICATING OIL,
FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon Slides and Journals, by the use of bad oil. It will wear longer than Spum, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.

To Railroad Track-Layers.

PROPOSALS, under seal, are requested at the Railroad Journal office, New York, on the 10th July next, for laying the track of the Mobile and Ohio, Tennessee and Alabama, and Paducah and Tennessee railroads;—aggregate length, 512 miles. Plans, specifications and other required information, will be furnished at the time and place above mentioned.

JOHN CHILDE,
Chief Engineer.

MOBILE, May 17th, 1853.

Notice to Contractors.

PROPOSALS will be received until noon the 20th June, for the Graduation and Masonry of the Franklin and Warren Railroad, extending from a point on the eastern State Line of Ohio, in the County of Trumbull to Ashland, Ashland county, Ohio, a distance of about 100 miles.

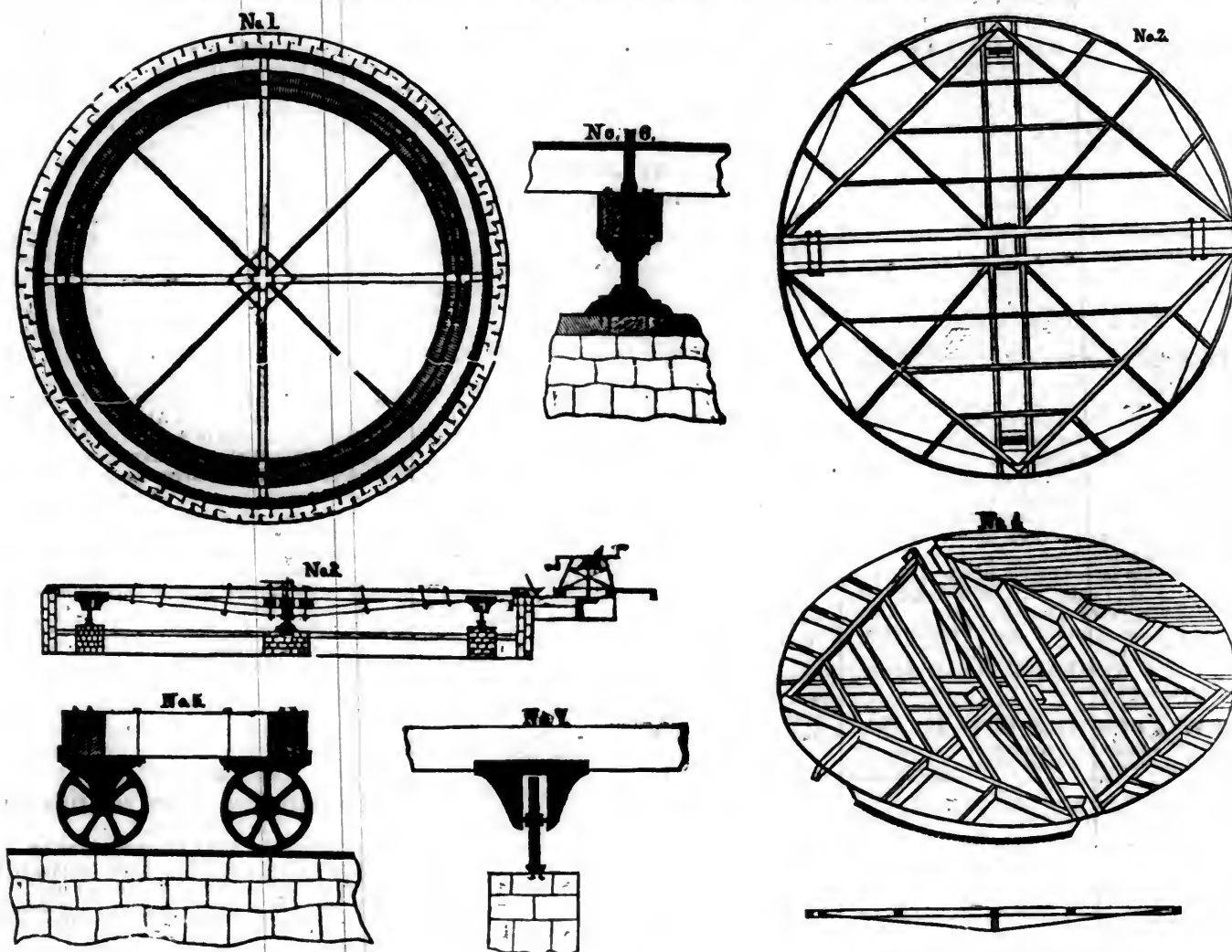
The line will be ready for examination June 13th. For particulars apply at the Engineer's office, Franklin, Portage county, Ohio.

The remaining distance of the road extending from Ashland to Dayton, or Maysville, will be ready in a short time.

M. KENT,
President F. & W. Railroad.
SAM'L H. KNEASS,
Chief Engineer.

FRANKLIN, May 19, 1853.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in **25 SECONDS**.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcass Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LAHAYE'S

Patent Self-acting Brake.

THE attention of Railroad Companies is respectfully called to this improvement, used exclusively on all Passenger Cars upon the Philadelphia and Reading Railroad, and now being attached to those building for the Camden and Atlantic Railroad, and several other Roads.

Lahaye's Self-acting Brake can be attached to any Car without interfering with the ordinary Hand Brake, is simple in its construction, and reliable in its action.

By trials made with this Brake, Passenger Trains, at a speed of 30 miles per hour, have been brought to rest within a distance of 250 feet.

For Right to use, or any other information, apply to

O. A. NORRIS,
American Railway Agency, 12 Farquhar Buildings,
May 20, 1853. Philadelphia.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use. JAS. PRENTICE,
Feb 9 1853. 1 Chamber St., N.Y.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.
Sept. 11, 1852. 17*

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes imported to order on the most favorable terms.
February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

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American Railroad Journal.

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Saturday, June 25, 1853.

Railroads in the Slave States.

There is no doubt that considerable prejudice exists, particularly among foreign purchasers against railroad securities of the Southern or Slave States. This feeling against the institution of Slavery on the abstract, is transferred, by a very natural process, to the late enterprise in which slaveholding communities are engaged, and things entirely dissimilar are made obnoxious to the same sentiment. This is a most incorrect and illogical mode of reasoning, for as a matter of fact, the question of slavery has nothing to do, necessarily, with the value of railroad securities, nor the productiveness or management of these works. There are certain causes, such as a greater density of population, a greater variety of commercial and manufacturing pursuits, and a greater disposition to travel in the northern States, why railroads should be more profitable than at the south; while on the other hand, the more conservative character of their people, the fewer completing lines, and the greater proportion of the products of the soil, and of the articles that go into consumption, thrown upon the southern roads, give them some decided advantages over those of the north.

We have often, and we believe satisfactorily, explained the cause of the failures of the early southern and western railroads. The enterprises of 1837 and 8 were not only pioneers, but they were premature; in advance of the wants of the country; of its means to construct, capacity to manage, or business to sustain them. The country had not been settled a sufficient length of time to determine either the seats or channels of future commerce. No amount of money would have rendered the early enterprises successful, because the real elements of success were wanting. No amount of means can change the character of an unprofitable business, and the more money those engaged in it have, the more deeply will they involve themselves in ruin. The early efforts in the south and west were doomed to defeat from the very nature of the case. Another cause why even partial success, as at the north, was not realized, was the fact that the sparseness of the population rendered necessary the completion of a project to realize the results predicated of it. In the New England States, for instance, the several links of a railroad, as they were opened, connected neighboring villages, between which existed a large traffic and travel, and supplied a considerable revenue to a road. In the southern States the population is agricultural, uniformly distributed over the whole surface of the country. To enable lines of road to pay, therefore, they must be longer than at the north to secure the requisite traffic and connect distant and important points. They must to a considerable extent, be through roads.

When railroads were first attempted in the south in 1837, sufficient means could not be had for the entire projects. They necessarily fell through.—The fifteen years that have since elapsed have wonderfully changed the face of things in the States where railroad construction is now the most active. The population has more than doubled, while the means of the people have more than quintupled. With this great progress in wealth and population, time and a more enlarged experience has located and built up the commercial depot, and designated the convenient routes of travel and business, so that the enterprise of the present day have only to follow the well expressed wants of the people, who have now accumulated sufficient means for their construction. The

projects at present in hand are legitimate, in every sense of the word, and will consequently progress with a regular and uniform pace.

We have thus briefly stated the causes of the failure of those early projects of the southern States, and of their present success. That this success is substantial is fully proved by the results already achieved. There is hardly a State in the Union in which railroads have been pushed to a greater extent than in Georgia, and there is none we believe where they have been so uniformly successful.—There are none whose projects have proved better investments, or have been better managed. They have built at a moderate cost, and we have no doubt the whole investment of the State would command a premium in the market, if offered for sale. The three leading roads, the Central, the Georgia, and the Macon and Western, have for years declared dividends averaging from 7½ to 10 per cent on their cost, besides reserving considerable sums for contingencies. But the success of southern roads is not confined to Georgia. The leading road of South Carolina is one of the most productive, and is one of the best properties in this country. In North Carolina the Wilmington and Raleigh road is becoming one of our best paying roads. In Virginia the roads completed are generally profitable, while there are none more promising than many of the new roads of this state. In the south-western States, there are no roads of sufficient magnitude, or which have been completed a sufficient length of time to serve as illustrations. It may however be stated, as a general rule, which is fully borne out by the facts, that the roads of the south are as well managed and as profitable as those of any other section of the country.

As far as their securities are concerned, there is good reason in the nature of the case why this should be so. In their uses they bear a much more intimate relation to the business of the country than those of the north. In the northern or middle States the great diversity of labor in a particular district may, and often does, supply most of the articles that go into use, which are distributed to the consumers without the intervention of a railroad. In some of the Southern States the entire labor of the country is devoted to the production of one staple, cotton, no portion of which is consumed in its raw state, upon the

soil. The entire crop is *exported*. As a necessary consequence an equal amount in *bulk* or *value* is *imported*; either in return for the export, or to supply the ordinary wants of the inhabitants, very few of which are supplied by a domestic manufacturing establishment, or by subdivision of labor. The amount of transportation, therefore, thrown upon the routes of commerce in Mississippi, represent an aggregate equal to twice the whole produce of the State. The same amount of labor therefore, in this state, supplies a much larger amount of business to a railroad than in any of the northern States, where a greater *variety* of pursuits exists.

A large number of the more important roads of the south have their directions at right angles to the parallels of latitude. These roads, compared with those following the *same* parallels, have some marked points of difference. In the latter case, where there is no variety of pursuits, and where the whole population is engaged in agriculture, there can be little or no traffic. The products being identical, *all* the surplus is the same in *kind*. But upon a route following a meridian of longitude, an entirely different rule prevails.—Such routes traverse regions abounding in a diversity of production—all of which are regarded as essential to the wants of every individual in the community. Such lines may be said to coincide with the *natural* routes of commerce, over which a large traffic must always pass, although the territory traversed may be entirely devoted to agriculture. The grains, provisions and animals of the north are wanted by the southern states engaged in the culture of cotton, rice, sugar and tobacco; and these last named products are received by the people of the north in exchange for what they have to sell. In this country, therefore, the routes running east and west may be termed *artificial*, those running north and south the *natural* routes of commerce. It is this fact that gives particular importance to the great line of communication which it is proposed to extend from the Gulf of Mexico toward the Lakes, thus uniting a country, the extremes of which abound in the fruits of the tropics, and in the products of high northern latitudes.

Roads in the southern States have the additional advantage of being less subject to competition than those of the north. In the former, a line must connect important points to command attention and support,—a short line will generally be regarded as of doubtful expediency. When, therefore, a road of considerable magnitude, forming important connections, is completed, the prospect of a rival work is not entertained. Rival roads grow up in the north upon the progress of what, in the outset, were short *local* works. As these proceed, the idea of making them *connecting* roads between important localities already united by other roads, become engrafted upon the general plan and in this way rival roads spring up in the northern States, which would have never been undertaken as entire schemes. There are no *rival* roads, strictly speaking, in the southern States, nor are there likely to be for some years to come. The southern people contribute much more largely toward the cost of their roads than do those of the north, as a general average. This is owing in part to the fact that a less number of projects are pressed upon public attention, and partly because

capital is in fewer hands. The high price that their great staple has commanded for a series of years has given the planters large means, which are now liberally contributed toward their railroad schemes. A much larger portion of the cost of their roads is represented by stock than those of the north, affording often a broader basis for their securities.

The *conservative* character of the southern people, which is the result of their peculiar domestic institutions, affords a good guarantee against the undertaking of works that are not called for by already existing wants. There is no danger that the construction of these works will be pushed to an *extravagant* extent, as is being done, it is feared in some of the northern States. In the south, only such lines as are of general, we may say national importance, have been yet commenced; and these are the only ones that will command any considerable share of public attention for some time to come.

We have thus endeavored to present a rational view of the probable value of the securities of southern railroads. It coincides strictly with the actual facts as they exist. The peculiarities of southern institutions show themselves as much in the economy of railroad construction, as in anything else. These very institutions give some excellent features to their schemes. It would be useless, if not impossible, to institute any comparison between the value of the securities issued by the roads of the different sections of the country. It is enough for our present purpose to say that any prejudices that may exist, and to which we have referred, against those issued by southern roads, are without foundation. They may differ in value from those of the north, as the latter do among themselves. They may be less, or more valuable than the latter, just in the degree that they have a stronger or weaker basis, or have greater or less prospective or speculative value. On an *average*, the market value of southern railroad securities are fully up to those of the north. They may not reach so high a figure as some of the former, but none ever go so low. They are equally deserving the attention of purchasers, and may be taken perhaps with *less risk*, than the average of those of the northern States.

New Iron Bridge.

The enterprising and successful bridge builder, Mr. S. Whipple, of Albany, has recently completed an iron bridge for the Albany Northern railroad, which is believed to have the widest span of any structure of similar character in the country. It crosses the Erie canal, about seven miles from Albany. It has one hundred and forty-six feet clear span, and forms an angle of forty and a-half degrees with the canal. It has been two months in use, and was previously tested by distributing one hundred and fifty tons of iron uniformly over its whole length, and by passing over it a heavy locomotive and tender and heavily loaded cars, enough to cover the whole length of the bridge, and making a total load of two hundred and forty tons, or three times its usual load under the passage of the heaviest freight trains. The complete success of this work, its economical distribution of weight and material, and its safety from fire, render it worthy of the favorable consideration of railroad people throughout the country.

Lexington and Danville Railroad.

We have the recent exhibit of this Company, setting forth its financial condition, with a view to a sale of its securities, which are soon to be offered to the public.

The line of the road extends from Lexington to Danville, a distance of 36 miles. As far as its general direction and objects are concerned, it may be regarded as the extension of the Covington and Lexington road.

The estimated cost of the work is \$1,235,326, as follows:

Graduation, including rock excavation, tunnelling, and the bridging, including all masonry, ballasting, and the preparation of the road bed for the superstructure; including the bridge over Kentucky river, including an addition of 5 per cent for contingencies.....	\$705,907 00
Superstructure, including rails, chairs, spikes, and all materials, turnouts, and fixtures, and laying track....	344,419 00
Buildings and fixtures, engine cars, repair shops, passenger house and the furniture and equipment of the road.....	150,000 00
Office expenses, superintendence, &c., &c.....	35,000 00
	\$1,235,326 00

MEANS PROVIDED.

Individual stock.....	\$205,450
Corporation subscription of stock....	72,000
Jessamine County cash subscription, paid by taxation,—one-third paid, and levy made for another third....	75,000
Boyle County subscription of stock, two-thirds paid in.....	150,000
Fayette County subscription of stock, two-thirds paid in.....	200,000
Total stock subscribed.....	\$702,450
Bonds of the Company proposed to be issued for the purchase of iron, machinery, &c., secured by first and only mortgage on the whole road...	600,000

The security for the bonds amounting to..... \$1,302,450

We copy from the exhibit the following account of the progress of the work of construction, and the connections proposed to be formed:—

PROGRESS OF CONSTRUCTION.

The whole line of road from the city of Lexington to Danville, 36 miles, is under contract to an able, experienced and efficient company of contractors, and progressing rapidly to completion, under the able superintendence of the experienced Chief Engineer, Julius W. Adams, Esq., for several years engaged as one of the Superintending Division Engineers in the construction of the New York and Erie railroad, and for years employed on the Massachusetts roads. Twelve miles of the road, from Lexington to Nicholasville, will be in running operation by the 1st of January, 1854, and ready to run in connection with the Covington, and Maysville railroads, on their opening at Lexington.

The road is in process of construction in the most substantial manner as a first class railroad, with the most approved pattern of rail. The grades and curves will compare favorably with the best roads in the country.

The iron has been purchased and paid for to lay the track, and all turnouts at and from Lexington to Nicholasville, twelve miles, and will be laid down early in the fall. And vigorous efforts are making to complete the road to Kentucky River by January next, to be ready to furnish the city of Lexington with the coal, iron, salt, and lumber, with which she is supplied from that stream. It is confidently expected that the whole road will be

completed from Lexington to Danville by 1st of January, 1855.

The extension of the Lexington and Danville railroad to a junction with the South-Western railroad, of Tennessee, is not embraced in this exhibit, as the lien proposed to secure the loan asked for is applicable only to that part of the road from Lexington to Danville.

The sum of \$500,000 has heretofore been subscribed to the capital stock of the Company for the extension of the road south, to a junction with the South-Western railroad, at the Kentucky and Tennessee State line; and the most sanguine expectations are entertained, that the company will be ready to place the extension under contract during the summer, on terms to secure its completion within two years from the ensuing autumn.—Efficient aid to this enterprise is confidently expected from Cincinnati. Since the great scheme projected by Gen. Hayne, for the connection of Charleston with the Ohio River at Cincinnati, the latter city has manifested a deep interest in it. It brings her in business contact with a new section of the south and south-west, of vast extent, fertile, populous and wealthy, affording her a market heretofore unexplored, for her merchandise and manufactures, without competition. There is no outlet of higher importance to Cincinnati, and every reliance is felt that the people of that great centre of western trade and commerce will see to it, that the ninety miles of road from Danville to the junction with the South-Western railroad at the Tennessee State is speedily completed.

The extension from Danville south to the State line has been surveyed, and the entire road, from Lexington to the State line, is estimated by the Engineer to cost \$3,550,000, or about \$28,000 per mile.

CONNECTIONS.

This road occupies a peculiar position in its connections. At Lexington, the northern railroad focus of the State, it connects with the Covington (Cincinnati) and Lexington, Maysville and Lexington, Lexington and Big Sandy, and the Lexington, Frankfort and Louisville railroads, which concentrate at Lexington, and receives the freights and travel of all these roads, brought from the Ohio river and the great commercial centres with which they connect, destined for central Kentucky and the south. By the roads projected from Danville to Nashville, to Knoxville, and the extension directly south to the State line, Danville becomes the southern railroad focal point in Kentucky, and the road from Lexington to Danville must stand as an isthmus, connecting those great railway corporations radiating northwardly from Lexington and southwardly from Danville.

At Danville, whence this road is extended directly south, roads are projected to Knoxville and Nashville, in Tennessee, and companies are organized for their construction, and vigorous efforts making to secure their completion at an early day. By the Danville and Knoxville road, 140 miles in length, connection is had by roads already constructed and now in operation, with the cities of Charleston and Savannah, the populous towns of Georgia and South Carolina, and the cotton and rice sections of those States.

By the Nashville and Danville road, connection is afforded with all the roads diverging from that point south and south-west in the direction of New Orleans and Memphis.

But its most appreciable and valuable connections are found by this road extended directly south, connected by the South-Western railroad of Tennessee, with the Chattanooga road at Winchester, uniting there with the roads which penetrate South Carolina, Georgia, Alabama, Mississippi and Louisiana, connecting with the cities of Charleston, Savannah, Mobile, Pensacola and New Orleans, by the shortest and most direct lines. It is the main trunk line, north and south, through the central States of the Union, extending from the great lakes of the north to the Gulf of Mexico on the south, traversing twelve degrees of latitude, affords an easy, cheap and rapid means of exchanging the various products of different soils and cli-

mates, bisecting all the roads from the Mississippi to the Atlantic, and at its southern terminus radiating south, south-east, and south-west. The Lexington and Danville road is but the southern continuation of the Covington and Lexington, Maysville and Lexington, and Lexington and Big Sandy roads, or more appropriately, it is the extension of the Covington and Lexington road from Cincinnati directly south, having the same gauge of that road, and constituting with it a main trunk line north and south. For a table of distances between the several points with which it connects, reference is made to the following abstract from the report of the Engineer of the road, compiled from authentic sources, showing the position of the road on the route from the north to the south:—

	Miles.
From New York to New Orleans, via Philadelphia, Wheeling, Cincinnati, Louisville, Nashville, Tusculumbia and Jackson.....	1792
From New York to Mobile, via Philadelphia, Wheeling, Cincinnati, Louisville, Nashville, and Mobile and Ohio railroad.....	1784
The same by Alabama and Tennessee railroad.....	1655
From New York to New Orleans, via Philadelphia, Wheeling, Portsmouth, Maysville, Lexington, Danville, McMinnville, Huntsville Tusculumbia, and Jackson.....	1714
From New York to Mobile, via same route, through Danville, McMinnville, and Alabama and Tennessee road.....	1526
From Cincinnati to New Orleans, via Ohio and Mississippi rivers.....	1508
From Cincinnati to New Orleans, via railroad, Louisville and Nashville.....	1032
From Cincinnati to New Orleans, via Danville.....	948
From Cincinnati to Mobile, via railroad, Louisville and Nashville.....	898
From Cincinnati to Mobile, via Danville.....	812
From Cincinnati to Savannah, via Danville.....	850
From Cincinnati to Charleston, S. C., via Danville.....	806
From New York, via Baltimore, to the cotton region of Tennessee, by way of Parkersburgh, Virginia, Cincinnati, Louisville and Nashville.....	1131
From New York to the same region, via Parkersburgh, Virginia, Portsmouth, Maysville, and Danville.....	990

The business prospects of this road can be better inferred from the general statement of the fact that it traverses one of the best portions of Kentucky, which has now no outlets to market but such as are furnished by the ordinary roads of the State. There can be no doubt that the locality traversed is capable of supplying a business equal to the capacity of a first-class road. That portion of its line adjoining Lexington is celebrated for the fertility of its soil, and the extent of its agricultural productions. As we go south, we come into the coal and iron deposits of the State, which are to be the sources of the future supply of these important articles. It can be subject to the rivalry of no similar works, from which it is protected by the configuration of the country, if for no other reason.

As a local link, it is eminently needed to meet the wants of an active, industrious, and wealthy population, who are able both to furnish a large portion of its cost and to supply to it a lucrative traffic. To those residing at a distance it is chiefly attractive, from the relation it bears to other lines, which, when completed, will form continuous lines of railroads extending from the Gulf of Mexico and the South to the great Lakes. Between these termini are found every variety of agricultural products, and a railroad connecting them will serve as a medium for distributing to the consumers ev-

ery article that enters into domestic consumption. There can be no doubt, (as already stated in another article in our paper of to-day) that a road traversing our country from north to south, possesses some decided advantages over those having a different direction. Upon every hundred miles of their length are found different varieties of the products of the soil, the exchange of which constitutes no inconsiderable portion of the commerce of the country.

The Lexington and Danville company propose two extensions of their line; one running South, through the central portions of Kentucky and Tennessee to Winchester, where a connection will be formed with the Winchester and Alabama road, which is to connect with roads extending to the Gulf. The other fork is to be carried to Knoxville, Tenn., and when completed will realize the old project of the Charleston and Cincinnati road, which excited so much interest throughout the country some years since. For these roads, the Lexington and Danville, in connection with the Covington and Lexington, must form the common trunk to the Ohio. The southern extension of the above line is now under contract, with sufficient means provided to secure its construction. The Knoxville branch is now receiving great attention in the cities of Charleston and Cincinnati, and we have no doubt that foreign aid will supply the lack of domestic means necessary to the early completion of this line. When the through connections shall be made, the Lexington and Danville road will form a part of one of the most important railroads in the country. Till then, we believe its local business will yield a lucrative and remunerating traffic.

The Economy of the Freight Train.

Its Construction.—The double truck, the chilled plate wheel, and, to a certain extent, the India-rubber spring, and the oil tight axle box, have built up the freight train. The truck is in universal use, except for short platform cars. The chilled plate wheel is the cheapest and strongest of any, when considered in its application to the freight train. The plate form is not only stronger than the spoke form, but insures a more even chill than the latter, as, in the spoke wheel, soft spots will appear opposite the ends of the spokes. The plate wheel does not fan the track, nor incur as much resistance from the air, and is the easiest kept clean.

The India-rubber spring is lighter, makes fewer joints, and generally gives less trouble in keeping it in repair, when compared with other springs.—Lightner's axle box is very generally used for convenience, and for its great economy in oil and attendance.

The size of an eight-wheel box freight car is usually 28 feet by 8½ feet, and 6½ to 7 feet deep. The wheels are generally of 30 inches diameter. The cost of such a car, with oak frame, is generally \$500 to \$600. For an open platform car, otherwise the same, \$520. The weight of a box car is from 12,000 to 16,000 lbs., according to the strength of its frame, axles, etc.

The "swing beam" generally used in passenger cars has not been used to any extent in freight cars, consequently the latter are more rigid upon the track. The "centre bumper," or the arrangement by which the longitudinal contact of the car is made only in the axis of the train, is in univer-

It would appear in theory, and the result is confirmed by practice, in this State, that such an apportionment can be made. The freight business of a road of any importance is generally conducted separately, except the pumping of water, switching, maintaining way, superintendence, &c., and these charges should be taxed upon freight transportation in proportion to the receipts from that source. Fuel must be measured separately for each class of trains. But the expense for stations, engines, cars, conductors, engineers men for unloading, and damages, can all be easily divided upon any large road.

The last report of the Baltimore and Ohio road gives the items of expenses of freight transportation, as follows:

	Per. 100 tons one mile.
Repairs of road, watching Bridge and pumping water.....	\$0.347
Repairs of engines.....	.104
Wood and coal.....	.071
Labor on do.....	.023
Oil and waste for engines.....	.036
Engineers and firemen.....	.097
Repairs of cars.....	.084
Oil for Cars.....	.004
Conductors and Brakemen.....	.164
Pay of Agents and Clerks.....	.023
Labor in transportation department.....	.032
Other general expenses.....	.048
	.933

The following estimate is made for the expense of running a freight train upon the Reading railroad, and appears in the report of that road for 1852:

Wages of	
1 Engineer	\$3.00
1 Fireman	1.50
1 Conductor.....	1.60
3 Brakemen, \$1.25.....	3.75
4 3-10 cords of wood including firing up,—	
\$4.32.....	18.58
Oil and Tallow for engine and tender.....	1.16
Oil and Grease for cars.....	1.39
Repairs for engine and tender 95 miles.....	4.89
“ of cars 97.1 tons at '139.....	13.51
Depot hands and expenses.....	22.49
Water used.....	.30
Damages and renewals.....	3.08

Equal to 77.5 cents per ton.....\$75.25

This does not include maintenance of way, superintendence, repairs of machinery in shops, office and Agents' expenses, etc.

THE FREIGHT ENGINE.

The freight engine must be ultimately adapted for burning coal of the semi-bituminous description. The want of favorable feeling on the part of builders, and the fact that many of the country roads are still able to supply themselves cheaply with wood, has retarded the introduction of the coal engine, but the necessity for its general use will soon become established. The relative economy of anthracite to pine wood is stated by Mr. Nicolls, Superintendent of the Reading road, as 1 ton of 2,240 lbs. of the former to $1\frac{3}{4}$ or 2 cords of the latter. The Cumberland coal is as 1 ton to $2\frac{1}{2}$ cords. From the experiments made upon the Boston and Maine railroad, in January, 1850, upon burning coal, the result appeared as very nearly 1 ton of anthracite to 1 cord of spruce. But sufficient importance was not attached to the fact of a great loss in the coal engine from running only a few cars and being compelled to wait much of the

time out upon the track, wherein much coal was burned to no advantage. The result upon a great road, using both kinds of fuel, must determine the economy of each, and it is to Baltimore and to Philadelphia where we must look for information. The principle of the motive power on their great roads has been to combine the utmost strength, traction and adhesion for their engines. Strong and plain machinery has always been a good feature with them. There is but little "dead weight"—everything aids in the production of power, and the "huge steam tugs with sand boxes," as Senator Foote styles them in his report upon French's plan, still hold their standing as the most efficient and economical engines in the world. Baltimore and Philadelphia deserve the credit of the Freight engine of this country.

From the curves upon the Southern roads the engines have had their drivers clustered together forward of the furnace, thereby covering but a short rectangle upon the rails. The adhesion has been increased, experimentally, by increasing the number of coupled drivers, until the fact has become established that the whole weight of an engine supplies more adhesion than is ever required, except with an extremely large cylinder and small wheel. The distribution of the weight of an engine, upon 8, 10 or 12 points of the track, was a valuable idea, and belongs to the Philadelphia builders. The inside connection, with its unsafe, heavy and inaccessible parts, and its "elevated boiler," has never gained any ground in the south. We can say that the truck, the outside cylinder, the coupled drivers, the chilled plate wheel, the chilled tire, the coal engine and the heater, have been either first applied or generally developed in the States south of New York, and these particular improvements form nearly all of the distinctive features of American motive power.

The freight engine, then, should burn semi-bituminous or bituminous coal; its weight distributed on say ten wheels, six of which may be coupled for all necessary adhesion; should have a "feed heater," (an excellent one has been invented by Mr. L. B. Tyng, of Lowell); a say 26 in. stroke and $4\frac{1}{2}$ feet wheels; the chilled slip tire and flanges on all the wheels. The truck to be adapted to take its load on its centre pintal. The size of the freight engine may be increased at pleasure to 30 or 33 tons weight if necessary, and this, moreover, upon a narrow track. The exact dimensions of boiler and cylinders cannot be stated to apply in all situations, but the practical standard of the Baltimore and Ohio engines will be found in our last week's paper, page 391. The cylinders should lie as nearly as possible in a horizontal line, without making the truck wheels too small; the parts should not be unduly heavy, and the drivers should not be combined in truck frames, as the weight of the parts is increased to an undue extent without any sensible advantage.

This general plan of a freight engine is of the kind which involves the fewest parts, the strongest and cheapest construction, and the least expense for operation and maintenance. It is the engine in all essential respects, which has become the standard upon the greatest freight lines of the country.

The Erie road have made a general application of the centre bearing truck, and of flanges to all the drivers.

The freight engine, it would appear, requires distinctive features to adapt itself to its business. Common custom, in some parts of the country, has been to make an engine of the same style for freight as for passengers, with a difference only of six inches or one foot in the size of the drivers, and one-eight inch difference in the lead of the valve.

Gauge of Railroads.

The discussion of the respective merits of the broad and narrow gauges has been pretty fully made in England and in this country. It is not so much the object of this article to enter anew upon this discussion, as to show the results of the broad gauge system in this country. There are now six different track gauges in use in the United States, viz: the 4 feet $8\frac{1}{2}$ inch, or common gauge; the 4 feet 10 inch, which is the New Jersey and a part of the Ohio gauge; the 5 feet, which is the East Tennessee, Western Virginia, and North of Georgia gauge; the five feet four inches which is the grade of the Scioto and Hocking Valley road; the 5 feet 6 inch, which is the Maine and Canada gauge, and the 6 feet, or New York and Erie gauge.

A report made upon the gauge to be adopted for the New York and Albany railroad, made by Edwin F. Johnson, C. E., in August, 1842, presented nearly all of the claims contested by the advocates of the broad gauge. In the report of A. C. Morton, Esq., upon the gauge of the Atlantic and St. Lawrence railroad, some few additional claims were made, and some additional statements offered. We propose to show that, setting aside the assumed intrinsic merits of the broad gauge, that not but a few of the advantages claimed for it have been realized in the practice of the New York and Erie railroad.

We propose to draw the successive statements made in favor of the broad gauge, from Johnson's report. He stated the reason of the first adoption of the 4 71-100 feet gauge to be in the fact of a cheaper application of English engines to our roads; but that, at his time, our own builders had become acquainted with what was required for a broad gauge engine. The Erie road has an assortment of engines comprising nearly every variety of construction, and it seems from this that the knowledge of the best engine remains yet to be developed by experiments.

The first point claimed was, the more equal bearing of the weight upon the wheels of the cars, as the depression of either side of the track, being distributed over a broader base, would reduce the angle of transverse inclination, and consequently the unequal adjustment of the weight upon one or the other wheel of the car. As the extra weight, however, of the Erie rolling stock brings the maximum weight on each wheel, on a level track; the usual weight exceeding the maximum weight on the most uneven narrow track,—the broad gauge deserves what small advantage can be attached to this point.

Another claim was, in the reduction of the axle friction by the admission of larger car wheels. To show what has been the practice of the Erie road, we will say that the freight car wheels have heretofore been 30 inches in diameter, and the passenger car wheels 36 inches in diameter, but that now, while many narrow gauge roads are increasing the size of their car wheels, the Erie Company

are fixing a standard of 38 inches for the wheels of both freight and passenger cars.

The next advantage claimed, was an additional width of freight car, allowing the better stowage of bulky freight, &c. The Erie freight cars are not, however, any wider than those upon the narrow eastern roads.

From this it was shown that the same freight could be carried in a shorter train, and, therefore, with less atmospheric resistance, etc., but as the practice has been to use the common width of car, this advantage is lost.

The greater comfort of wide passenger cars is undeniable, but this can be had on any road, by increasing the proportion of dead weight to live weight, as the Erie road have done in their cars. The Erie cars, however, were intended to accommodate three passengers in each seat, and it was urged that, thereby, the relative dead weight would be reduced. But the seats of the wide gauge cars are not wide enough for three passengers, and are wider than is necessary for two.—The narrow gauge cars, of many roads, having an extreme width of 9 feet 6 inches to 10 feet, furnish the most ample accommodation for two passengers in each seat. From the report of the Erie road to the Legislature, for the year 1852, we find the average number of passengers carried pr. train to be $76\frac{1}{2}$, and the average weight of passenger trains, without passengers or baggage, to be 96 tons, or $1\frac{1}{4}$ tons dead weight per passenger. In the year 1850 the proportion was 1.23 tons per passenger. Now, by the Hudson River company's reports for 1852, the average of passengers pr. train was 85.4, and the average weight of trains $78\frac{3}{4}$ tons, (exclusive of passengers, etc.) or a proportion of '92 tons per passenger. The following shows the corresponding facts on four out of the five roads from Albany to Buffalo, made up from their reports for 1852:

	Average passengers per train.	Average weight of passenger trains with- out passen- gers or bag- gage.
Utica and Schenectady....	114.3	93
Syracuse and Utica.....	108.8	78
Rochester and Syracuse....	88.3	76
Buffalo and Rochester....	100.9	64
	412.3	311
Average.....	103.1	$77\frac{3}{4}$

or but $\frac{3}{4}$ tons dead weight per passenger carried. On many of the New England roads the proportion of dead weight is still less.

An objection to the wide gauge is that the fear of insecurity of outside bearings has driven the Erie company into the general use of inside bearing axles, involving more friction and much more inconvenience and expense in oiling.

One great claim for wide gauge roads has always been the advantage of increased room for the arrangement of the machinery of the engine.

In Mr. Morton's report, pp. 13, he sums up the supposed disadvantages of outside cylinder engines, and says, "these it is generally admitted, are objectionable on many accounts, and are likely soon to get out of use, particularly for engines designed for high speed."

Now, this matter needs full explanation to set

at rest, if possible, the question of the incapacity of the narrow gauge engines, and the injurious tendency of the outside cylinder engine.

The London and North Western company have engines with cylinders of 18 in. by 24 in., and driving wheels of seven feet six inches, and of 8 feet diameter. These are inside connected. The limit of the diameter of boiler for a narrow gauge road is not under fifty inches, nor the width of the furnace grate less than forty-two inches. These dimensions are ample, and easily obtainable without "crowding."

The Baltimore and Ohio road has engines with cylinders of 20 inches in diameter, the engines being of 30 tons weight. This is a narrow gauge road. The boilers are forty-eight inches in diameter, and might have been two or three inches larger, if desired.

The Hudson River road is stocked with express engines of $15\frac{1}{4}$ and $16\frac{1}{2}$ inch cylinders, and six feet six inches, to 7 feet drivers. There is abundance of room for the arrangement of their machinery. These are outside connected engines, running on a narrow gauge.

The Western railroad of Massachusetts have two of their best express engines with 1175 square feet of heating surface, and with six feet ten inch drivers. With one engine the drivers are coupled.

As to the injurious tendency of outside connected engines, it may be said of the Baltimore and Ohio engines which work upon the hardest line in the country, that the expenses of their repairs is 40 per cent less than for the Erie engines. The Baltimore and Ohio engines are outside connected, the Erie engines are about one half inside connected, and a large part of the balance have the "half crank," which is in reality a connection inside of the wheels. The injurious effects of the outside connection, if any, must operate upon the machine as well as on the road. The Great Albany and Buffalo line is stocked with outside connected engines; so is the Hudson River, the New Jersey lines, the Pennsylvania, the Springfield, Hartford and New Haven, and others. Upon none of these lines was there any necessity for adopting the outside connection. The Reading road has mostly outside connected engines, but has some inside connected engines, with 18 inch cylinder, and having ample room for the work. Rogers, Ketchum, and Grosvenor, build the most of their machines with outside cylinders; Norris, Baldwin, and Wignans,—all build outside connected engines, to the exclusion of every thing else, and this, too, where the room afforded by the gauge forms no part in the consideration of the question, as to the best plan. The English roads, particularly the London and Northwestern road, have built and ordered many outside connected engines of late years. Now, no mechanic will undertake to state the amount of the "dangerous oscillation, attributed to the outside connection, while the plan saves the weight, cost, friction and danger of a crank; reduces the height of the boiler nearly one foot which is enough to offset the advantage of a broad gauge engine, with inside cylinders; it renders the work more accessible and is, every way, the lightest and cheapest connection, and just as efficient as any other.

Compare the results of the motive power, on the two gauges. The Erie requires an engine of 17 inch cylinder, and 28 tons weight to draw an

average train of 77 passengers at a rate of thirty-three miles per hour, on the long levels of the Delaware and Susquehanna divisions; the $15\frac{1}{2}$ inch cylinder, 22 ton engine, draws an average train of 85 passengers 45 miles per hour, over a narrow road, having but little advantage in other respects so far as the application of motive power is concerned. This is the case upon the Hudson River road, upon the Albany and Buffalo line, and upon the New Jersey lines, the same class of lighter engines draw a greater number of passengers at a speed greater than is made on the Erie road. The freight drawn on the Reading and Baltimore and Ohio roads is far greater per train with twenty-seven ton engines, than upon any part of the Erie road with 33 ton engines. This is accounted for with the other facts, from the greater resistance of the broad gauge, as proved by every trial made.

It has been stated that narrow gauge engines require an extension of their tubes to get sufficient boiler capacity. We have already stated that the narrow gauge gives room for a fifty inch boiler, and this is larger than is usually adopted on any gauge. The general addition to the diameter of the Erie boilers, towards realizing this advantage of increased space, has not exceeded the common standard of a 42 inch boiler by more than six inches, and has generally been but two inches greater. And yet the common class of Erie engines have the greatest proportion of long tubes of any road in the country, with the exception of the Balt. and Ohio and Reading roads.

Among the principal and primary claims advanced for the broad gauge, was the adaptability of large drivers, reducing the strain and wear of the working parts, increasing the speed of the train, etc. The practice has however been against the development of this advantage. The 6 feet driver is now the standard on most passenger roads; while the Hudson River and some other roads, all of narrow gauge, have adopted the six and a-half feet and the 7 feet drivers.

The standard on the Erie road is six feet for passenger engines and five feet for freight. Only two engines are on the road, having seven feet drivers, and these are seldom used except on gravel trains, wood trains, etc.

The results have been every way in favor of the narrow gauge, so far as regards its application to our roads.

The increased capacity of a boiler on the broad gauge engine cannot be realized without increased weight, and this same obstacle of weight is always in the way of any great increase in the capacity of motive power. The possibility of the use of a larger boiler also suggested the allowance of a larger blast pipe, and yet the Erie engines have blast-pipes rather under the size due to their capacity of cylinders.

The plain disadvantages of the broad gauge, as exhibited in the results of working it here, have been,—increase of weight on each wheel, increased resistance from an indirect application of draught upon every variation in the axis of the train; and with these, the consequent result of an expensive application of motive power.

The discussion of any practice of changing a common gauge to 4 feet 10 inches, or 5 feet, is idle.

It can have no advantage under any probable contingency of traffic, on any road, unless the cir-

cumstantial one of affording a connection with some other one, unwisely and previously afflicted with a disturbing gauge. Z. C.

Long Island Railroad.

The recent annual report of this Company show the earnings of the past year to have been \$217,566 23, showing a gain over the previous year of \$25,120 59.

The comparative earnings of the last five years ending April 1, have been:

	1849.	1850.
Passengers.....	\$110,910 78	\$126,666 97
Freight.....	45,770 86	52,899 17
Mails.....	5,303 75	4,329 00
Express.....	1,467 45	637 55
Total.....	\$163,443 84	\$184,532 69
Incr'se pr. annum.....		\$21,088 85
	1851.	1852.
Passengers.....	\$134,564 59	\$150,139 32
Freight.....	53,550 05	63,097 91
Mails.....	4,329 00	4,328 00
Express.....		
Total.....	\$192,443 64	\$217,566 23
Incr'se per annum.....	\$7,91 95	\$25,120 59

The cost of operating the road during the year ending April 1, 1853, was \$180,292 39, and other disbursements for interest, rent of Jamaica road, &c., carry the amount of expenditures to \$251,456 14, showing a loss of \$33,890 on the year's business. The report says that "the expenditures include many items which do not properly belong to one year's business, which have resulted from permanent improvements made, and increased motive power and cars provided."

The entire liabilities of the road, exclusive of stock, is \$645,867 39. The capital stock is \$3,000,000. The present available funds of the company amount to \$51,034, a portion of which will be required to pay for cars and engines, rails, etc.

The number of miles run by passenger trains was 133,697, and by all trains 238,117 miles.

New Jersey Central Railroad.

We publish this week the advertisement of the above company; offering for sale \$950,000 of their unissued stock, for the purpose of constructing the double track now imperatively called for by the actual and prospective increase of the business of the road.

On the first of April last the financial condition of the company was as follows:

Capital stock.....	\$1,034,700 00
Mortgage bonds, 7 per cent.....	1,500,000 00
Other bonds, 6 per cent.....	118,000 00
Bills payable and balance due.....	249,022 04
Balance of earnings over dividend.....	1,006 85

Total.....\$2,897,728 89

This was represented by the following property:—

Railroad average \$37,800 per mile.....	\$2,379,866 64
Ferry interest and boats.....	140,900 00
Station houses, shops, &c.....	78,000 00
Land at Elizabethport.....	55,016 77
Equipment.....	318,504 64
Materials, wood, coal, cash, &c.....	25,420 84
Total.....	\$2,897,728 89

The road extends from Elizabethport to Easton, Pa., a distance of 63 miles. It has an excellent local business, and from this source alone the several divisions have earned 7 per cent interest upon their cost, as fast as they have been opened.

But it is the *through* business from which a greater portion of the future income of the company will be received. Easton is the terminus of the Lehigh canal, and is soon to be the terminus of railroads penetrating to the Lehigh and Schuylkill coal fields. A connection will also be formed with the road in process of construction from the Water Gap to the Lackawanna coal fields; so that the Central road will form a trunk from the Delaware for roads penetrating all the Pennsylvania coal fields, and will enable New York to receive a steady supply of fuel for the entire year. At the present time there is only one continuous line of road from tide water to the coal fields—the Reading; so that New York is practically cut off from them for five months in the year. With a good road across New Jersey, we see no reason why it should not carry an amount of coal freight equal to the Reading. It would have a much more extensive source of supply. It has favorable grades none of which exceed twenty feet to the mile in the direction of the heavy traffic; and it is believed that no other road can be built across the State in the same general direction, having an equally favorable route.

It seems, therefore, that there is no better opportunity for the investment of capital in railroads than the one now offered. There is no doubt that the road will immediately, as soon as the connecting lines shall be opened, enter upon a business equal to the capacity of a first-class double-track road. Its business will be ample and regular at all seasons of the year, and may be made equal to that of the Reading, which now pays the interest on an investment of nearly twenty millions of dollars.

Canal Tolls and Trade.

The following figures show the amount of tolls collected on the State Canals, during the second week in June, and the aggregate up to June 14, for a series of years—

	Second week in June	Total to June 14.
1846.....	\$83,531	\$770,847
1847.....	149,785	1,016,298
1848.....	90,185	813,237
1849.....	9,242	794,138
1850.....	67,329	728,745
1851.....	86,223	949,596
1852.....	90,303	738,395
1853.....	106,106	767,655

Increase in 1853 to June 7.....\$26,457

Increase for 3rd week in June '53 15,803

Total increase.....\$42,260

This increase is all on down freight from other States, and on merchandise sent back—the tolls on down freight from this State falling off considerably, as compared with last year—as will be seen by the following comparative results:

	1852.	1853.	Dec'se	Incr'c
On up freight, merchandise.....	\$215,181	\$249,091		\$33,901
On down freight from other States.....	285,725	290,069		13,344
On down freight from this State.....	237,489	232,495	4,994	
Total.....	\$738,398	\$780,655		\$42,254
Decrease.....				\$4,994
Increase.....				\$42,260

Thus it is that the producers of other States

continue to use, and to contribute more and more every year to the revenues of our canals—a tribute which is willingly paid and which would be increased in an incalculable ratio by the enlargement, and the cheapening of transportation which would result from it.

Notwithstanding the free competition of railroads with the canals, in the transportation of merchandise, it will be seen that the latter have done a much larger business this year than the last.

Adhesion of Engines.

By a fortunate concurrence of physical facts, it results that the machinery proper for a given size of locomotive, if properly proportioned, has always a weight sufficient to create an adhesion equal to the tractive power of the engine. The tractive power, which forms the original element of the locomotive, is the subject involved in the plans of the designer; the adhesive power is merely circumstantial,—the builder never adding or deducting from his dimensions with reference solely to their weight. This concurrence of physical facts is such, that an ordinary engine working at its most economical velocity, or 10 miles per hour, requires the adhesion of about $\frac{3}{4}$ of the weight of the whole machine to realize its full tractive power, and at higher speeds the adhesive weight may be much less, say one-third of the weight. It is an object to divide the weight of an engine on several points upon the track, say eight to twelve, and it is desirable to use as few of the wheels for drivers as are sufficient for the purpose, on account of the extra friction involved in the use of coupled drivers, and, as there is always a surplus of weight available for adhesion, the custom is to use two, four or six drivers for this purpose,—according to the duty of the engine. An engine has always nearly the same adhesion on an incline as on a level, deducting only the actual weight lost by the inclination of the engine, which is 1-50, 1-100, or any other fraction, according to the fraction of the elevation divided by length of plane.

Hence the reason why an engine does not draw as much on an incline as on a level is not from any "want of adhesion," but because the actual resistance being greater, the traction is absorbed by fewer tons of load, and if $\frac{3}{4}$ the weight of the engine is needed for adhesive weight, under the most effective working velocity, it follows that the adhesion would not be impaired upon any inclination less than 1 in 4. Hence expedients for increasing the adhesive power of engines are useless, after $\frac{3}{4}$ of the weight of the engine has been adjusted on driving wheels. The very fact of an increase of traction involves, of necessity, the corresponding adhesion; the former cannot exist without the latter, while the latter may often be in excess of the former.

The plan of Mr. French, for the means of testing which an application was made to the last Congress, cannot, for the above reasons, become generally useful. It involves practical difficulties also, which would operate against its use. The plan consists in running an engine upon a track projecting, on each side, beyond the sleepers, and in adapting friction rollers to work beneath the rails; the connection being made between the rollers and the engine by a connecting link, upon which a power may be applied to increase the adhesion at pleasure. The plan does not increase

the power of the engine, since mere adhesion is not power. There are an abundance of engines in daily use, able to surmount any grade of less than two hundred feet per mile, and they will draw a load to the extent of their tractive power, which is all they can do upon a level.

American Railroad Journal.

Saturday, June 25, 1853.

Railway Share List.

We give, in our present issue, a *Share List* of railways in the United States, which presents what was never before attempted,—a complete view of their financial condition, as well as the current value of their shares. We shall add, in our next number, a list of the leading bonds before the market.

We solicit the particular attention of railroad companies to this List, for the purpose of correcting any errors in our tables, or supplying any omission that may exist in them. As only two or three States require returns to be made, we are compelled to depend upon the reports of companies for a knowledge of their condition. We shall esteem it a great favor if railroad companies will supply us with the necessary data for completing our tables, at their earliest convenience.

Cincinnati Western Railroad.

The object of this proposed road is to open a new outlet for the White Water Valley, and to form an additional trunk line for the roads of Eastern Indiana, into Cincinnati. It will form a nearly straight line between New Castle and Cincinnati, of about 75 miles, as we learn from a recent survey of the route. It is claimed that it will effect a saving in distance of some 25 miles over any road in operation or progress between either New Castle or Cambridge, Indiana, and Cincinnati. The greater part of the route is through an exceedingly fertile, and well settled country. It will cross the Junction and Indiana Central roads, and connect with the Cincinnati and Chicago road at New Castle. Its whole cost is estimated by the company's engineer at \$2,124,237.

We learn that a large amount of stock has been subscribed; that the whole line has been let to DeGraffe & Co, one of the leading contracting firms in the west; and that the section between New Castle and Cambridge is so far advanced toward completion, that it will be probably ready for business by the 1st of January. For this part of the line, 13 miles, the iron has just been purchased, and is immediately to be forwarded from this city, where it is now lying. The parties having this road in charge, at the head of which is the Hon. Caleb B. Smith, are men of great energy, and they express a determination of pushing the work forward with all possible dispatch. It is their intention to have the entire line opened for business by the first of January, 1855.

Terre Haute and Alton Railroad.

The result of the recent election for Directors of this road, held in Charleston, Ill., on the 6th inst., was as follows:—Simeon Ryder, Robert Smith, Wm. M'Bride, Alton, Ill.; C. P. Huggins, Bunker Hill; John S. Heyward, Hillsboro'; H. J. Ashmore, Charleston; Isaac Sanford, Edgar County; John Stryker, Rome, N. Y.; Edwin C. Litchfield, E. B. Litchfield, John B. Jarvis, Thos. C. Durant, Henry Ten Eyck, N. Y.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net Earnings in 1852.	Dividend, 1852.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	95
Androscoggin and Kennebec..	55	809,878	905,300	1,994,429	131,006	.....	none	30
Kennebec and Portland.....	72	876,741	800,000	2,180,000	133,338	.....	none	40
Port., Saco and Portsmouth..	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland.....	20	227,981	291,200	In progress	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,270	622,000	2,540,217	150,538	79,659	.....	53½
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	10	108
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	....
Northern	82	3,016,634	.....	.....	328,782	163,075	5	58
Manchester and Lawrence....	24	717,543	.....	.....	.....	.....	6½	99
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,513	8	108
Portsmouth and Concord....	47	.....	.....	1,400,000	.....	.....	none	....
Sullivan	26	.....	.....	673,500	.....	.....	none	9
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	46
Rutland	120	2,435,328	1,964,588	.....	324,790	165,340	none	35
Vermont Central.....	117	8,500,000	3,500,000	12,000,000	.....	.....	ent.	17½
Vermont and Canada.....	47	1,600,000	.....	1,500,000	Leased to the Vt. C.	.....	.....	101½
Western Vermont.....	51	392,000	700,000	.....	Recently opened.	.....	none	....
Vermont Valley	24	.....	.....	.....	.....	.....	none	....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	100
Boston and Maine.....	83	4,076,974	150,000	4,092,927	659,001	338,215	7	109
Boston and Providence.....	53	3,160,390	390,000	3,546,214	429,484	212,625	6	88½
Boston and Worcester.....	69	4,500,000	425,000	4,845,967	758,819	331,296	7	104½
Cape Cod branch.....	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River.....	52	1,591,100	193,500	1,801,946	229,004	72,028	5	57½
Eastern.....	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	95
Fall River.....	42	1,050,000	none.	1,050,000	229,445	99,589	8	107
Fitchburg.....	66	3,540,000	100,000	3,633,673	574,574	232,787	6	99½
New Bedford and Taunton....	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County.....	26	547,015	819,743	1,245,927	67,251	23,415	none	67
Old Colony.....	45	1,964,070	282,300	2,293,534	322,213	101,510	none	86½
Taunton Branch.....	12	250,000	none.	307,136	137,406	24,399	8	....
Vermont and Massachusetts..	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17½
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	60
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	682,195	6½	99½
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	56
Providence and Worcester....	40	1,457,500	300,000	1,731,498	253,690	139,514	6	....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	....
Hartford and New Haven....	62	3,000,000	472,000	.....	600,408	332,223	none	124
Housatonic.....	110	.....	.....	2,500,000	329,041	168,902	none	....
Hartford, Prov. and Fishkill..	50	.....	.....	In progress	.....	.....	none	....
New London, Wil. and Palmer	66	558,861	800,000	1,511,111	114,410	.....	.....	....
New York and New Haven....	61	2,992,450	1,641,000	4,825,937	814,714	443,993	7	109
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	....
New London and New Haven.	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester.....	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	56
Albany and Schenectady..... N. Y.	17	1,000,000	685,301	1,774,584	296,112	164,448	8	145
Buffalo and New York City..	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York.	132	.....	.....	In progress	.....	.....	none	65
Buffalo and Rochester.....	76	1,825,000	184,903	2,415,014	619,976	415,323	10	182
Buffalo and State Line.....	69	879,636	872,000	1,921,270	Recently opened.	.....	....	130
Canandaigua and Niagara F..	50	.....	.....	In progress	.....	.....	.....	....
Canandaigua and Elmira.....	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.....	35	687,000	400,000	1,070,786	74,241	23,496	none	....
Erie, (New York and Erie)....	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	80½
Hudson River.....	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	72½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	64½
Long Island.....	95	1,875,148	516,246	2,446,391	205,068	44,070	none	36
Ogdensburg (Northern).....	118	1,578,311	2,780,760	4,933,029	435,845	176,123	none	38½
Oswego and Syracuse.....	35	350,000	201,500	607,803	90,616	43,609	4	70
Rochester and Syracuse.....	184	5,132,990	700,123	6,101,778	988,366	549,824	8	156
Rutland and Washington.....	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	....
Saratoga and Washington....	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Syracuse and Utica.....	53	2,400,000	126,000	2,661,477	116,918	376,025	10	182
Troy and Rutland.....	32	237,690	100,000	329,577	Recently opened.	.....	....	33
Troy and Boston.....	39	430,936	700,000	1,043,357	Recently opened.	.....	none	....
Utica and Schenectady.....	78	1,124,000	none.	4,093,273	1,029,774	724,770	10	195
Watertown and Rome.....	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	150
Morris and Essex.....	45	1,022,420	128,000	1,220,325	140,154	80,351	4	....
New Jersey.....	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central.....	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	....
Erie and North East.....	20	600,000	.....	750,000	Recently opened.	.....	....	125
Harrisburgh and Lancaster..	36	783,950	688,051	1,609,494	200,249	106,932	8	....
Philadelphia and Reading....	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	92½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1862.	Net earnings in 1862.	Dividend, 1862.	Price of shares.
Philad., Wilmington and Balt. Penn.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	71
Pennsylvania Central	250	9,768,153	5,000,000	15,600,000	1,943,827	617,625	....	100
Philadelphia and Trenton	"	30	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	71
Washington branch	"	38	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna ..	57	.....	.....	.....	413,673	152,536	.....	42
Alexandria and Orange	Va. 65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap	" 27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh	" 64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville	" 73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg ..	" 22	.....	.....	.....	.....	.....	.....	.....
Rich., Fred and Potomac	" 76	.....	.....	.....	.....	.....	.....	.....
South Side	" 62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central	" 107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee	" 60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac	" 32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh	N. C. 161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina ..	S. C. 110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia	" 140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina	" 242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Georgia Central	" 191	3,100,000	306,187	3,378,132	945,508	508,625	8	102
Georgia	" 211	4,000,000	1,214	.....	934,424	456,468	7½	.....
Macon and Western	" 101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee	" 71	.....	.....	In prog.	.....	.....	.....	.....
Wilmington and Manchester ..	"	.....	.....	.....	.....	.....	.....	.....
Southwestern	" 50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River ..	Ala. 55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston	" 93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio	" 33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point ..	" 88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern	Miss. 60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia ..	Tenn. 80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga ..	" 125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington	Ky.	1,430,000	900,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington	" 28	.....	.....	.....	87,421	44,250	.....	75
Louisville and Frankfort	" 65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington .....	"	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh	Ohio. 100	1,239,454	1,371,000	2,963,756	194,429	123,306	6	102
Cleveland, Painesv. and Ash. ..	" 71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus	" 135	3,027,000	408,200	3,655,000	777,793	483,483	12	132
Columbus, Piqua and Indiana ..	"	.....	.....	In prog.	.....	.....	.....	.....
Columbus and Lake Erie	" 61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton ..	" 60	1,694,000	906,000	2,600,000	321,793	200,967	.....	115
Cincinnati and Marietta .....	"	.....	.....	In prog.	.....	.....	.....	.....
Dayton and Western	" 40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan	" 20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton	" 36	.....	.....	.....	.....	.....	.....	67
Greenville and Miami	" 31	.....	.....	.....	.....	.....	.....	.....
Hillsboro	" 37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami	" 84	2,370,784	.....	2,634,157	526,746	314,670	10	120
Mansfield and Sandusky	"	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River	" 167	1,860,500	.....	.....	565,751	.....	.....	.....
Ohio Central	" 57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi .....	"	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania	" 187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana .....	"	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley ..	"	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd ..	" 87	552,000	800,000	1,317,140	Recently opened.	.....	.....	150
Xenia and Columbus	" 54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois	Ind. 31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central .....	"	.....	.....	.....	.....	.....	.....	.....
Indiana Northern	" 131	.....	.....	.....	Recently opened.	.....	.....	.....
Indianapolis and Bellefontaine	" 83	.....	.....	.....	.....	.....	.....	.....
Lawrenceburg and Ind. ....	"	.....	.....	In prog.	.....	.....	.....	75
Lafayette and Indianapolis ..	" 62	.....	.....	.....	Recently opened.	.....	.....	.....
Madison and Indianapolis	" 88	1,650,000	750,000	2,400,000	516,414	268,075	10	102
Peru and Indianapolis	" 40	.....	.....	In prog.	.....	.....	.....	.....
Terre Haute and Indianapolis ..	" 72	632,387	663,100	1,353,019	106,593	71,446	4	108
Rock Island and Chicago .....	"	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi .....	"	.....	.....	.....	.....	.....	.....	.....
Galena and Chicago	Ill. ....	.....	.....	.....	.....	.....	.....	136
Illinois Central	" 92	1,932,361	500,000	In prog.	472,109	.....	.....	125
Michigan Southern	Mich. 315	2,499,410	2,629,000	6,430,246	292,187	293,046	.....	146
Michigan Central	" 282	.....	.....	.....	.....	.....	.....	117
Pacific	Miss. ....	.....	.....	.....	.....	.....	.....	.....

Stock and Money Market.

The past has been a very dull week in Wall st. The hot season has come upon us all at once, and great numbers of our active business men are preparing to leave the city, and are putting their affairs in trim for a summer vacation. There is an indisposition to enter upon new engagements, which will continue until the first of September. The fancy stock market, sympathizing with the general curtailment in the regular departments of business, is unusually flat. There appears to be no disposition to operate, and prices are consequently receding. The impression is universal that we are to have a dull summer, as far as the stock and security markets are concerned. Money, on the other hand, is becoming more and more abundant, and seems likely to continue so for some time. The liabilities of the business community have been diminishing for some months past, and the comparatively fewer calls for money tend to increase the supply. Its abundance does not appear to give any vitality or impulse to operations in fancy stocks. The community has evidently become tired of the *fancies* now upon the market. Many of them have been held for years without yielding any return, and so general is the conviction of their worthlessness, that every body is anxious to get rid of them at some rate. Some new scheme is now wanted, of which vast results can be predicated, with a plausibility that is difficult to disprove, to give a new tone to the market. The old projects are worn completely threadbare. Ingenuity can no longer invest them with apparent merits. Every side of them has been shown up. Something new is wanting to excite attention and curiosity, and to provoke into action, parties already surfeited with the old.

The Erie dividend continues to be a leading topic in the street. All discussion and speculation may be to little purpose, till the facts of the case are known. It is of little use to suppose a case, that may be so soon disproved by the report of the Dividend Committee.—Still upon a *supposed* case, which is very likely to occur, we think it the true policy of the company to pass a cash dividend. Mr. Loder's recent letter in reply to our strictures gave the following as the condition of the company on the first day of March last, viz:

Capital stock	\$9,612,995
Funded debt	18,003,688
Floating debt	3,684,947
Total cost	\$31,301,630

Now we presume that no dividend will be made, without being accompanied with the proper evidence that one has been earned; that is, a dividend without a balance sheet, is no longer a supposable case. The point is, what is to be done, provided the increase of capital account leaves nothing for dividend. Will it be a dictate of sound policy to declare one under such circumstances? Certainly not; because it is not certain that one has been earned. Should there be nothing left after paying the interest on the indebtedness of the company, one of two things are true; either that no dividend has been earned, or that the construction is not closed; and until the construction account is closed, it is impossible to say what the net earnings of a road are. The double track is in progress, to be sure, but the cost of this is undoubtedly charged to a distinct account. If by taking the ordinary course pursued by other com-

panies, the Erie road has earned a dividend, let it be declared, by all means. If not, pass it. The true way will be, to treat the whole subject in a straight forward manner, to look at it as it is, and not through that enlarged vision which sees prospective results never to be realised; nor to examine it under the influence of past hopes or pledges. A dividend cannot increase nor diminish the earnings of the road; cannot destroy, nor add to, its future usefulness—and not the slightest reason now exists why the action of the directors should not be governed by the facts as they actually are.

We have no interest nor wish foreign to the best good of this road, and all parties connected with it. We desire its success as much as any one; and our opinion is, that its real success can be promoted in no manner so effectually as by omitting a dividend on the first of July. Whatever success may have crowned the efforts of the directors, there can be no doubt that they have given numerous pledges which they have not fulfilled, that subsequent results have shown many of their statements to have been incorrect, and that much dissatisfaction and distrust exists as to their management of the company's affairs. This feeling is wide spread. If it is without any good foundation, the public mind should be disabused. To do this (provided a dividend has not been earned beyond all dispute,) there is only one course left, and this is for the directors to say: "As charges have been brought against our management, and particularly in the payment of dividends which apparently have not been earned, we are going to probe the charges to the bottom, for the purpose of determining the true condition of the company's affairs; and as, for this purpose, we must take a longer time than till the first of July, we shall declare no more dividends till the result of our investigation makes our way clear." If the directors would have the moral courage to take this view of the subject, it would be an auspicious day for the Erie railroad. It would at once secure the public confidence in their intentions. It would not only strengthen the position of the company abroad, but would be worth twenty times the amount of the proposed dividend in its effects upon the securities of other roads. It would be an announcement of a sound policy which would be of incalculable advantage to our whole railroad system. It would show at least an intention to do the right thing. Its effect would be an immediate improvement in the securities of the company, and we think in the end it would help the stock. It would be hailed as a guarantee for the future good management of the road, and by dispelling the doubt and uncertainty that exists as to the real value of the stock, it would make its market, and actual value, the same. At the present time the stock has no firmness, nor will it ever have, if matters go on as they have done. The slightest rumor, or symptom of disturbance, in the money market, gives it spasms, and make it the constant sport of all the little panics, tempests in teapots, got up by operators in the street. From such a fate we should like to see the Erie road rescued. It is deserving a better one. It is the greatest monument of the kind in this country, if not in the world, and its financial condition, its management, and its reputation should correspond to the greatness of the work. We know that the road was built under great difficulties. We can very well accept

excuses for past errors, that cannot be claimed for the future.

The directors must know that the eyes of capitalists of Europe, as well as of this country, are upon them, and that they are responsible to a wider tribunal than that composed of the few who may be loaded with the stock for purposes of speculation. Whatever they may do, we shall be satisfied, *provided* their acts reflect the actual state of the company's affairs.

Since the above was in type, the postponement of the July dividend has been publicly announced. As we were convinced that none had been earned, we are exceedingly gratified that the directors have met the crisis in the manner they have. Having broken the ice, they will feel no longer bound by the pledges of the past, but are now left free to act up to their own convictions of what is for the real interest of the road. The step they have taken cannot fail to do much to restore confidence in the management of this road, and of similar works.

The actual earnings of the road for the first six months of the year (estimating those of June to be \$360,000), are stated to be about \$2,050,000. The expenses are reported to be about 60 per cent of this sum. The debt of the company is stated to be as follows:

Funded debt.....	\$19,053,868
Floating debt.....	2,747,234
Total	\$21,801,102
Estimated earnings for six months....	2,050,000
Deduct interest on debt.	\$763,038
" running expenses.....	1,230,000
	1,993,038
Leaving for dividend.....	56,962

The amount of outstanding stock is stated to be \$9,930,930.

If the street rumors are correct, the capital account has increased some \$400,000 since March. This, however, is mere conjecture.

We understand that the actual, are less than the reported, earnings of the road by at least \$100,000. This deficiency has arisen from the drawback found to be due connecting lines. In our recent articles upon the management of this road, we took the ground that a large discrepancy would be found to exist between the actual and reported earnings from the very nature of the case. A large portion of the freight of the Erie, is received from other roads, the charges upon which are collected at New York. The receipts therefore upon the Erie road, by no means express the amount of the earnings. We hazarded the conjecture that a proper exhibit of the affairs of the company for 1852, would have showed a fact, which is now fully admitted by the directors.

The directors will undoubtedly publish, as soon as can be done, a report setting out in full the condition of the company's affairs. Released as they are from all obligation to the past policy of the company, we have no fears that they will not adopt such a policy for the future, as shall promote the best good of all concerned. We shall contribute what we can toward such a result. We felt compelled to attack the management of the company in the very flush of its success. The result has completely indicated both our sagacity, and our motives. We are too well content with the good we have accomplished, to cherish any

unkind feeling toward the company, or parties, who, in the excitement of the moment, may have treated us unkindly. For one, we stand ready to lend the Erie railroad a hand, in helping it on in its new career.

The Michigan Central railroad company's earnings for May, were

	1853.	1852.
Passengers.....	\$66,610 93	\$66,518 56
Freight.....	47,224 12	67,195 05
Miscellaneous.....	21,367 45	20,104 06

Total.....\$135,202 50 \$153,817 67

For the six months ending 31st of May, they were \$440,763 64 against \$324,386 78, in the same period of last year.

The decrease in May, 1853, as compared with May, 1852, is, it will be seen, entirely in freight.

The whole fancy market has settled down with Erie. Dividend paying stocks are unaffected.

The Sub-Treasury has over eight millions, being a much larger amount than ever before reached.

The entire track of the Bellefontaine and Indiana railroad, with the exception of seven miles at its western terminus, (Union) is now laid. The whole will be completed and in full operation during the present month.

The Western railroad of Massachusetts has paid a dividend of 3½ per cent, and in addition, the company pays annually from its net income the sum of \$50,000 to the sinking funds, and the interest earned by these funds is \$60,000 more, so that equal to 2 per cent is gained for the benefit of the stock, in addition to the two dividends. The value of these funds is equal to more than \$20 the share, and it is estimated that they will be sufficient to pay the debt at maturity.

The bids for the \$3,000,000 Illinois Central railroad loan opened recently reach an aggregate of \$4,930,000, ranging from par to 5½ per cent premium.

The earnings of the Macon and Western railroad company for May were:

Passengers.....	\$6,812 27
Mails.....	1,080 04
Freights.....	8,717 30

Corresponding month last year.....\$16,609 61

Decrease.....18,257 96

Decrease.....\$1,648 35

Erie and N. Y. City Railroad.

Active operations have been commenced upon this work; a large number of men are at work between Randolph and Little Valley, and we learn from the contractors that it is their design to have the road opened to Randolph, 16 miles, before the 1st of January next.

The entire line, from Little Valley to Erie will be put under contract forthwith. The people on the line are showing their energy and confidence in the road by liberal subscriptions to the stock; about \$400,000 has already been secured in the country.

From the mouth of the Little Valley Creek, on the Alleghany river, at the very base of the most northerly spurs of the Alleghany Mountains, it leaves the N. Y. and E. road, and strikes an almost direct west line, through a populous country, to the harbor of Erie; a harbor open earliest in the Spring and latest in the Fall of any on the South Shore of the Lake, east of Cleveland, and certainly the best point for both passengers and freight

moving east or west, to take or leave the lake and the Lake Shore road.

The Erie and New York City railroad presents the shortest and best route for the entire Western country South of the Lakes at least, to reach New York; farther north than this road both the distance and grades are increased; farther south you meet the impassable barriers of the Alleghany Mountains, or become embarrassed with their impracticable grades, or entangled among their circuitous gorges.

Columbus and Xenia Railroad.

We have the third annual report of this Company, made up for the first eleven months of 1852, which present the following exhibit of their affairs:—

Entire cost of road and fixtures to	
Dec. 1 1852.....	\$1,257,007 88
Capital stock paid up and issued....	1,092,137 97
Bonds issued.....	118,500 00
Receipts for 11 months to Dec 1, '52	\$237,506 22
Current expenses for do.....	102,142 72

Leaving as net earnings..... \$135,863 50
Increase of receipts over corresponding 11 months of previous year... \$42,785 58

A dividend of ten per cent, payable in stock, was declared July 1st, 1852, out of the net earnings of the preceding six months, and from a portion of the surplus earnings of the previous year. A second dividend of five per cent, in cash, was declared November 30th.

The through passengers for 11 months were 103,651. The way passengers for same time were 22,416. An increase over a like period in 1851 of 33,023 through, and 4,131 way passengers.

Journal of Railroad Law.

LIMITING A CARRIER'S LIABILITY.

This may be done by express notice, in England as well as in this country; and there, as well as here, it is necessary that the notice by which the carriers' liability is designed to be restricted, should be actually brought home to the knowledge of the party who is to be charged therewith.

This was the turning point in a late case, tried at Nisi-Prius, in the English Court of Queen's Bench. *Walker vs. the York and North Midland Railway Company*—before Justice Coleridge.

The action was brought against the company upon the alleged ground, that they had failed to deliver, in season for the London market, a quantity of herring, which had been sent by the York and North Midland road. Mr. Reynolds, one of the defendants' witnesses, testified that he had, by the direction of the company, personally notified the Yarmouth fishermen, (and the plaintiff in particular) that such company would not be liable for not delivering fish in London in season for the market. Plaintiff endeavored to show that at the time when the notice was alleged to have been served "he was out in a coble."

The Judge told the jury, that if they were satisfied that a notice like that in question had been served upon the plaintiff, they must find a verdict for the defendants. And accordingly a verdict was rendered in favor of the company.

A similar case was decided between Shaw and the same company in 1849. In the case last mentioned, plaintiff alleged that the defendants were proprietors of the York and North Midland railway, and of certain carriages for the conveyance of

passengers, cattle and goods upon the said railway for hire; that they received nine horses from plaintiff to be safely carried in the railway carriages of defendant, at the ordinary prices; and that from the insufficiency of one of the carriages, one of the horses was lost. It appeared that when the horses were received, a ticket was given to the plaintiff, stating the amount paid by the plaintiff for the carriage of the horses, and the journey they were to go, and having at the bottom the following memorandum:

"N.B. This ticket is issued subject to the owners' undertaking all risks of conveyance whatsoever, as the company will not be responsible for any damage or injury, however caused, occurring to horses or carriages while travelling, or in loading or unloading."

The Court held that the terms contained in the ticket formed part of the contract for the carriage of the horses, and that the alleged duty of defendants, safely to carry the horses, did not arise.

DAMAGES IN CASE OF DEATH.

The close connection between the spirit of an age and its legislation, is in no respect more forcibly shown than by modern laws in regard to disasters in travelling.

By the old Common Law, the death of a human being furnished no ground of action for damages, however valuable such a life might have been. Stern, indeed, was the punishment inflicted of old upon those who had occasioned by negligence the death of another; but the idea of ascertaining the pecuniary damages sustained by the family of a person killed by the fault of another, was the fruit of a commercial and practical age.

It is obvious, that measuring damages in such cases by the past annual earnings of the deceased, can only be deemed an imperfect and approximate method—for they who earn most, are most apt to save something for the future—and their families may consequently suffer less from their loss than if their earnings had been more scanty.

In England, it was not until the 9th year of Victoria, that a statute was enacted rendering a party who had occasioned the death of another, liable to the widow and next of kin of the deceased.

In New York a similar act was passed in 1847. But in 1849 it was amended, by providing that in such a case the damage awarded should not exceed \$5,000.

In Massachusetts, by the law of 1840, the widow and next of kin may maintain actions under the circumstances above mentioned—but they cannot be allowed damages greater than \$5,000, nor less than \$500.

Kindred provisions exist in Maine and New Hampshire.

In Connecticut, a law was passed several years ago, allowing actions to be brought by the representatives of deceased persons when the latter have been killed by the wrongful act or negligence of others—but it does not limit the amount to be recovered. We need hardly mention that since the Norwalk disaster this subject has been under earnest consideration in the Legislature of that State, and a highly stringent act will be the probable result. But many suits have been commenced in Connecticut by the surviving friends of the Norwalk sufferers under the law already in force.

In several of the States the laws in regard to this subject are undergoing, or have undergone,

material changes. But the general tendency in this country is strongly in favor of awarding damages to the widows and next of kin of those who are killed on railroads and steamers.

The following is extracted from the correspondence of the Boston Post:

"A lady was travelling with her husband on the Midland Counties' railway, in 1851, when another train ran into theirs, killing the husband and several others. The lady brought a suit—a sum was offered but she would not accept it—and it was contested. The killing was not denied, nor the carelessness of the action; it was merely a question of damages. The lady proved that her husband was a professional man, a lawyer, I think, and that his average annual income was £2,000. His age was proved, I believe he was 38. Life insurance tables were then consulted, and the average length or duration of lives beyond that period was ascertained. The probable duration of his life, or its 'value,' as life insurance has it, was found, and it reached, I think, 52 years, or 14 years beyond the period of his death. They then took either one-half of his income, or one third, one-half, I believe, for the lady, and computing the value by compound interest for 14 years, awarded the amount, and it was nearly seventy thousand dollars."

Accurate and Economical Method of Boring Crank Pin Holes.

Machinists often meet with difficulty in boring the holes for the crank pins of a pair of driving wheels, so that they shall be exactly at right angles with each other. The old plan was to "plumb" one pair of centers on one wheel, and "level" the other. This method involved much fitting and many trials. A machine having two boring bars, at opposite ends, and at right angles one with the other, has been used in some locomotive shops. It cannot, however, be used for any other purpose, and it requires that for inside connections the cranks shall always be forged one way; or, in other words, that the "throws" shall be always in the same relative position to each other—a matter which the forgers may sometimes forget or mistake.

An entirely accurate and an extremely simple method may be practised for this purpose, by a little adjustment of the face plate, and boring spindle of the large lathe. It is as follows: A circle is cut by running the point of a tool near the edge of the face plate, and this is divided into four equal divisions by "leveling" and "plumbing." A hole is made through the face plate, in line with the center and one of the points just found, and at the proper distance from the center to receive the crank pin of a driving wheel. The boring bar is adjusted to point directly in a line between the center and the next point in the circle. Thus there is a constant angle of 90 degrees between the center of the hole in the face plate and the boring spindle, and the face plate may be secured in this position. In boring for a pair of new wheels, one wheel may be bored in the usual manner upon the face plate, afterwards drawn upon the axle, together with the other wheel, which can be set approximately in its proper relative position, and the crank pin of the first wheel be fitted and entered in the hole found in the face plate. The wheels are then readily placed in adjustment with the boring spindle, and the second hole bored out accurately and expeditiously. This method should be perfectly understood, and practised in every repair shop, as it is always right, and makes no expense.

Census of Dayton.

The census of the city, taken by order of the Council, has just been completed, and shows the following result as compared with the enumeration of 1850:

	1850.	1853.
White pop.....	10,771	16,562
Add Colored.....	205	10,976

Increase since 1850.....5,586

The growth thus indicated has mainly taken place during the last half the period since the Federal census. The causes which produced it—the railroad and manufacturing elements—are now operating with constantly augmenting vigor, and we have every reason to expect that, in two years from this time, the population of Dayton will come up to twenty-five thousand—*Dayton Gazette*.

Alexandria, Loudoun and Hampshire Railroad.

Charles P. Manning, Esq., long connected with the Baltimore and Ohio railroad, and an engineer of ability and experience, has been appointed Chief Engineer of this road, Robert T. Mason, Esq., of Va., assistant engineer, and Reuben Johnson Esq., of Alexandria, Clerk of the Company.

This road, as is well known, is to connect the city of Alexandria with the coal field of the George's Creek Valley. The State of Virginia has subscribed three-fifths of the amount necessary to construct it about one-half of the way, to be expended on the eastern section, and private individuals have taken a sufficient amount of the balance of the stock to secure the immediate commencement of operations. The work has been entered upon with energy, and the President of the company, Lewis McKenzie, Esq., of Alexandria, is a gentleman who will push it forward with unceasing activity.

Vincennes and Paducah Railroad.

Hon. A. G. Ellis has resigned the Presidency of the Ohio and Mississippi railroad, and has been elected President of the Vincennes and Paducah road. The length of this road will be one hundred and thirty miles. We learn that Judge Ellis recently visited Cincinnati and procured a stock subscription of \$4,000 to the road, and that the first installment on the subscription placed to his credit. The plan is to finish this road ready to run by the 1st of January, 1855. The Ohio and Mississippi company will endorse this Paducah company, and thus secure a connection with Memphis and New Orleans, and also with the Mobile road.

"Gardner's Rock Drill."

DESIGNED for Tunnelling, Quarry use, and Rock Excavations of all descriptions, by the use of which a saving of 50 to 75 per cent is made.

Applications for Territorial Rights and Machines must be made to the Patentee.

G. ARTHUR GARDNER,
Trinity Buildings, Broadway,
New York.

June 9, 1853.

W. G. ATKINSON,

MINING ENGINEER, SURVEYOR AND DRAFTSMAN,
CUMBERLAND, MARYLAND,

Will attend to business in his Profession in the Coal Region and vicinity.

REFERENCES:

Jerry Coules, Esq., New York.
Col. Wm. Young, do.
Jas. W. McCulloch, Esq., U. S. Treas., Washington.
June 25, 1853.

Railroad Iron.

2000 Tons of Rails, weighing from 58 to 60 lbs. per yard of Favorite Patterns, now on hand in New York.
For sale by W. F. WELD & CO.,
June 21, 1852. 42 Central Wharf, Boston.

DIVIDEND NOTICE.

THE SEMI-ANNUAL INTEREST falling due in this city on the 1st day of July, 1853, on the following named Securities, will be paid on and after that date at the office of the undersigned on presentation of the proper Coupons, viz:

The Bonds of the State of Indiana for Banking Purposes issued in 1854, being the \$1,390,000 loan, 5 per cents.

The State of California Seven per Cent Civil Fund Bonds, which are made payable in this city.

The Bonds of the City of Pittsburgh, Penn., issued to the Phio and Pennsylvania Railroad Company, 6 per cents.

The Bonds of the City of Alleghany, Penn., issued to the Ohio and Pennsylvania Railroad Company, 6 per cents.

The Bonds of the City of Chillicothe, (Ohio,) issued to the Marietta and Cincinnati Railroad Company, 7 per cents.

The Bonds of the City of Marietta, (Ohio,) issued to the Marietta and Cincinnati Railroad Company, 7 per cents.

The Bonds of the City of Steubenville, (Ohio,) issued to the Steubenville and Indiana Railroad Co., 7 per cents.

The Bonds of the City of Covington, (Kentucky) issued to the Covington and Lexington Railroad Co., 6 per cents.

The Bonds of Franklin County, (Ohio) issued to the Columbus and Xenia Railroad Co., 7 per cts.

The Franklin County, (Ohio) Bonds, issued to the Cleveland, Columbus and Cincinnati Railroad Co., 7 per cents.

The Greene County (Ohio) Bonds, issued to the Columbus and Xenia Railroad Co., 7 per cents.

The Champaign County (Ohio) Bonds, issued to the Columbus, Piqua and Indiana Railroad Co., 7 per cents.

The Bonds of Stark County, (Ohio) issued to the Ohio and Pennsylvania Railroad Co., 6 per cts.

The Richland County, (Ohio) Bonds, issued to the Ohio and Pennsylvania Railroad Company, 6 per cents.

The Bonds of the County of Alleghany, (Penn.) Special Loan of \$75,000, 6 per cents.

The Ross County (Ohio) Bonds issued to the Marietta and Cincinnati Railroad Co., 7 per cents.

The Athens County (Ohio) Bonds, issued to the Marietta and Cincinnati Railroad Co., 7 per cents.

The Washington County (Ohio) Bonds, issued to the Marietta and Cincinnati Railroad Company, 7 per cents.

The Bonds of Van Wert County (Ohio) issued to the Ohio and Indiana Railroad Co., 7 per cents.

The Bonds of Allen County (Ohio) issued to the Ohio and Indiana Railroad Co., 7 per cents.

The Bonds of Allen County, (Indiana) issued to the Ohio and Indiana Railroad Co., 7 per cents.

The Bonds of Crawford County (Ohio) issued to the Ohio and Indiana Railroad Co., 6 per cents.

The Bonds of the County of Coshocton, (Ohio) issued to the Steubenville and Indiana Railroad Co., 6 per cents.

The Ohio and Pennsylvania Railroad Company Mortgage Bonds, 7 per cents.

The Bellefontaine and Indiana Railroad Company Real Estate Special Mortgage Bonds, 7 per cents.

The Indianapolis and Bellefontaine Railroad Company Mortgage Bonds, 7 per cents.

The Marietta and Cincinnati Railroad Company Mortgage Bonds, 7 per cents.

The Steubenville and Indiana Railroad Company Mortgage Bonds, 7 per cents.

The Dayton and Michigan Railroad Company Mortgage Bonds, 7 per cents.

The Peru and Indianapolis Railroad Company Mortgage Bonds, 7 per cents.

The Indiana Central Railroad Company, 10 per cent Bonds.

The Bonds of the several Townships in the Counties of Jefferson, Carroll, Harrison, Tinscarora, Coshocton, Muskingum and Licking, (Ohio,) issued to the Steubenville and Indiana Railroad Co.

WINSLOW, LANIER & Co., No 52 Wall st.
New York, June 21, 1853.

Krupp's BEST CAST STEEL.

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions not exceeding six feet long by eighteen inches diameter.
Piston Rods and Shafts for Steam Engines.
Railway and other Axles, Cranks, Springs and Tyres.
Cannon, Rifle and Gun Barrels.
Mint and other Rolling Mills.

—Particularly applicable for—
Engravers' Transfer Rollers and Plates; Die-sinkers', Tool-makers, Reed and Lace Makers' use; Dredging Chains, etc., etc.
Manufactured at Essen, in Rhenish Prussia, by FRIED. KRUPP.

PROSSER'S

PATENT LAP-WELDED

Wrought Iron Boiler Tubes.

PATENT WARMING APARATUS,

ATTENPORATORS AND SURFACE CONDENSORS.

Every article necessary to drill the Tube Plates, and to set the Tubes in a proper manner, and to keep them in good condition.

CORE BARS FOR FOUNDRY USE.

Iron Tubes for Artesian Wells, screwed together flush on either side.

Agents, **THOMAS PROSSER & SON,**
June 25, 1852. 28 Platt street, New York

CENTRAL RAILROAD CO. OF NEW JERSEY.

\$950,000 of Stock.

BY ORDER of the Board of Directors, the Finance Committee of the Central Railroad Co. of New Jersey will open Books of Subscription for the Unissued Stock of the Company, amounting to \$950,000, at the BANK of AMERICA, in the City of New York, on the 27th June instant, and keep the same open one week, unless the whole amount shall be sooner subscribed. This Stock comprises all that the Company are entitled to issue, and the money received is to be applied to the construction of a second track, improvements at Elizabethport, and other preparations imperatively demanded by the connections to be opened in another year. This mode of distribution has been adopted, in preference to a pro rata allotment, to enlarge the number of stockholders, and facilitate the acquisition of stock by those now desirous but unable to procure it.

The Ferry, 12 miles, from New York to Elizabethport, and the Railroad, 63 miles, from Elizabethport to Easton, Pa., have been operated thro' the entire distance for nearly a year, and both are fully equipped for the present business. Passengers preferring the land route can go from New York by the way of Newark to Elizabethtown and there intersect the trains.

From the terminus at Easton, the Lehigh Valley Railroad is in active course of construction to Manch Chunk, 46 miles, and will be opened in July, 1854, connecting New York, winter and summer, with the Lehigh coal fields, by a route of only 125 miles; the Lehigh road having only descending or level grades, and the Central Road no grade over 21 feet to the mile. At Tamaqua the Lehigh road connects with the Catawissa road, now constructing, and to be completed in May, 1854. This connects with the Sunbury and Erie road, now under contract and to be completed in two years. Thus the year 1855 will see a new route of favorable grades and curves only 462 miles in length, opening from New York to Erie on Lake Erie.

A direct and favorable connection with Pittsburgh and the Pennsylvania Central Railroad, can also be made through existing roads and charters.

From New Hampton, a point on the Central Railroad of New Jersey, 59 miles from New York, the Warren Branch road in connection with the Delaware, Lackawanna and Western road and the Oswego, Syracuse and Binghamton road, will bring the Lackawanna coal region within 133 miles of New York, with grades of only 21 feet to the mile (except for a few miles in leaving the coal basis at Scranton), and give an unbroken line of six feet

gauge, 310 miles in length, from New York to Oswego on Lake Ontario. Of this distance, 156 miles are finished and in operation; 80 miles are under construction and to be opened this Fall; the remaining 74 miles are located, contracted, and to be completed in the Fall of 1854.

It may be interesting to state that the Central Railroad of New Jersey, from its local business, without any of the anticipated connections, has been enabled to pay seven per cent on the cost of the several sections as they have been opened, and that the entire road, with its present local business, is now paying dividends at that rate.

At the close of the fiscal year, April 1, 1853, the financial condition of the company was as follows:

Capital stock.....	\$1,034,700 00
Mortgage bonds, 7 per cent.....	1,500,000 00
Other bonds, 6 per cent.....	113,000 00
Bills payable and balance due.....	249,022 04
Balance of earnings over dividend..	1,006 85
	\$2,897,728 89

This was represented by the following property:

Railroad, average \$37,800 per mile.	\$2,879,886 64
Ferry interest and boats.....	140,900 00
Station houses, shops, etc.....	78,000 00
Land at Elizabethport.....	55,016 77
Equipment.....	218,504 64
Materials, wood, coal, cash, etc....	25,420 84
	\$2,897,728 89

Full statements of the condition of the company can be obtained at the office, 5 Wall street, where those desirous to examine the road with reference to investment can procure tickets for the trip.

The Finance Committee call the attention of capitalists with the greatest confidence to the present position and future prospects of the road, believing that no road in this vicinity presents greater inducements for investment. They reserve the right to reject or reduce subscriptions, if the whole amount subscribed should exceed the amount to be issued.

Ten per cent will be required to be paid on allotment of the stock, and the remainder in instalments of ten per cent every sixty days on notice, as required. Interest at the rate of seven per cent will be allowed till the instalments have all been called. If the dividends on the full stock are at a higher rate, the difference will be made good to the stockholders when their stock is filled up.

Dated New York, June 17, 1853.

JOHN T. JOHNSTON,
JOHN C. GREEN,
WILLIAM E. DODGE,
WILLIAM S. WETMORE,

Finance
Committee.

To Contractors.

OFFICE JAMES RIVER AND KANAWHA CO.,
Richmond, June 18, 1853.

SEALED proposals will be received by the undersigned, at Buchanan, in the county of Botetourt, Virginia, until 5 o'clock P. M. on the first day of August next, for the Locks, Dams, Culverts and Sections of the Canal, from Buchanan to Craig's Creek.

Payments will be made in current bank notes. Besides the usual reservation of twenty per cent on the monthly estimates, the contractors will be required to give ample security, satisfactory to the Board of Directors, for the completion of the work at the time and in the manner specified in the contracts.

Plans of the above works will be exhibited by Edward Lorraine, Assistant Engineer at Buchanan, and specifications will be delivered by him, and also at the Company's office in Richmond, on and after the 15th day of July.

Time will be taken for the consideration of the bids until the 5th day of August, when, if satisfactory, the several jobs above advertised will be let.

WALTER GWYNN,
Chief Engineer J. R. and K. Co.

CAR, LOCOMOTIVE, AND TENDER SPRING MANUFACTORY.

PHILADELPHIA, March 1, 1852.

We beg leave to present the following Certificates to the consideration of Railroad Companies and Car Builders, for the quality of CAR, LOCOMOTIVE, AND TENDER SPRINGS manufactured by us.

At the same time we would inform Railroad Companies and Car Builders that we have extended our works, and will be happy to execute any orders for Steel Springs for Cars, Locomotives, or Tenders, of any design or pattern which they may see proper to intrust to us, at the lowest prices, and on terms which will prove satisfactory.

From our long experience as Spring manufacturers, we are enabled to supply Railroad Companies with **Spring Steel**, of superior quality, converted from *Suede Steel Iron*.

The Iron being imported direct from Stockholm by ourselves, and Converted and Rolled under our supervision.

Yours respectfully,

JAMES JEFFRIES & SON,
REAR OF GIRARD HOUSE.

Philad'a, Feb. 27, 1852.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: In reply to your inquiries as to the character of the Springs furnished by you for Locomotive Engines and Tenders, I take pleasure in saying that I have found them, both in material and workmanship, superior to anything else of the kind that ever came under my notice. I have occasionally tried the Springs of other manufacturers, but in testing their elasticity and strength with the apparatus I have for that purpose, I have found none combining the requisites of a good spring, viz., lightness, elasticity, and durability, in so eminent a degree as yours.

I am using them exclusively under the Engines and Tenders of my make, and can safely recommend them to others.

Yours truly, M. W. BALDWIN.

Office, Penn'a Rail Road Co.
Philad'a, Feb. 26, 1852.

This is to certify, that James Jeffries & Son manufactured nearly all of the Steel Springs used on the Georgia Rail Road while I had charge of that work, and have also furnished those that have been used on the Pennsylvania Rail Road. The character of their work has always given entire satisfaction, and I cheerfully recommend their Springs to the patronage of Rail Road Companies and Car Builders.

J. EDGAR THOMSON,
Chief Engineer and President Penn'a Rail Road Co.

Office, Phil'a, Germantown & Norristown R. R. Co.
February 28, 1852.

This is to certify, that I have used the Steel Springs manufactured by Messrs. Jas. Jeffries and Son, for the Locomotives, Passenger, and Freight Cars of the above Road, during the last 13 years, and have always found them good and efficient Springs, giving general satisfaction.

R. FRENCH.

Philadelphia, Feb. 23, 1852.

This is to certify, that we have used Car Springs made by James Jeffries & Son, for the period of twelve years, and find them a very superior article, so much so, that we shall always continue to use them. DUTILH, HUMPHREYS & CO.
Proprietors of Union Line of Trans. from Phila to Pittsburg

Philadelphia, Feb. 27, 1852.

Messrs. J. JEFFRIES & SON,
Gentlemen: We have been using your Steel Springs under our Cars for a number of years, they have given entire satisfaction, and have proved themselves superior to any other that we have used. Their good qualities should commend them to any who have need of an article so difficult to obtain perfect. Yours truly, HARRIS & LEECH,
Proprietors of Leach's Trans. Line from Phila to Pittsburg.

Richmond, Jan. 6, 1852.

Messrs. JEFFRIES & SON: It affords me pleasure to say, that after some six or seven years' trial of your Springs, I find them superior to any other Springs we have used on our road, and are so well satisfied with their merits as to continue the use of them. I am, very respectfully yours,

THOMAS SHARP,
Superintendent R. P. & P. R. R.

Office, R. & P. R. R. Co.
Richmond, Va., Jan. 6, 1852.

TO MR. THOMAS JEFFRIES,

Dear Sir: I take pleasure in stating that the Springs made by the firm of which you are a member, and which I have been using for the last eight years on Locomotives and Tenders, and also, on Passenger, Freight, and Coal Cars, have given the utmost satisfaction, and I consider them superior to any I have received from other establishments during the above period, and shall still continue to send you our orders for all we may want. Very respectfully yours,

THOMAS DODAMEAD,
Superintendent R. & P. R. R.

Superintendent's Office, C. R. R.
Savannah, Ga., Jan. 21, 1852.

This will certify, that Car and Locomotive Springs made by Messrs. James Jeffries & Son, of Philadelphia, have been in use on this road for a number of years, and have given entire satisfaction.

W. M. WADLEY,
Superintendent.

The house of James Jeffries & Son, of Philadelphia, has made us a good many Car and Engine Springs, and I take great pleasure in stating that they have always turned out well, and I believe their work can not be surpassed by any in the country.

H. D. BIRD,
President.

Office, Sup't T. & M. Power, So. Ca. R. R. Co.
Charleston, Jan. 21, 1852.

This is to certify, that the South Carolina Rail Road Company have for a number of years been using the Steel Springs manufactured by Messrs. J. Jeffries & Son, of Philadelphia, for their Locomotive Engines, and for both Passenger and Freight Cars, and I take pleasure in stating that they have given entire satisfaction, and recommend them to the patronage of all Rail Road Companies requiring such articles.

J. E. PETCH,
Sup't Trans. & Motive Power So. Ca. R. R. Co.

Philadelphia, Feb. 27, 1852.

This is to certify, that I have used Springs made by James Jeffries & Son for the period of five years, and consider them equal, if not superior to any others that I have had in use.

JOSEPH S. LEWIS,
Pennsylvania & Ohio Line.

Georgia Rail Road,
Augusta, Ga., Jan. 1, 1852.

To whom it may concern.—We have used Springs manufactured by Messrs. James Jeffries and Son, for the Locomotives and Cars of our road for the last ten years, and have no hesitation in recommending them as having given general satisfaction.

F. C. ARMS,
General Superintendent.

Macon & Western Rail Road,
Macon, Ga., Jan. 25, 1852.

Messrs. J. JEFFRIES & SON,

Gentlemen: This Company has for several years purchased and used, under Cars and Engines, Steel Springs manufactured by you. We have also purchased from other manufacturers and made Springs ourselves.

Yours have given entire satisfaction, and have proved themselves equal, if not superior to any we have used. Their excellent qualities should commend them to all who have need of an article so difficult to obtain in perfection.

Yours, very respectfully, EMERSON FOOTE,
Superintendent.

Macon, Ga., January 24, 1852.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: In reply to your inquiries in reference to Steel Springs, I take pleasure in saying, that I have been in the way of observing Springs in use on Cars and Locomotives, on various Rail Roads, for seventeen years past, more particularly on the Central Rail Road of Georgia for eight years past, and during said seventeen years have been practically acquainted with your make of Springs, and I have no hesitation in saying, that your Springs with open work are the best Steel Springs I have ever used or seen in use.

Yours, respectfully, GEO. W. ADAMS,
Superintendent S. W. R. R. of Georgia.

Transp. Office, W. & A. R. R.
Atlantic, Jan. 31, 1845.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: This road has used the Springs made by your firm since its first opening, under both Engine and Cars, and they have given entire satisfaction to all.

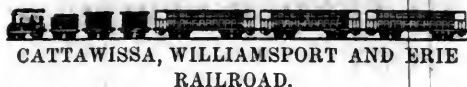
Very respectfully, WM. D. FULTON,
Superintendent.

Montgomery & West Point R. R. Co.
Montgomery, Ala., Feb. 23, 1852.

This may certify, that this Company have been for years using, both under their Engines and Cars, Springs from the manufactory of James Jeffries & Son, of Philadelphia, and are so well satisfied of their superiority that we can confidently recommend them to all companies in need of Springs.

SAMUEL G. JONES,
Engineer and Superintendent.

Notice to Contractors.



CATTAWISSA, WILLIAMSPORT AND ERIE RAILROAD.

SEALED proposals will be received at the Engineer's Office, in Cattawissa, Columbia Co., Pa., until the first day of July next, for the Grading, Masonry, and Track-laying of that part of the Cattawissa, Williamsport and Erie railroad, extending from Cattawissa to Milton, a distance of about 25 miles.

The work will be divided into sections of about one mile in length, and profiles, &c., of the work will be seen at the Engineer's Office in Cattawissa for ten days previous to the day of letting.

THOMAS A. EMMET,
Chief Engineer.

Valuable Works on Engineering, Mechanics, Railways, Steam Engines, etc.

CRESY'S ENCYCLOPEDIA OF CIVIL ENGINEERING.....	\$17 00
MAHAN'S ELEMENTARY COURSE OF CIVIL ENGINEERING.....	3 00
MILLINGTON'S ELEMENTS OF CIVIL ENGINEERING.....	3 50
GREGORY'S COMPLETE COURSE OF CIVIL ENGINEERING.....	2 00
LAW'S RUDIMENTARY CIVIL ENGINEERING, in 3 parts.....	94
DEMPSEY'S PRACTICAL RAILWAY ENGINEER.....	1 00
QUESTED'S RAILWAY SURVEYING.....	1 75
RITCHIE ON RAILWAYS.....	1 75
LECOUNT'S RAILWAYS—Their Construction and Management.....	1 37
WHISHAW'S RAILWAYS OF GREAT BRITAIN AND IRELAND.....	7 00
BORDEN'S FORMULÆ FOR CONSTRUCTING RAILROADS.....	2 50
TRAUTWINE ON RAILROAD CURVES Do. ON EXCAVATIONS AND EMBANKMENTS.....	1 00
(LIST TO BE CONTINUED.)	

** A large assortment of Engineering and Mechanical Works kept constantly on hand, and all new works received as soon as published.

JOHN WILEY,
Importer, Publisher and Bookseller,
167 Broadway, New York.

June 16, 1853.

GREAT WESTERN MAIL LINE--SIXTY MILES DISTANCE SAVED, by taking the MICHIGAN SOUTHERN AND NORTHERN INDIANA RAILROAD.—Through tickets for Chicago, St. Louis, Milwaukee, Racine, Kenosha, Waukegan, and Sheboygan, by New York and Erie Railroad via Dunkirk, and Buffalo and New York City Railroad; People's Line of Steamboats, Hudson River Railroad, via Buffalo, connecting at Buffalo with the splendid steamers EMPIRE STATE, J. WILSON, Commander, Mondays and Thursdays; SOUTHERN MICHIGAN, D. PERKINS, Commander, Wednesdays and Saturdays; NORTHERN INDIANA, I. T. PRATT, Commander, Tuesdays and Fridays; leaving Buffalo every evening (Sundays excepted). These steamers are low pressure, built expressly for the Lake trade, and for finish, speed, strength and safety, have no superiors anywhere.

The connections with the Express Trains at Toledo and Monroe, for Chicago and St. Louis, are perfect, and can be relied upon.

Forty hours from New York to Chicago. Time and money saved by taking this Line. Passengers preferring it, can take the Lake Shore Railroad to Toledo, the Michigan Southern and Northern Indiana Railroad to Chicago, thence by the Rock Island Railroad to La Salle, forming the only continuous line of Railroad to the Illinois river. For through tickets or freight apply to

JOHN F. PORTER, Agent, 193 Broadway, cor. Dey st.

RICHARD NORRIS. HENRY LATIMER NORRIS.

Richard Norris & Son,
NORRIS' LOCOMOTIVE WORKS, BUSH HILL,
PHILADELPHIA.

MANUFACTURE to order Locomotives, exclusively, on any plan, or of any size—of best materials and workmanship. Their Works having been this year greatly enlarged, and furnished with the most approved Tools, they are enabled now, having a large number of Workmen employed, to execute orders with despatch.

June 9, 1853.

To Engineers and Steamboat Captains.
EXPLOSIONS PREVENTED!BRANDS' LIQUID,
FOR DISSOLVING INCRUSTATIONS IN STEAM BOILERS.

BRANDS' LIQUID is the name of a fluid recently in use throughout all Europe, by the application of which the incrustations in Steam Boilers are dissolved or totally avoided, without affecting in the least the material of the boiler. Chemical examinations and experience have fully ascertained that, by the application of this fluid, no harm whatever is done to the material of which the boiler consists. To dissolve the hardened incrustation in Steam Boilers, pour every 10 or 14 days, in proportion as the boiler is daily for a longer or shorter time heated, the quantity of Brands' Liquid to the water in the boiler as shown in the following table:—

TABLE FOR CLEANING INCRUSTED BOILERS.

STEAM BOILERS.		QUANTITY Of BRANDS' LIQUID wanted.	
Which are daily from 10 to 16 hours heated, and which have a power of evaporation of		Every 10 to 14 days.	Per year—Barrel of 40 galls.
From	1 to 10 Horse Power,	4 to 6 Quarts,	$\frac{1}{2}$ Barrel.
"	10 to 20 "	6 to 9 "	1 "
"	20 to 30 "	7 to 10 "	1 $\frac{1}{2}$ "
"	30 to 45 "	10 to 14 "	2 "
"	45 to 65 "	12 to 17 "	2 $\frac{1}{2}$ "
"	65 to 110 "	13 to 19 "	2 $\frac{1}{2}$ "
"	110 to 160 "	15 to 21 "	3 "
"	160 to 220 "	18 to 26 "	3 $\frac{1}{2}$ "
"	220 to 300 "	20 to 29 "	3 $\frac{1}{2}$ "
"	300 to 400 "	22 to 31 "	4 "
"	400 to 500 "	24 to 35 "	4 $\frac{1}{2}$ "

If Brand's Liquid is regularly used, the incrustated Boilers are within three to five months clean; and to prevent any further incrustation in such or new Boilers, the use of Brand's Liquid must not be interrupted, but about two-thirds of the stated quantities in the table given to the water in the Boilers.

The Boilers of Locomotives require every two days, in proportion to their power and time of service, only two and a-half to four quarts of Brand's Liquid, which every second day is poured into the water in the Tender.

As often as the water in the water-gauge, on Stationary, Ship or Locomotive Boilers, becomes of a muddy appearance, the Boiler must be blown out and cleansed from the stones and dirt which have settled to the bottom of the Boiler.

The incrustation which in this manner is removed is soft, or in pieces, which are commonly of a crumbling and brilliant texture and have a brown color.

In some parts of the country, and in Marine Boilers, the incrustation is often very hard, and to remove this, the larger quantities in the given table are required. The pieces of this incrustation which are removed by the use of Brand's Liquid have lost their glassy texture, and though they commonly retain some hardness, they have a brown color, and a corrosive and decayed appearance.

To remove the incrustation of Marine Boilers, larger quantities of Brand's Liquid are required, in proportion as by the removal of the brine a quantity of the feed-water is blown out. By any simple contrivance Brand's Liquid must be brought into the boiler in small portions, or mixed with the feed water.

Brand's Liquid is not injurious to the Boiler if it is used in large quantities, even if the Boiler is entirely filled with it and heated, but, in general the quantity as is stated in the table must not be exceeded, because in connection with large quantities of incrustation the Liquid generates much priming and motion of the water, which might prove injurious to the annexed machinery, especially in Ship Boilers and Locomotives which have no large steam-chests.

The above table is made by practical experience, so that only a gentle working of Brand's Liquid is allowed, entirely free from any danger, for the Boiler once properly cleaned, the proprietor will by experiments easily ascertain the minimum quantity of Liquid that is required for the Boiler.

The Troy Iron Bridge Co.

ARE prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or under, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address BLANCHARD & YELLOWS, Troy, N. Y.

April 1st, 1853.

Etna Car Works.

HILLMEYER & SMALL, YORK, PA., PROPRIETORS.

WE are manufacturing to order and by contract, Baggage, Freight, Express, Stock, "Reading," and other patterns of Coal Cars, Lumber and Gravel Cars, of every variety, at short notice, and on favorable terms.

Our facilities for manufacturing are extensive, and our means for transportation to all parts of the country speedy and economical.

The Wheels we use receive our own personal attention, are made of the best Cold Blast Charcoal Iron, of both spoke and plate patterns, solid and open hubs.

All Cars built by us, and now in daily use on the Pennsylvania Central, Baltimore, Susquehanna, York and Cumberland Roads, have been appraised as first class, and carry the largest capacity allowed on any roads. We are prepared to furnish Wheels and Axles separately or fitted, Springs and other parts of Cars at short notice. Orders and Contracts for Railroad Companies solicited.

May 20th 53m

Should it be required to clean old incrustated Boilers by the use of Brand's Liquid in a few days, then it is only necessary to pour one-half to three-fourths of a hoghead at once into the water in the boiler, and heat it from six to eight days gently to boiling heat, for which operation the Boiler must be put out of service.

In Locomotives where the steam-chests are small, Brand's Liquid must be used oftener in small quantities as before stated. A Locomotive out of service may be cleaned within 6 or 8 days by the use of a large quantity of Brand's Liquid, (one-fourth to one-half a hoghead).

It would be needless to enter into a long discussion on the advantages in using Brand's Liquid for cleaning steam generators, being fully aware that it destined for the use of the most intelligent part of the public, and it may therefore suffice to mention its advantages in a few words, as follows:

1. Less repair of Boiler.
2. Increased generation of steam, or saving of fuel.
3. The expense of hammering and loosening the incrustation is saved.
4. Less interruption of business.
5. The Boilers remain tighter.
6. The duration of the Boilers is increased, especially of locomotives and Tube-Boilers in general.
7. Three-quarters of the causes of Boiler-explosions are removed.

Price per barrel \$20.

The patentees are so confident of the merits of this invention, that they offer one barrel gratis to parties willing to make a trial, to be paid for, only in case of success and of future orders.

Brand's Liquid is used with the best effect by the Cincinnati Water Works, and many other establishments in the West.

Address BRAND, BROTHERS,
Toledo, Ohio.
Sole Patentees both in Europe and the United States.
Or, F. DUFAIS,
43 New Street, New York.

May 28, 1853.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only reliable Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway.

Railroad Iron.

THE undersigned, Agent for the Manufacturers, is prepared to contract for: T Rails, of the usual pattern and weights, to be delivered on board ship in Wales.

He will also receive and forward orders for the purchase of Railroad Iron and Metals generally, through the medium of his friends in London.

For terms, apply to

JOHN H. HICKS,
April 1, 1853. 90 Beaver st.

Gerard Ralston,
21 TOKEN HOUSE YARD, LONDON,
OFFERS HIS SERVICES FOR THE
**PURCHASE AND SALE OF
AMERICAN SECURITIES,**
COLLECTION OF DIVIDENDS,
DEBTS, LEGACIES, ETC.,
And for the Purchase and Inspection of
Railroad Iron, Chairs, or
any kind of Machinery.

REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.
" George Peabody & Co., London.
" Curtis, Bouve & Co., Boston.
Richard Irvin, Esq., New York.
Robert Ralston, Esq., Philadelphia.
C. C. Jamieson, Esq., Baltimore.

39

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

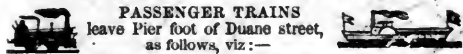
Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.

Portland, April 9, 1853.

New York and Erie R. R.

PASSENGER TRAINS
leave Pier foot of Duane street,
as follows, viz:—

BUFFALO EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. Y. City R. R., without change of baggage or cars.

CINCINNATI EXPRESS, at 6 a. m. for Dunkirk.
MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations.

WAY, at 3.30 p. m. for Delaware and all intermediate stations.
NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.
EMIGRANT, at 8 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 6 p. m.
The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

To Contractors.

PROPOSALS for grading, masonry, and bridging of the Western Division of the Covington and Ohio railroad will be received at the office of the Engineer, at Guyandotte, Cabell county, Virginia, between the twentieth and thirtieth of June next.

They will embrace about 45 mile sections with Bridges over Twelve Pole, Guyandotte and Mud rivers.

Also between the 1st and 15th of July next, proposals will be received at Covington, Virginia, for the Grading, Bridging and Masonry of that portion of the Eastern Division, lying between the town of Covington and Hayne's farm, on Jackson river—a distance of 10 or 11 miles of very heavy work, including much heavy retaining wall, two large bridges over Jacksons river, and probably two tunnels.

The successful bids will be declared as soon as practicable after the 15th of July. Contractors will be required to commence the work at once, and finish within a year. Plans and specifications will be ready between the twentieth and thirtieth of June—names of securities must be given in the Bid.

By order of the Board of Public Works.
CHAS. B. SHAW,
Chief Engineer of the Cov. & Ohio R. R. Co.,
Lewisburg, Virginia.

To Contractors.

HUNTINGTON AND BROAD TOP MOUNTAIN
RAILROAD.

PROPOSALS will be received at the Engineer's Office, Huntington, Penn., until the 28th day of June next, for the graduation and masonry of thirty-five miles of the above railroad.

Plans and Specifications will be exhibited in the Office for three days previous to the letting.

S. W. MIFFLIN, Engineer.

PACIFIC RAILROAD LOAN.

\$4,000,000 Loan

ON THE

**MORTGAGE BONDS OF THE PACIFIC
RAILROAD COMPANY OF MISSOURI.**

THIS Company will receive proposals until the 11th of July next, for four millions of dollars of their construction bonds, to be issued in sums of one thousand dollars each, payable at the city of New York twenty years after the date thereof, with coupons attached for the payment of interest at the same place semi-annually, on the first of January and first of July in each year, at the rate of 7 per cent per annum.

These bonds are secured by a first and only mortgage on the Southwestern Branch railroad, 300 miles in length, and one million of acres of land on the line of that branch, granted by Congress to aid in its construction: and also by second mortgage on the Pacific railroad, 290 miles in length. About 130,000 acres of land, not included in the mortgage are set apart to aid in meeting interest.

Forty miles of the Pacific railroad, from St. Louis westward, is about completed, and 85 miles further, reaching Jefferson city, the capital of the state, is under construction. About \$1,600,000 has already been expended by the company in the completion of the first division, and in the construction of an excellent machine and car shop, and engine house, and the necessary real estate, and the surveys required to prepare the whole 600 miles of railway for contract.

The Pacific railroad line extends from St. Louis to the vicinity of Independence, near the mouth of the Kansas, 290 miles, and its southwestern branch diverges about forty miles west of St. Louis, and runs near Springfield to the southwestern part of the state, a little north of Ta-le-quah, the capital of the Cherokee nation, 300 miles.

The charter was granted with the view, and the right, of ultimate extension to the Pacific Ocean, with an authorized capital of ten millions, and privilege of increase under general law.

Capital subscribed in Missouri over \$2,000,000, of which about 40 per cent. is paid up. State loan to the company authorized \$1,000,000, of which \$700,000 has been issued and sold at a premium. For such stock now issued, the state holds a lien on the Pacific railroad only. Land granted by Congress, now the property of the company, about 1,250,000 acres.

One or the other of the lines of this company will be the Central National line of railway to the Pacific ocean. Reconnoissances and surveys of the United States government will connect with both.

The whole amount of bonds which can be issued under the mortgage is ten millions of dollars. The whole of these bonds are convertible into land of the Company, and one-half into stock of the Company, within a limited time, at the option of the holder.

The Company reserve the right to accept proposals for all or any portion of the amount.

Ten per cent of the amount allotted to each subscriber will be required on notice of the acceptance of his proposals, and the balance as called for by the Directors, not exceeding ten per cent. monthly. Any subscriber may, however, at his option, pay up in full, and receive his bonds at any time.

Interest will in all cases be adjusted, on payment of the final instalments.

Proposals will be received at the office of Messrs

Riggs & Co., 56 Wall street, N. Y., inclosed, sealed and endorsed, "Proposals for Loan of \$4,000,000 of Pacific Railroad of Missouri." Laws, Reports, Documents and Map, showing the condition, relations and prospects of the work, and all necessary information relative to its affairs, &c., may be obtained after the 1st of June on application to Messrs- CAMANN & Co., or Riggs & Co., at 56 Wall street, or the subscriber, personally, or by letter.

By authority of the Board of Directors,
THOMAS ALLEN, President.

St. Nicholas Hotel, N. Y., May 20, 1853.

Pease & Murphy,
FULTON IRON WORKS,
FOOT of Cherry st., E. R. Office, 27 Corlears,
corner of Cherry st. Manufacturers of Land
and Marine Engines.
N. B. Engines and Boilers repaired. 6tf

Notice.

LITHOGRAPHY.—The Court having granted the petition of the undersigned for a dissolution of his partnership with ALPHONSE BRETT, trading under the firm of A. BRETT & CO., Lithographers, Philadelphia, and having removed from Goldsmith's Hall to that convenient business stand, the new Girard building, No. 50 South Third Street, he would therefore beg leave to inform his friends and the public, that he is prepared to execute lithography in all its branches, in a superior manner. Having the best artists and workmen employed, he can freely warrant his work as equal to any in the trade.

Publishers, civil engineers, machinists, and others requiring lithographs, plain or in colors, can depend on the correctness and high finish of their designs, along with promptness and despatch.

DAVID CHILLAS,

Apr 1m

50 South Third street.

NEW YORK
Lubricating Oil Manufacturing Co.

12 BROADWAY,

**PROPRIETORS AND MANUFACTURERS OF
DEVLAN'S PATENT LUBRICATING OIL,**
FOR ALL KINDS OF MACHINERY AND RAILROADS.

THIS OIL is now extensively used on the principal Railroads in Pennsylvania, New York and N. E. States. It runs machinery with less friction, thereby enabling the consumer to accomplish more with the same motive power, and save their machinery from unnecessary wear. It is entirely free from Gum, and will cleanse and destroy all old Gum that has accumulated upon Slides and Journals, by the use of bad oil. It will wear longer than Sperm, and is from thirty to forty cents a gallon cheaper, which makes a great saving to the consumer.

ap30 3m

To Railroad Track-Layers.

PROPOSALS, under seal, are requested at the Railroad Journal office, New York, on the 10th July next, for laying the track of the Mobile and Ohio, Tennessee and Alabama, and Paducah and Tennessee railroads;—aggregate length, 512 miles. Plans, specifications and other required information, will be furnished at the time and place above mentioned.

JOHN CHILDE,
Chief Engineer.

MOBILE, May 17th, 1853.

Notice to Contractors.

PROPOSALS will be received until noon the 20th June, for the Graduation and Masonry of the Franklin and Warren Railroad, extending from a point on the eastern State Line of Ohio, in the County of Trumbull to Ashland, Ashland county, Ohio, a distance of about 106 miles.

The line will be ready for examination June 13th. For particulars apply at the Engineer's office, Franklin, Portage county, Ohio.

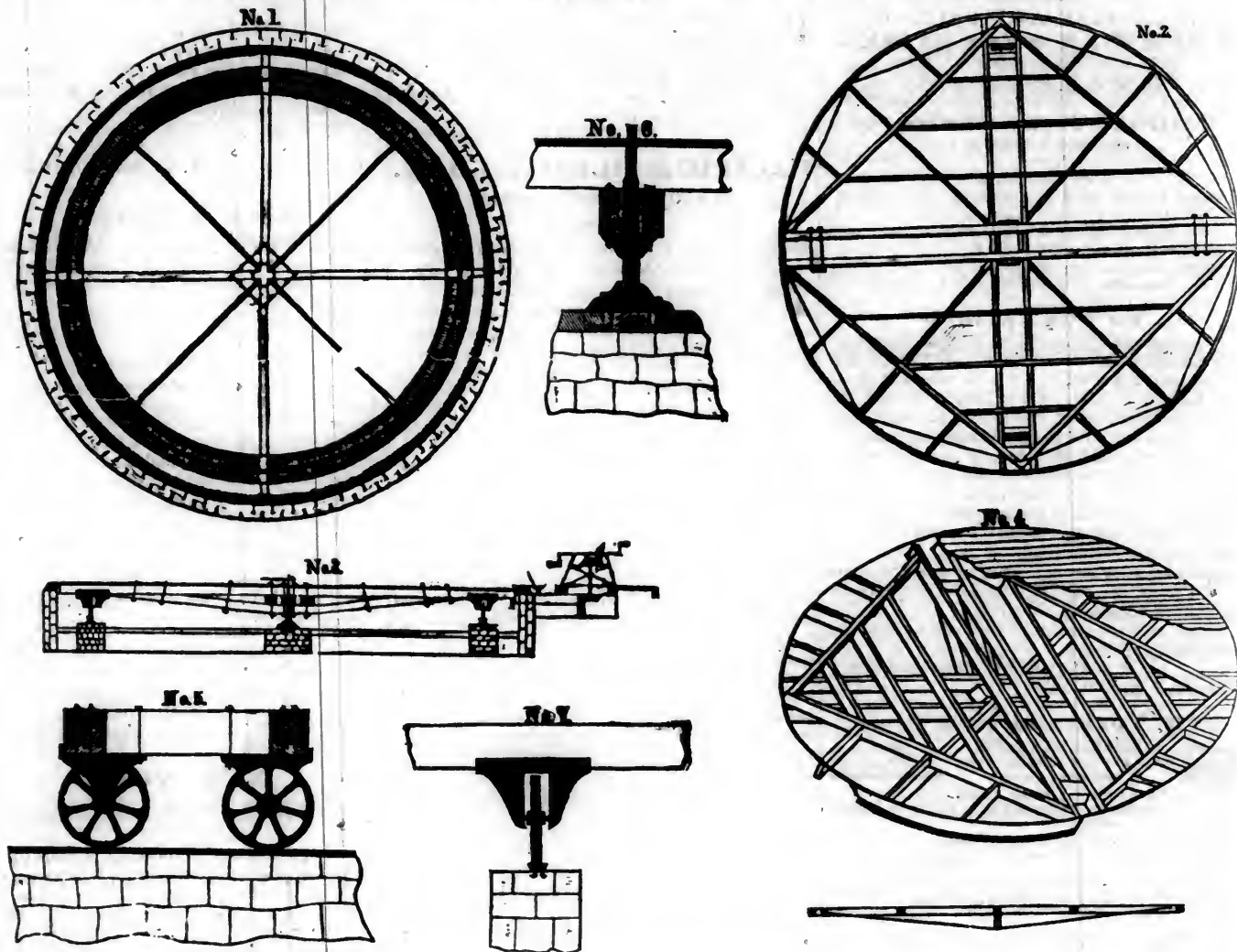
The remaining distance of the road extending from Ashland to Dayton, or Maysville, will be ready in a short time.

M. KENT,
President F. & W. Railroad.

SAM'L H. KNEASS,
Chief Engineer,

FRANKLIN, May 19, 1853.

CARHART'S IMPROVED TURNTABLE.



THIS TURNTABLE, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN in 25 SECONDS.**

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.

O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.

J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address
D. M. CARHART,
Cleveland, Ohio.

February 14, 1853.

LAHAYE'S Patent Self-acting Brake.

THE attention of Railroad Companies is respectfully called to this improvement, used exclusively on all Passenger Cars upon the Philadelphia and Reading Railroad, and now being attached to those building for the Camden and Atlantic Railroad, and several other Roads.

Lahaye's Self-acting Brake can be attached to any Car without interfering with the ordinary Hand Brake, is simple in its construction, and reliable in its action.

By trials made with this Brake, Passenger Trains, at a speed of 30 miles per hour, have been brought to rest within a distance of 250 feet.

For Right to use, or any other information, apply to
O. A. NORRIS,
American Railway Agency, 12 Farquhar Buildings,
May 20 1853. Philadelphia.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.
JAS. PRENTICE,
Feb 9 1853. 1 Chamber St., N.Y.

Oxford Furnace, N. J. ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels, made from the celebrated Oxford Iron. All orders addressed to **CHAS. SCRANTON,** Oxford Furnace P. O., will be attended to promptly.
Sept. 11, 1852. 17*

IRON.

Pierson & Co.,

24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes imported to order on the most favorable terms.

February 14, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 27.]

SATURDAY, JULY 2, 1853.

[WHOLE No. 898, VOL. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, July 2, 1853.

Erie Railroad.

The Erie company have done well in not declaring a dividend. None had been earned to be given, and in ordinary cases none would have been expected. It was not supposed, however, that considerations drawn from this fact would exert much influence with the directors. But the Erie has been unlike other companies. Its policy has been that supposed to be the one best adapted to accomplish a desired result; to raise money. For this purpose erroneous estimates have been made, dividends declared that were not earned, and reports made to the Legislature that were notoriously incorrect. The apology now offered is, that if the truth had been made known, the road could not have been built. This, under certain circumstances, might have had some plausibility, but

unluckily success, which, in popular estimation, often justifies a departure from the strict boundaries of prudence and principle, has failed in the present instance to sanction either the wisdom or the expediency of the course pursued. Men, whose superior sagacity often sees success in a course which violates the popular opinion or prejudice of the day, may have a warrant for their conduct in their clearer vision. But in such cases, they must achieve success, as a proof that they fore-saw it.—Not to succeed is to be ruined, and the losing party must pay the double penalty attached to failure and incompetency. The directors of this company must look out that they do not find themselves in this category.

In omitting a dividend, we have the announcement of a new policy, that dividends are not to be declared unless they are earned. This is all.—For aught the directors tell us, a dividend may have been earned. We know nothing about the matter except what street reports tell us. The Co. are as silent as ever. Of this we do not complain. We are well aware that since the change in their policy, the directors have not had sufficient time to investigate thoroughly the condition of affairs. To do this will require delay, and as the directors for the future must show a good reason for every act, we were in favor of passing dividends till the amount of the earnings of the road had been accurately ascertained.

A step in the right direction has been taken. To avail anything, it must be followed up. Great errors have been committed, which can only be retrieved by the ablest conduct for the future. Where mistakes or misconduct can be directly attributed to the relations that certain parties sustain toward the company and the public, these relations must be changed. If parties occupying high and responsible positions in the company, speculate in its stock, in a manner which may bring their interests and those of the company in conflict, they should be displaced. Suppose the party who is the medium of information to the public of the state of the company's affairs, to hold half a million of its stock and bonds, on speculation. His interests are to carry his securities up to the highest figure. The most efficient way to do this will be to create a favorable opinion as to their value. It is for his interest to represent the earnings as

large, and the cost of the road as small, as possible. May not such temptations in time, get the better of his honesty? And is there not great danger that in the end his statements will express his wishes, rather than the fact? Has not such been the case with the Erie? Can the discrepancies in its past history be explained in any other manner? Under such temptation, is the process from strict integrity to what in the end may be sheer dishonesty, a natural one? There is no question that such is the result.

Is it not a matter of public scandal for a person high in office in any incorporated company to speculate in its stock or bonds? Are not such things violations of all correct principles in the management of a railroad company, and should not such persons be immediately removed from the places they occupy?

We believe a majority of the directors of the Erie road to be honorable men, who have labored with a single eye to the good of the company. But these men have been led to approve measures against their better judgment, under the pressure of a real or fancied necessity, or were not fully conscious of the character of the acts they have been sanctioning. We state these things because the parties responsible for the past, have still the management of affairs, and we want to know how radical are to be the reforms that are to be effected, and how deep the conviction of past errors.

The past management of the Erie road has been disgraceful. It has brought the company to the brink of ruin. It can only be recovered by a thorough change in the policy previously pursued. We must know in due time what this policy is to be. We feel great solicitude upon this point, for it requires some stretch of credulity to believe that men who can commit great mistakes, possess qualities in striking contrast to those already displayed. The directors must bear in mind that a most difficult task is before them. They have no longer, as formerly, the confidence, and sympathy of the community. They will now meet with censure where they have had universal approval. In common phrase "the public are after them." For one, while we shall be most happy to witness favorable changes, to speak encouragingly when we can commend, and to do all in our power to promote the advantage of the road, we intend to scru-

tinize, as we have done, every act of the directors. They must understand that they have rendered themselves, liable to the severest censure, that to recover the ground they have lost, and to restore to the company the prestige it once possessed will require an herculean effort; that the task before them is no child's play, but one that will tax their energies to the highest degree. If they are equal to the labor before them,—well. If not they had better give place to more competent hands. For the future we hope to have nothing that we cannot commend. But we certainly shall not remain silent when we see anything to reprove.

Valuable work upon Locomotives.

RAILWAY MACHINERY; a treatise on the *Mechanical Engineering of railways*; embracing the principles and construction of rolling and fixed plant, in all departments. Illustrated by a series of plates on a large scale, and by numerous engravings on wood. By Daniel Kinnear Clark, *Engineer*. BLACKIE & SON, Publishers, Glasgow, Edinburgh, London and 117 Fulton street, New York.

We are indebted to the New York agent of the house of Blackie & Son,—George Taylor, Esq., 117 Fulton street,—for the 17 issued numbers of this beautiful and valuable work.

The divisions of this work extend to

1st, Inside and outside cylinder locomotives and tenders, with single or coupled drivers; bogie and tank engines for passengers and freight.

2nd, Passenger carriages.

3rd, Goods, baggage and horse vans.

4th, Wagons for freight, coal, etc.

5th, Turntables, shifting tables, switches, cranes etc.

6th, Tanks, water cranes, coke ovens, pumps, etc.

7th, Signals, rotating, pendulous, Lamp, Ball, Fog, etc.

8th, Platform scales, as Fairbank's, etc.

This work contains the best published information extant upon locomotives. Each number is a large quarto, containing two or three large engravings on copper, together with sixteen pages of letter press and wood cuts. The work is furnished to American subscribers at the low price of 62½ cts. per number, and will be completed in about 24 numbers.

The first two numbers give a history of the successive changes and improvements made upon the engines of the London and North-Western and Great Western roads. The third, fourth and fifth numbers contain a practical and thorough discussion and explanation of the various valve motions, the "link motion" being treated in the most ample manner. The sixth to tenth numbers inclusive are devoted to the mechanical action of steam in the locomotive, including the effects of the valve motion upon the suppression, compression and release of steam in the cylinder; the effect of form of blast pipe, back pressure, effect of exposure of the cylinders, &c. The eleventh to fourteenth numbers are devoted to a consideration of fuel and the general laws of combustion, showing the effects of different proportions of heating surface, and containing the results of some very valuable investigations and experiments upon this matter. From hence to the seventeenth number the investigation of the locomotive is made, as to its features as a carriage, including the balancing of weight

of engine, and particularly the counterbalancing of the moving machinery. From the seventeenth number forward the work will be devoted to the details of construction of the best examples of English engines, which are already commenced in a practical manner, and illustrated by a profusion of engraved details.

To show the practical character of the work and its general style, we will present Mr. Clark's conclusions from the inquiry into the proportions of heating surface and blast-area of locomotive boilers, pp. 138:

"It appears from all that has been said, that in the proportion of boilers the elements which practically regulate the area of blast-orifice are, the grate-area, the flue-areas of the tubes and the ferrules, and the sectional area of the chimney; and, in general, the wider the flue areas in proportion to the grate, and the smaller the chimney, within the limits that have come under our inquiry, the wider is the relative blast-area competent to the generation of steam.

"Of the air space of grate and the flue-ways, the ferrule area at fire-box ranks first in importance, the tube-area next, and the air-space last. Within practical limits tube surface is of no moment, nor is ferrule-area at smoke box, so far as they are found to affect the blast-area. These conclusions, by direct experiment, are in harmony with our general ideas of the motion of gases.—The air, on entering the grate, is fresh from the atmosphere and of the same temperature. Its volume is therefore of the smallest, and it enters with ease; above the bars, it at once expands by contact and combustion with the fuel, and while its volume is thus greatly enlarged, it at the same time meets with extensive superficial resistance from the coke. The enlargement of volume implies a corresponding increase of velocity through the fuel, and as the resistances to the motion of gases along friction-surfaces is as the square of the velocity, it is altogether probable, apart from the evidence of direct experience, that the greater part of the grate or fire-box resistance takes place above the bars, and is mainly independent of their number and thickness. The atmosphere of the fire-box, on its departure through the ferrules, carries with it at least two-thirds of the heat of combustion, even on the rudest estimate, and its volume must be several times as great as that of the air which passes through the grate. Taking it at only four times, then it must pass through the ferrules, had they even an area equal to the air space, at four times the speed; but the ferrule area is from one-third to one-seventh of the air space, take a mean of one-fourth; then, as the speed must be increased as the flue-area is reduced, the gases of the fire-box must move 4 times 4, or 16 times as fast through the ferrules as through the grate. This abundantly explains the very marked influence of the ferrule area on the facility for draught. As the smoke passes along the tubes it cools to a temperature of 300° to 600° or thereabouts, and contracts, and therefore passes with a constantly reduced speed till it is discharged into the smoke-box; and the very inferior velocity of its exit there freely explains the inferior value of the absence of the smoke-box ferrules in relieving the draft. The virtue of liberal flue-way is inapplicable to the chimney, as the smoke is here forced as well as drawn; and whereas all oth-

er air passages may, with advantage be made of easy section, the chimney area must, fully to develop the exhausting action of the blast, be specially reduced to a small fraction of the flue room.

"These conclusions weaken the force of the ordinary objections to long tubes, that their great friction-surface is the cause of the small blast orifice with which long boilers have been worked. It is rather the restricted grate-area and flue-ways, than the mere tube surface; for it has so happened, unfortunately, that where long tubes were adopted, the fire-box was overhung, for the sake of confining the wheel-base; and the conditions of stability demanded the smallest possible back-weight, and, therefore, the minimum area of grate.

"The question of the desirable proportions of boilers has been rather complicated by a variety of circumstances,—of the form of the chimney entrance, the form and level of the blast-orifice, and so forth. But, in similar circumstances, the widest orifice, in relation to the grate, has been obtained with the narrowest chimney on record,—that of No. 10, L. N. R., of which the area is a little less than one-fifteenth of the grate-area. There is probably no limit to the advantage of width of flue-area; it has at least been found of sensible benefit in easing the blast-orifice, up to the widest observed limits. The level of the blast-orifice, in conjunction with a suitable diameter of chimney, are together more influential than any other single circumstance in easing the orifice, and fortunately they are just the most accommodating elements; for whatever proportions may be imposed upon the boiler in compliance with certain conditions of stability, weight, or arrangement, there can be nothing to interfere with the adoption of the most efficient chimney and blast-pipe. To illustrate what can be effected in this way, the "Sphinx" furnishes a good illustration in point: with a tube area of .28 (of grate,) a ferrule-area of .20, and a chimney-area of .12, the orifice at the most efficient level is 1-86th of the grate. Were the chimney of this engine reduced to the most efficient proportion, or .066, almost one-half the actual area, the orifice, judging by analogous cases already noted, might be further enlarged to 1-66th of the grate. Again, the Hebe, with an ordinary tube-area, and the smallest of ferrule-areas, .09 or 1-11th of the grate, and a chimney of .075, has an orifice of 1-133d; were the orifice to be sufficiently lowered, it ought to be capable of enlargement to as great an extent as that of the Sphinx, or nearly one-half wider, making an orifice of 1-94th of the grate; and a reduction of the chimney would widen the orifice to at least 1-90th. As these boilers are of extreme proportions, rivalling even the celebrated "long boiler" in length of tube and limited ferrule-area, we feel justified in concluding that even with the most unfavorable proportion of boiler of the most various dimensions, the blast-area need never be less than 1-90th of the area of the grate; and in boilers of ordinary ferrule-areas equal to .20 or 1-5th of the grate, the orifice may be as wide as 1-66th of the grate. These are conclusions of some importance, for they put an end to those loose speculations on the consumption of steam power in back pressure to provide the necessary force of blast for long-tube boilers, in which even men of experience have indulged; as it plain-

ly appears that injuriously small orifices are, in almost every case, chargeable to mal-arrangement of smoke-box details. In discussing the subject of back pressure, it was found that, in well arranged and well proportioned cylinders, like those of the "Great Britain," with a blast orifice 1-107 of the area of cylinder, the back pressure of exhaust is practically nothing. The question thus resolves itself into the practicability of using a blast-area of not less than 1-107th of the cylinder, for one great object of an easy boiler and a wide blast-pipe is to secure a practically perfect exhaust.—This question properly belongs to another chapter, in which the relative proportions of the boiler and the engine are to be discussed. Meantime, if we take even the engine No. 30, M. B. R., the grate of which is confessedly too small, or conversely the cylinder is too large, being 5-27th of the grate, the orifice, which was at the time of observation, 1-306 of the cylinder, may be enlarged to 1-17. This case, we must confess, is beyond our remedy, on account of the extremely small ferrule-area at the fire-box in conjunction with the limited grate; and it must be noted that the tubes of this engine are reduced from $1\frac{3}{4}$ to $1\frac{5}{8}$ inch outside diameter, in the fire-box tube-plate. If, however, we take the "Sphinx," with a more liberal flue, and of which the cylinder is 1-6th of the grate, much above the average practice, the orifice may be widened to 6-66 or 1-11th of the cylinder, which would be practically perfect. With No. 124, C.R., having an orifice at present equal to 1-227th of the cylinder, a reduction of chimney and a readjustment of the blast-pipe, would permit of an orifice 1-9th of the cylinder. With No. 51, C. R., the orifice, now 3-43, might be 5-53d of the cylinder; and with the "Great Britain," the orifice might be 1-55th, though for this there would not be any necessity.

"In short, though it would be premature in this place to consider the fitting proportions of cylinder and boiler conjointly, it may safely be concluded that, in all cases, even with the most contracted flue-ways, the blast orifice may, by a proper adjustment of chimney and blast-pipe, be made wide enough, to permit of a practically perfect exhaust, where there is a properly protected cylinder, properly proportioned to the boiler.

"RECAPITULATION.—1. In the same boiler, the vacuum in the smoke-box varies directly with the blast-pressure. For different boilers, the vacuum due to a given blast-pressure varies considerably, but as a general result, the vacuum in inches of water is about equal to the blast-pressure in inches of mercury.

2. The relation of the vacuum to the blast is not materially affected by the point at which the steam is cut off.

3. The blast retains its property of exhaustion within all observed limits of speed and steam pressure,—such that even at the highest speeds, the vacuum rises steadily with the blast.

4. The exhausting power of the blast, or its efficacy in creating a draught, is largely dependent on the form and size of the chimney, and the form of the blast-pipe; and that is reckoned to be the most efficient chimney which admits of the widest blast-orifice.

5. For a given boiler, there is but one diameter of chimney of greatest efficiency. For greater

or less diameters the (blast) orifice must be reduced.

6. The best form of blast-pipe is that which projects the steam straight up the chimney. The orifice must also be truly concentric with the chimney, and it should be bevelled up to the edge on the outside. The body of the blast-pipe should be very wide and should be gathered in chiefly at the nozzle.

7. The smoke must have free access to the chimney, either by widening the entrance, with a bell form base, and cutting out the crown of the smoke-box; or, what is as good, by keeping down the blast-orifice to a level below the crown of the smoke-box, equal to the diameter of the chimney or thereby, and giving the chimney a square entrance; or by a combination of both expedients. In short, the blast should be projected through the smoke, and not above it. Thus, a straight vertical blast-pipe is to be preferred to the double, bridge-pipe in common use, both on account of the superior discharge of the steam, and because it affords much less obstruction to the passage of smoke.

8. Of the relative vacuums in the smoke-box and the fire-box, the latter varies from one-third to above one half of the former; in other words, the resistance of the grate and the fuel to the passage of air and smoke varies from one half to more than equal the resistance offered by the tubes. In the boilers having the widest flue-way through the tubes and the ferrules, the resistance of the tubes is proportionately the lowest.

9. The question of the internal proportions of boilers, without reference to the demands of the cylinders, resolves itself practically into a comparison of grate-area, tube-surface, and blast-area.

10. With the same proportions of boiler, the actual dimensions, within the widest observed limits, make no difference on the ratio of the grate-area. It follows that the smallest of locomotives may be as favorably proportioned as the largest.

11. The elements which regulate the area of blast-orifice, are the grate-area, the flue areas of the tubes and the ferrules, the sectional area of the chimney, and the capacity of the smoke-box. The larger the grate-area, the wider the flue-areas, the smaller the chimney, and the less the capacity of the smoke-box, within observed limits, the wider also may be the blast-area.

12. The grate-area being assumed as a standard for comparison, the elements of the boiler proper, which affect the blast-area, are in order of importance, as follows:—1st, The ferrule area at fire-box; 2d, the tube-area; 3d, the air-space of grate; 4th, the ferrule area at smoke-box; 5th, the tube surface. The influence of the last two, within practical limits, is very slight.

13. Of the appendages to the boiler,—the smoke-box and the chimney,—the latter has as much or more influence on the area of blast-orifice, than any other single circumstance. For, it was found that a proportionately smaller chimney operated as efficiently for easing the orifice, as a smaller ferrule area did in narrowing it.

14. The area of the smallest observed chimney is about one-fifteenth of the grate-area; and this proportional area yields a wider orifice, under the same circumstances, than any greater chimney-area. The ratio of one-fifteenth is therefore the best so far as observation leads us. A length of

chimney about four times the diameter is probably the greatest length necessary for developing the best action of the blast.

15. The capacity of the smoke box also affects the action of the blast. The most suitable capacity has been found to be three times, in cubic measure, the area of grate in square measure; or three cubic feet per foot of grate.

16. In boilers of ordinary proportions, of which the ferrule-area at fire-box is one-fifth of the grate-area, or thereabouts, and the tube-area about one fourth, the orifice may, by the best adjustment of the fire-box, blast-pipe, and chimney be made as wide as one sixty-sixth the grate-area, and in even the most unfavorably proportioned boilers where the ferrule-area may not be above one-tenth of the grate, the orifice may be as wide as one-ninetieth of the grate.

17. The amount of the blast-area being regulated mainly, if not entirely by the boiler, it is practically independent of the dimensions of the cylinder.

18. Advantage being taken of the known means of perfecting the action of the blast, the orifice may in all cases be made wide enough to permit of a practically perfect exhaust, when the cylinder is proportioned to the boiler. And, even with extravagantly large cylinders, all the useful area of orifice may be obtained, except in boilers having very small ferrule-areas, one-tenth of the grate or thereby.

19. It follows, generally, that, as the orifice depends so directly on the grate and the tubes, the essential advantages of a large grate and a wide tube-area, consists mainly in the facilities they afford for supplying, a sufficiency of steam, with an easy blast, a liberal orifice, heavy loads, and high velocities."

The above, with the remaining part of the work, are mostly the results of experimental researches made by Mr. Clark upon the greatest lines in England and Scotland, with every variety of style and proportion of engine. These discussions are of the greatest importance to locomotive builders and operators, and so far as the principles of the generation and application of power are concerned will apply equally as well here as in England. It is only the practical details of the construction of our engines that differs from English engines, in such a manner as to make their work unsuited to our engines. The framing, the connection of drivers, the truck, the chimney—these are nearly all of the points of difference. This work of Mr. Clark's might readily claim to be adopted here, as an exposition of American engines, and is recommended to all builders, engineers and machinists as giving more useful, practical and philosophical instruction at a cheaper rate than could be obtained by the purchase of any other work.

Milwaukee and Lacrosse Railroad.

We learn from the Milwaukee Wisconsin that Messrs. Bradley, Whittemore & Co., of Burlington, Vt., have taken the contract for building the road from the city of Milwaukee to Portage City, Columbia Co., a distance of about 100 miles; one-fourth of the pay for the same they take in capital stock of the Company. Their contract consists in grubbing and clearing, culverts, roadway, cattle guards and ties, and laying of the rails for a single track, to be completed by the 1st of January, 1855.

Memphis Convention.

Below we give the resolutions adopted at the Southern Commercial Convention, recently held at Memphis. They may be regarded as the expression of the opinions of the entire southern portion of the confederacy upon subjects of very great importance. - We have no doubt the action of this convention, (which was the adjournment of the one held last year in Baltimore,) will be productive of beneficial results, though in a different manner, probably, from that contemplated.

The prosperity of the North has not resulted from conventions. The South cannot build itself up by talking, although conference and a mutual interchange of opinion, may do much toward discovering the true pathway to success. We regret we have not space for fuller details, but we can only give the resolutions, which are as follows:

NAVIGATION.

Whereas, The important questions of deepening the channel at the mouth of the Mississippi, and the improvements of the rapids in said river, known as the Desmoine and Rock River rapids, have already attracted the attention of Congress, and under appropriations made by it, competent engineers have made surveys and reports, showing that said improvements are practicable—and as these works have a most important bearing upon the interests of all the States lying upon this great river, and its affluents—and the appropriations made by Congress are manifestly inadequate for the purposes desired, and disproportioned to the objects and results to be obtained. Be it

Resolved, That this Convention strongly urges upon Congress, prompt and liberal action upon these subjects, and earnestly request that all the Senators and Representatives in Congress from the States represented in this Convention, use their best efforts to procure at an early day, the necessary appropriations for their accomplishment.

And whereas, similar reports have been made by boards of competent engineers, appointed by the Government of the United States, which show the entire practicability of improving the harbors of Charleston, Savannah, Mobile, Baltimore, Richmond, Wilmington and Galveston and the estimates by them prepared for the purposes, do not involve any very large outlay of money, therefore

Resolved, That this Convention also urge upon Congress speedy attention to these eminently meritorious claims upon the United States.

THE PACIFIC RAILROAD.

Resolved, That a railroad from the Mississippi valley to the Pacific ocean is demanded not only by commercial and individual interests, but by our national necessities.

2. That as soon as the surveys, recently ordered by Congress, are completed, the General Government should adopt such steps as will insure the completion of the main trunk of said road, at the earliest possible period.

3. As the General Government would be expected to construct only one main trunk, it should be located on that route which scientific explorers shall show, combines, in the greatest degree, the advantages of genial and temperate climate, fertility of soil, cheapness of construction and the accessibility at all seasons, from all portions of our Union.

4. That, in the opinion of our convention, it is right, expedient and proper that the General Government should make liberal donations of the public lands to the different States bordering on either side of the Mississippi, to enable all sections of the Union, however remote, to connect themselves with the main trunk.

THE TEHUANTEPEC ROUTE.

Whereas, the project of opening a communication between the Atlantic and Pacific oceans by railroads across the Isthmus of Tehuantepec recommends itself to the warm support of the whole Union, and particularly to that of the Western

and South-western States, by its great practicability, the facility and cheapness of its construction, as well as the short time required for its completion, thus affording to the commerce and travel of not only the United States, but the world, a cheap and easy access to the Pacific coast.

Resolved, That our Representatives in Congress be requested to press upon the Government the necessity of bringing to a favorable termination, as soon as possible, the negotiations pending in regard to the right of way across said Isthmus, and that they be also requested to maintain by all legitimate constitutional means, the rights of American citizens in the grants made by the Mexican Government.

MANUFACTURES.

Whereas, the Southern States of this Union now have, and for a long period must have, a virtual monopoly in the productions of the raw cotton of commerce; and, whereas, it is of vast importance to these States that their great staple should be sent abroad in its most valuable form; and whereas, it is believed that this staple can be wrought up with extraordinary cheapness and facility on and near the fields of its growth; therefore, be it

Resolved, That the president of this convention appoint a committee of five members, who shall be requested to prepare for publication and distribution, particularly in the manufacturing districts of Europe, a full report of the peculiar facilities offered by the Southern and Western States for the manufacture of cotton, and that this report be published as a part of the proceedings of this convention.

ON EDUCATION.

Resolved, That this convention earnestly recommend to the citizens of the states here represented the education of their youth at home, so far as practicable; the employment of teachers in their schools and colleges, the encouragement of a home press, the publication of books adapted to the educational wants and the social condition of these states, and the encouragement and support of inventions and discoveries in the arts and sciences by their own citizens.

ON STEAMERS FROM SOUTHERN PORTS.

Resolved, That this convention regards the establishment of a quick communication by steam between four southern ports and Europe, and encouragement and protection of this system by the national government, connecting therewith ample mail facilities as a necessary feature in the commercial independence of the south and west.

ON DIPLOMACY CONCERNING COTTON.

Resolved, That the attention of our senators and representatives in congress be called to the propriety of bringing before the administration, the importance of making the cotton interest a subject of instructions to our foreign commercial and diplomatic agents.

HYDROMETRIC GAUGES.

Whereas, The investigation of the laws which regulate the rises and falls of the Mississippi river and its tributaries, and the adoption of some system by which the great valley of the Mississippi may be protected from inundation, and the navigation of the western waters be best perfected and secured, are subjects of the deepest interest and importance to the whole western and southern country, therefore,

Resolved, 1st, That this convention recommends to congress, that among the measures calculated to advance the above objects and facilitate the schemes already undertaken, it deems it highly important that the general government should appoint a special corps of scientific engineers to investigate the laws which govern the Mississippi river and its tributaries; to devise the best system of improving the navigation of those rivers, and of protecting their lands from overflow, and if necessary to send abroad a similar corps of scientific engineers to examine the systems of improving rivers adopted in other countries, and to report upon all matters connected with these subjects.

Resolved, That in furtherance of the objects sought, we deem it highly important that a system of permanent hydrometric gauges should be established by the General Government at several points along the said rivers at the principal towns and cities, by which the actual stages of their water may be accurately ascertained from day to day, the depths of their channels regularly sounded, the changes going on upon their banks be marked and recorded, all of which shall be reported to the proper department of the government from time to time.

ADDRESS TO CONGRESS.

Resolved, That a committee of five be appointed by the president of this convention to prepare an address to the congress and people of the United States, on the topics embraced in the action of this convention, invoking their attention to its proceedings and action, and enforcing them upon their consideration, and that this address be published as an appendix to the proceedings of the convention.

ON ORINOCO, AMAZON AND LA PLATA RIVERS.

Resolved, That this convention highly approves the steps which have been taken by the United States Government to obtain the fullest information in respect to the countries bordering the Orinoco, Amazon and La Plata rivers, with a view to opening up the trade of those vast regions to American enterprise, and the Senators and Representatives in Congress from the States represented in this convention, are respectfully requested to use all proper means to obtain the free navigation of the Amazon, by the establishment of mail steamers from the port of New Orleans to suitable points on the South American continent, or in such other mode as may be deemed most expedient to secure to the people of the United States the advantages of trade and intercourse with the regions referred to.

Resolved, That in the opinion of this convention Lieut. Maury deserves the thanks of the American people for the able manner in which he has advocated the proposed projects of uniting by the ties of commerce and common interests, the great valley of the Mississippi with the tropical countries of our sister continent, and we trust his efforts will not be relaxed until the great end in view is fully consummated.

Illinois.

Peoria and Oquawka Railroad.—The annual meeting of this company was recently held at Knoxville, Illinois, at which the following gentlemen were chosen directors, viz:—John G. Foote, S. S. Phelps, A. C. Harding, James Knox, R. Rouse, Geo. C. Bestor, Peter ———, A. H. Danforth, Joseph Thomas.

At a subsequent meeting of the directors, Mr. Rouse was elected President of the company for the ensuing year.

Among the most important measures adopted at the meeting of the stockholders, was the appointment of a committee to confer with the directors of the Northern Cross and Central Military Tract companies, upon the terms and point of connection at or near Galesburg.

Contracts, on quite favorable terms, have been made for the entire completion and equipment of the road east of Peoria to Middleport. The first section, from Peoria to the Mississippi and Chicago road, about fifty miles, has been taken by Messrs. Cruger, Bucknor, Hurry & Secor, of New York. The section from the Mississippi road to Middleport has been taken by Messrs. Weld & Co., of Boston. The remaining distance from Middleport to the State line, will be built by the Logansport and Pacific company.

The entire distance from Peoria to Middleport is to be fully completed and put in running order by the first day of January, 1855.

Depreciation of Engines

If an engine, fit for a certain extent of service, is bought new, to-day, for \$8000, and the price of an engine of like power and mechanical perfection will be reduced by five years experience and competition, to \$7500, there is \$500 depreciation in the valuation of the same amount of motive power.

The estimation of the condition of the engine, with reference to its value, requires a knowledge of the duration of each of its important parts. The furnaces, trucks and tires, require the most frequent renewal.

Next to these are the brasses, steam-packing, tubes and spark arresters. The duration of an iron furnace when of sound iron is from five to six years. There are longer and shorter limits than these, depending entirely upon quality of iron and management; but five years is a fair average. The labor and stock for renewing an iron furnace of 60 square feet will cost a railroad company when applied in their own shop, about \$400. Cutting and piecing tubes at the same time will average one dollar per tube, or \$150 per sett. New truck wheels costing \$60 per sett will be needed once a year, or oftener. The duration of a set of tires 2 inches thick of Bowling iron is about 75000 miles, or three years, with passenger engines, and not so long with freight engines. To renew a set of four, 6 feet wrought tires costs \$400. To renew a set of six 4½ feet tires will cost \$450. To renew the same number and size of chilled cast iron tires will cost \$140. These tires cost nothing for repairs, are equally safe, and efficient as wrought tires and require a far less outlay for renewal, as shown by the expenses given above.

The cylinders, barrel of boiler, braces, and frame have the longest duration of any of the important parts of an engine. These may be considered as measuring the *life* of an engine. An explosion occurred upon the Baltimore and Ohio Road, of a boiler which had been 13 years in use. To see if the iron had become defective and had thereby become incapable of resisting the usual strain, pieces of the shell were tested and found to have a cohesive strength of 60,000 lbs. per square inch of cross section, showing that the iron had retained its original quality.

It is probable that twelve years is about the duration of an engine, for by that time the successive renewals will have embraced nearly all of its parts, while the odd compound of the original and the renewed parts will be so antiquated and patched as not to realize one third of the first cost of engine. If an engine runs 300,000 miles in this time its repairs will range from \$18000, upwards, making its total depreciation of original and renewed parts about \$25,000. Were it not from the destruction of engines by accidents the expense for repairs would not much exceed 6 cents per mile run, under the ordinary system pursued.

If the real depreciation of engines is desired for any period of use, as one year after first use; it will be safe to allow 6 per cent on one third the value of the engine (to include the shell of boiler, cylinders, braces and frame, and some other parts) to allow 35 per cent on the cost of tires, 100 per cent on truck wheels, 20 per cent. on fire-box, 10 per cent on tubes, 20 per cent on brasses, 20 per cent on cranks and axles, and from 10 to 20 per cent on various other parts of the work. For

illustration the parts given as being of one third of the full value of the engine will be worth \$175 less at the end of the first year; the tires \$140 less; the trucks \$180 less; \$80 to a \$100 less on fire-box; \$75 to \$100 on tubes; \$100 on brasses; \$80 less on cranks and axles, and say \$200 on other parts; so that an engine in full use for the first year of its service, without repairs, would depreciate \$1000. This proposition appears obscure when it is known that the sum of depreciation and repairs reaches over \$2000 yearly, but it can be understood when it is stated that the depreciation of \$1000 is upon first construction alone and not upon combined original construction, repairs, and renewals. A part of an engine may depreciate \$500, and it may consistently require \$1500 to replace it, from the manner in which repairs must be made and the expense of getting the engine in shape for repairing. It can readily enough be proved, as we can show that the expense for keeping up an engine 12 years, and its unavoidable depreciation in market value at the end of that time, must be three times the original cost of the engine, while no one would say, while in full view of the original boiler shell, cylinders and frame, that the old engine had been entirely renewed three times.

This point, by which it appears that the renewal of a part ordinarily costs from two to four times what would be the proportion of the same part for its original construction, should show the great necessity of making an engine in the best possible manner, of the strongest and most durable materials, and of the most simple construction. It may not cost \$40 to put in an unsound sheet of iron in a furnace, while it may cost \$200 to renew it. The expense of keeping up an engine must be its repairs, its annual depreciation, and its interest.

To state the actual depreciation of an engine requires that all parts renewed, and the length of their service, should be known. An engine in full use may at the end of two years be worth \$2000 less than first cost, while in consequence of subsequent renewals, the same machine, may become worth within \$1000 of first cost. The market value of an engine must depend on the judgment of the one who values it, but his judgment can be worth nothing without proper means for judging. The market value of a second hand engine will probably be less than its real value, as there must be a certain extent of ignorance of its condition, and there is not the same security in a purchase from a user as from a builder.

The question of the extent of depreciation of engines, possesses an additional interest from its bearing upon the number required to be manufactured yearly, to supply the ordinary wear, and for the equipment of new roads, and to meet the increasing business of old ones.

There are now in operation in the United States, 14,000 miles of Railway upon which are about 3500 locomotives at work averaging one to 4 miles of road. In New York, by the returns of the State Engineer, there were 446 locomotives to 1900 miles of road. In New England, the proportion of the locomotives to the mileage, is greater, some of the roads having one to two miles of road. The Boston and Lowell has 21 engines for 27 miles of road; the Boston and Worcester 29 engines to 69 miles of road and branches; the Reading road has over 100 engines for less than

the same number of miles of road, the Erie road has 142 engines for about 500 miles of road, and has some 30 more ordered. The Baltimore and Ohio road 411 miles long, has 144 engines and 25 more ordered. The Southern and Western roads have fewer engines to their mileage than those of the North. We think we are not certainly above the mark in estimating the number of locomotives in the United States at 3500. The life of an engine may be placed at about 12 years. This would give 8½, as the per centage of annual depreciation. We estimate the increase of equipment upon roads in operation at 6½ per cent, which is probably too low. The number required to keep the old stock good, and to meet the increasing wants of old roads will be 525.

As we are opening at least 3000 miles of road yearly, the number of engines required for these at the ratio of one to every 4 miles of road will be 750; shewing that 1400 locomotives are now annually required by our roads in operation and progress.

At the rate we are going on with our roads it would appear that our locomotive establishments have a good prospect before them for the present at least. We have prepared a list of these works, and a statement showing the capacity of the greater part of them, which we shall probably give in the next number so that our builders can judge for themselves of their ability to supply the probable future demand.

Exhibit of the Lawrenceburgh and Upper Mississippi Railroad, to the Stockholders.

GENTS: I am happy to announce that on the 30th day of May our road was opened for business from Lawrenceburgh to Greensburgh, distance 42 miles, and that since the first day of the present month, regular passenger and freight trains have every day (Sundays excepted,) passed over that distance; 22 miles have been ballasted, and the residue is in progress. The work west of Greensburgh is advancing towards completion, so that we can fairly hope to have the line between Shelbyville and Indianapolis, 26 miles, in use by the 1st of August, and the remaining distance by the 1st of October. Some portions of the track have been laid at Shelbyville and at Indianapolis, and will be continued from each point, as also from Greensburgh west, as fast as the grade will permit.

All the rails purchased last year have arrived in this country and have been delivered on the Ohio, except about 500 tons which, owing to delay in shipment from abroad, and the unusually early suspension of navigation on the Ohio, will probably remain at New Orleans until next fall. Fortunately the Company had purchased enough for the line to Indianapolis, and also a branch of 7 miles to Milford, so that sufficient for the use of the main line is on hand, and the only inconvenience to which the Company will be subjected is the delay in laying the branch.

Our connection by R. R. between Lawrenceburgh and Cincinnati will not be completed as early as was anticipated. The Ohio & Mississippi Co., not expecting to open that part of their work between those points, until about the first of January next. In the mean time the arrangements are made, by which our business and travel are accommodated by steamboat, the run by water being 21 miles. The line of road will in a few days be completed to the head of the wharf on the Ohio, within 300 feet of the boats, making it very convenient for the transmission of freight and passengers.

Some examinations have been made for the continuation of our route to Cincinnati, and steps taken under the laws of Ohio, to effect that object. Sufficient is known to make it certain that a good

line can be had, and at a cost which the importance of the measure will justify us in encountering. When all the surveys are completed, this matter will be specially presented to the consideration of our stockholders.

Expenditures so far have been for

Right of way.....	\$10,871
Engineering.....	11,038
Do. on extension to Cincinnati.....	550
Salaries and incidental expenses.....	20,153
Taxes.....	3,600
Paid towards Union Track and Depot at Indianapolis.....	5,000
Interests and discounts.....	93,434
Freights and Transportations.....	94,422
Rails.....	356,030
Construction east of Greensburg, 340,126	502,126
do west of do 162,000	
Engines and cars.....	134,053
	\$1,231,277

Our rolling stock consists at present of
 7 engines, 44 platform cars,
 79 gravel cars, 1 first class passenger car,
 25 box cars, 1 second class " "

Eight more engines, 100 box cars, 5 first class passenger cars and 2 baggage cars are contracted for, to be delivered before or by the 1st of October, besides what are making at the company's shops. This is an increase of 4 engines and 100 cars over what was contemplated at our last report, and from every appearance will scarcely be sufficient to do the business when the road is opened.

Since the statement published in September, the stock of the company has been increased to \$1,049,585. Some \$30,000 will be added to this amount for sums to be taken by contractors.

Sales of real estate have advanced to \$152,781, leaving of real estate unsold \$343,282. There is yet due from Decatur County \$50,000, and from others, \$43,327 for stock subscribed, making, with the real estate on hand, \$436,609.

Although, by reason of the great advance in the price of transportation and labor, the cost of our road is to be somewhat enhanced from the original estimates, yet it is among the cheapest roads in the country, and even with the increased equipment which it has been thought best to provide, will not probably reach \$1,500,000, including all necessary buildings.

During the three weeks that the Road has been opened to Greensburg, it has been producing at the rate of \$5000 per month, which is fully equal to all that was expected at this point at the present time, and affords full promise, that as it reaches the more important points farther in the interior, the best anticipations of its friends will be more than realized. The Western connections of our road are fast being brought to completion. Since my last letter to the Stockholders, the Line from Indianapolis to Lafayette has been opened for travel, and less than 30 miles of track remain to be laid down to complete the connection between Lafayette and Chicago, affording with ours a through line from the Ohio to Lake Michigan. Other lines pointing west and north-west from Terra Haute and Lafayette are in progress, and will furnish additional business to our Line.

An arrangement has been made between this Company and the Jeffersonville Company, for the use, by the latter, of our Line from Shelbyville to Indianapolis, for the transportation of their freight and passengers between those points. This completes the connection between Indianapolis, Jeffersonville, Louisville and New Albany, and will throw an increased amount of business over that part of our Line. It also makes a connection by Rail Road between Cincinnati and Louisville via Shelbyville, but little farther than by the river, and which will command much of the travel between those places, especially at periods of low water.

G. H. DUNN, President.

June 20, 1853.

Richmond, Fredericksburg, and Potomac R. R.

We copy from the *Richmond Times* the following notice of this road. It is one of the best managed projects in Virginia, and we are happy to learn that its stock is now selling at par.

As a matter of general interest, we place before our readers the proceedings of the late general meeting of the Stockholders of this venerable Company. Venerable, because it is in its twentieth year, and among the first after the introduction of the Railroad system.

In every aspect, the Richmond and Fredericksburg Road has been a fortunate scheme, and it is a gratifying feature connected with its fortunes, that its projectors, and the fast friends of the enterprise, through good and through evil report, are yet amongst us, keenly alive to its prosperity and active in promoting it. Every President and Director, from its infancy to the present moment, may yet be found in attendance on the general meetings of the Company, a fact which best illustrates their interest and regard, and well may they be proud of the success which has flowed from their counsels.

Whilst the records of some other railroad concerns exhibit much embarrassment and disaster, and legislative aid is constantly sought for, the Fredericksburg Company has successfully met every difficulty incident to a novel enterprise, and now stands before the public with its capital stock unimpaired in its original value, and yielding regularly to the State and other Stockholders satisfactory dividends. There is another feature in its history to which its friends may turn with peculiar gratification. Of the millions of passengers who have been taken over the road not a single life has been lost. This, indeed, is the consummation of good fortune and good management. It is a matter of surprise, nay regret, to observe that a road which has so fully complied with its obligations to the public and the commonwealth itself, should have any cause to complain of the action of the General Assembly. Like many others, we have been disposed to think that this Company, in contesting the exclusive right of way between the Junction and Richmond, were disposed to distort the features of their charter, and strike for privileges not contemplated. An examination, however, of that section of the charter of the Richmond and Fredericksburg Company, which has elicited the controversy referred to in the report of the President and Directors, induces us to doubt the correctness of the opinion hitherto entertained. That others may judge of the nature of the guaranty intended by the Legislature in the act incorporating the Richmond, Fredericksburg and Potomac Railroad Company, we submit it as follows:

Be it therefore enacted and declared, and the General Assembly pledge itself to the said company. That in the event of, the completion of the said railroad from the city of Richmond to the town of Fredericksburg, within the time limited by this act, the General Assembly will not, for the period of thirty years from the completion of the said railroad, allow any other railroad to be constructed between the city of Richmond and Washington or for any portion of the said distance, the probable effect of which would be to diminish the number of passengers travelling between the one city and the other upon the railroad authorised by this act; or to compel the company in order to retain such passengers to reduce the passage money:—Provided, however, that nothing herein contained shall be so construed, as to prevent the legislature at any time hereafter, from authorising the construction of a railroad between the city of Richmond and the towns of Tappahannock, or Urbana, or to any intermediate points between the said city of Richmond and said towns: And provided also, that nothing herein contained shall be construed to prevent the general assembly from chartering any other company or companies to construct a railroad from Fredericksburg to the city of Washington.

That the General Assembly intended to grant to this company the exclusive travel for every and

any portion of the distance between Richmond and Fredericksburg, is made manifest in the section above, we incline to think. The case, however, has been recently fully and elaborately argued by the ablest counsel of our state before Judge Meredith, and all suspense on the subject will soon be at an end.

We are pleased to see from the proceedings that the directors are clothed with the power to relay their track with a heavy bar, and likewise to take into consideration the contemplated connection of their road with the Orange and Alexandria road, at or near the intersection of the latter with the road of the Manassas Gap company. Let their scheme be but consummated, and Richmond will have a connection with the Valley of Virginia at its richest and choicest point, the beneficial results of which will be almost without computation.

Surveys for the Pacific Rail Road.

The surveys now undertaken for the purpose of collecting information in reference to the construction of a railroad from the Mississippi Valley to the Pacific, have now assumed a shape that promises the most satisfactory results.

Four expeditions, amply appointed and under the command of skillful and experienced officers, are already in the field, and the report of their operations, sweeping the whole area of our territory between the Mississippi and the Pacific, may be expected by the first of February next. The expeditions are entrusted to chosen officers of the corps of engineers and of topographical engineers, to whose science, and skill the success of our army in Mexico was so largely attributable. It is probably not too much to say that no military organization in the world can produce a corps more adequate to the successful conduct of such a work.

The first of these expeditions is under the command of Major Stevens, late of the engineer corps, and now governor of Washington Territory, and has for its object to survey the region stretching from the upper Mississippi to Puget's Sound. It proceeds from St. Paul's in the Territory of Minnesota, to the Great Bend of the Missouri and Saskatchewan rivers to the most available pass in the Rocky mountains, surveying the best passes in the Cascade range, and the Rocky mountains, from the 49th parallel to the head-waters of the Missouri. It is part of the object of this expedition to determine the capacity of the whole region of the survey to supply, and of the Missouri and Columbia rivers to transport, the materials of the proposed railroad. We learn that a satisfactory report has already been received from Major Stevens, giving assurance that he is already engaged in his operations far beyond the western frontier of the United States. He expected to leave St. Paul's before the first of June.

A second expedition, under the command of Lieut. Whipple, is to survey the region of our western territory adjacent to the parallel of 35 deg. It will proceed from the Mississippi along the head waters of the Canadian, cross the Rio Pecos, and enter the valley of the Rio del Norte near Albuquerque; thence through Walker's Pass in the Rocky mountains, to the Pacific, at some point on the coast of southern California near San Pedro, Los Angeles, or San Diego.

A third expedition under the command of Capt. Gunnison, will pass through the Rocky mountains near the head waters of the Del Norte, by way of the Heurano river, into the valley of the Green and Grande rivers; thence westwardly along the Nicollet river of the Great Basin; thence north to the Lake Utah, surveying on a return route the best passes of the Wasatch range through the coal basin into the forks of the Platte.

A fourth expedition is to operate in California. Its field is the region west of the Lower Colorado to the Pacific. This expedition, starting from Benicia, in California, will examine the passes of the Sierra Nevada from San Joaquin and Tulare valleys, together with the whole country south-east of the Tulare lakes, to ascertain the best route between Walker's pass, or any other practic-

able passes in that region, and the mouth of the Gila, and from that point to the Pacific at San Diego.

Each of these expeditions is instructed and fully prepared to subject the region assigned to it to a careful scientific survey, having reference not only to the examination of its capacity for a railroad route, but also to all that may pertain to a thorough geographical knowledge of the country, including not only its topography, but its climate, soil and productions. It is obvious that such surveys, apart from their main object, must contribute very largely to a more accurate scientific knowledge of this vast western domain of the United States. The appropriation made by the last Congress for these Surveys amounted to the sum of one hundred and fifty thousand dollars, and it is intended strictly to confine the expenses of all the various expeditions to that amount.

South Western Railroad.

We copy the following notice of the railroad traversing central Kentucky and Tennessee, connecting Danville, in the former State, with Manchester, in the latter. The project is one of first importance, and we are glad to see that its construction has fallen into the hands of enterprising, efficient and wealthy contractors, who will open the road at the earliest possible day:

This road extends from McMinnville north-easterly through Middle Tennessee to the Kentucky State line, 87 miles, forming a part of the direct road from Cincinnati to Pensacola, Mobile and New Orleans. Nearly every portion of this line is now in progress of construction, from Covington thro' Lexington, Danville, McMinnville, Winchester and Guntus Landing to Selma, on the navigable waters of the Alabama River, from which point it is proposed to construct one road to Mobile and another to Pensacola. A road is also constructing from McMinnville through Talahoma to Florence in northern Alabama, there to connect with the New Orleans and Great Northern railroad. At Winchester it connects with railroads already in operation from Nashville to Charleston and Savannah.

The South Western road runs along, parallel to, and immediately at the foot of the Cumberland Mountains, located on a table land from 5 to 40 miles wide, and six hundred feet above the general level of West Tennessee. On account of its position, with reference to the natural features of the country, it commands the most desirable location for a north and south road through the State.—The climate is highly favorable for that latitude. Owing to the high elevation of the country, the atmosphere is dry, of uniform temperature, and entirely free from bilious and epidemic diseases. The soil is generally fertile, and on the table lands produces readily all varieties of agricultural productions, while on the mountains are found the best of grazing lands.

There are no natural outlets for trade in this part of the State. Business has mostly been done with Nashville by wagons, a distance of over 100 miles. For this reason the resources of the country have never been developed; the surplus products have had to be converted into a form to transport themselves; into horses, mules, cattle, sheep and hogs, for they would not bear transportation; land is cheap, and the people are behind the progressive spirit of the age. The benefit which a railroad will be to such a country is incalculable. It now abounds in water power, which is valueless. The mountains furnish abundance of coal and iron, which, for the want of a means of transportation, are worthless. A railroad will increase the population, diffuse intelligence, double the value of lands, and develop and give a value to the natural resources of the country.

A glance at the map will show the great importance and value of this line of roads. Cincinnati is one of the great central points of railroads north of the Ohio river. She has nine great trunk lines,

radiating to the east, the north and west, while on the south, this is the only line of roads now constructing forming the most direct connection with the Gulf at Mobile and Pensacola. Extending with its connections on the north from the Lakes to the Gulf, it passes through eleven degrees of latitude, yielding every variety of agricultural production. The local business arising from an interchange of these would alone liberally support such a road.

New Orleans has heretofore commanded all the Gulf trade, on account of her position on the Mississippi river, the only outlet for the great west. She is built a hundred miles from the Gulf, with a shifting and dangerous bar at the mouth of the river, and nearly all freight going up or down is subjected to a tax of a dollar per ton for towage. Mobile and Pensacola both are much more accessible than New Orleans, and need only communication with the north by railroad to divide the Gulf trade with her.

This trade is receiving new and important accessions every year, from the South American States, from California and the Pacific Coast.

It would be impossible to estimate the amount of business which will be done over this road on its completion; but there can be no question but that it will be one of the most valuable roads in the country.

Our esteemed fellow citizens, the Messrs. CHAMBERLIN & FERGUSON, have taken the contract for the entire construction and equipment of the South Western railroad, the contract amounting to over two millions of dollars. They are experienced, enterprising and responsible railroad builders, and Mr. Ferguson will soon leave for Tennessee to superintend the vigorous construction of this important road. We congratulate the people of Middle Tennessee on the certain prospect that the Iron Horse will, ere long, traverse the beautiful table lands of the Western slope of the Cumberland Mountains, and bring the north and south into closer neighborhood and better acquaintanceship, to their mutual advantage, commercially and socially.

A Test for Tractive Power.

It would be a very great assistance to railroad companies and locomotive builders, if an accurate and simple test could be devised for the resistance of trains, the traction of engines, &c. Every new improvement in running machinery could thereby establish its superiority, and every useless or unphilosophical innovation could be exploded at once. It is well known that the money wasted on useless arrangements, to instil an impossible value into them, would test all really useful improvements. How often do we hear a man advance some trifling fact of resistance as being the cause of the whole expenditure of power on railroads:—One man has hit it, when he says that all that prevents engines from pulling as much upon a perpendicular ascent as a horizontal plane, is a "want of adhesion." Another, that the whole expenditure of power upon a railroad is due to the resistance of curves, and he will compare a curve of 700 feet radius to a grade of 77 feet per mile! As the very conception of the ideas entertained by some men prove that they know nearly nothing of the subject they wish to elaborate, it would be a capital thing for an ingenious man to devise a practical test, which should show the feet and inches, pounds and ounces, dollars and cents, of everything proposed as an improvement upon railroad machinery, at least.

The trial of a new improvement is not generally made sufficiently exact to show its real value.—There is a common notion among many mechanics that the test of a thing is its endurance—its safety from failure, by breakage or premature de-

tachment. This covers the primitive ground of the permanence of the thing, but we presume there are many arrangements of cars, brakes, boxes, valve motions, etc., which will last in constant use as long as any other, but which involve an expensive application of power. An improvement must have a philosophical as well as a mechanical value, and *vice versa*.

In these times of gradual improvement, when signal applications are rare among railroad machinery, at least, every new arrangement should be accurately and practically tested. The value of a new thing should be ascertained in cents and mills, its power in ounces and grains. The fact that an engine is placed under different circumstances upon different roads, or in different weather, or with different working, cannot destroy the general principle that a pound of power saved is a pound earned.

A road that has no knowledge of what the different operations of its business should cost, that does not know the details of its expenses, that makes no experiments—such a road cannot be said to have any system of motive power. Such a road may have twenty engines, but cannot tell which is best,—or if it can, cannot tell why.

It is a road that cannot, by its agents, tell the difference between a cord of wood and a ton of coal; between an engine upon eight drivers and one upon two; between a grade of 100 feet to the mile and a level; between one spark arrester and another; between a chilled wheel and a wrought wheel. A road doing a constant and heavy business in any kind of traffic, meeting regular and heavy expenses, ought to know the details of every branch of expense, of every application of power, and of every arrangement of engine.

There is a large class of railroad machinery which is the subject of constant alteration. An instrument which would show the resistances of different arrangements would be, as we have already said, a valuable aid. A spring dynamometer, a lever gauge, an air cylinder, with an Ashcroft steam gauge, or a test by the angle of friction ought to be adopted. We believe a cylinder, open at one end only, and having a piston connecting with the draw rod of an engine, might show, by the compression of the air confined in it, the resistance of a train. An Ashcroft gauge would be the measure of compression. This might answer to measure traction. Then again, every engine needs experimenting upon to show the variation of pressure in cylinder; an indicator of Gooch's or McNaught's plan is the proper test for this. A blast gauge is necessary, with a vacuum gauge or barometer, in all experiments upon draught of fire. A water meter would be useful in the feed pipe of an engine; a strong glass air chamber, for the force pump would show the real value of an air vessel, and many other applications would facilitate the acquisition of information upon practical points. A system of measuring fuel and the trial of established means for economy of fuel, oil, etc., should be adopted on one engine of every class upon great roads. The expenses of all arrangements should be kept separate, as being of more importance generally than all else.

Some of the southern roads, which for great roads, have a more full system of accounts for motive power department than those north of Philadelphia, can show, from their books, the con-

sumption of fuel, oil, waste, and repairs for each engine; know what it costs to keep a furnace whole, a boiler tight or a tire in running order; while these matters, important as they are and simple as they are, can scarcely be ascertained at the north. It is this test of experiment which, under but a partial application, has established the style of the freight engine of these great roads, and which, while operating far inferior roads, has made their running expenses less than on most of the northern roads.

American Railroad Journal.

Saturday, July 2, 1853.

Important Decision.—Construction of the General Railroad Law of Illinois.

The recent decision of Judge Morris, in the case of the Michigan Southern Railroad, vs. the Illinois Central railroad, appears to settle the construction of the general railroad law of that state. In the case referred to, the judge decided that the general railroad law of the state, *authorized railroad companies, organized under its provisions to do every act necessary to the construction of a railroad, with the exception of the condemnation of lands, and that when a company procured the right of way, their powers under the act were complete.* The Judge also decided, that the acts of the company organized as aforesaid could only be inquired into on a process in behalf of the state.

We presume that this case may be regarded as conclusive as to the right of the Mississippi and Atlantic railroad, to construct their railroad under their present organization. We learn that they have the right of way, for a greater part, if not the entire distance, and we further learn that it is the intention of this company to proceed forthwith in the work of construction; and as capitalists in this city stand ready to take up its stocks, we see no reason to doubt the early completion of this road, to the banks of the Mississippi.

Dry Steam.

Mon. Hypolite Uhry, the accomplished draughtsman and designer of Rogers, Ketchum & Grosvenor's works, has, in conjunction with Mr. Luttgens, of Paterson, invented a steam heater, or a "dry chamber," for the purpose of making surcharged steam, or anhydrous steam. The apparatus consists of a chamber filled with small vertical tubes, and placed in the upper part of the smoke-box, above the mouths of the boiler tubes. The steam from the boiler finds its way into this chamber, and surrounds the tubes which are open to convey the heat from the lower to the upper part of the smoke-box. By these means the inventors believe the steam receives an extra quantity of heat, which forms a reserve from which is supplied the usual loss by conduction, and which loss would otherwise produce condensation, and a consequent loss of pressure. They believe, also, that the particles of water carried off by priming will be thereby converted into steam. The apparatus is intended especially to prevent the great loss arising from condensation of steam in unprotected pipes and cylinders.

If it is true that the waste heat of the smoke-box is much greater than that of the steam as it leaves the boiler, this arrangement may effect an important saving. It must also be seen that it shall form no impediment to the draught.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net Earnings in 1852.	Dividend, 1852.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	95
Androscoggin and Kennebec.. "	55	809,878	905,300	1,994,429	131,006	.....	none	30
Kennebec and Portland..... "	72	876,741	800,000	2,180,000	133,338	.....	none	40
Port., Saco and Portsmouth.. "	51	1,555,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland..... "	20	227,981	291,200	In progres	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,270	622,000	2,540,217	150,538	79,659	none	53½
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	10	108
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	58
Northern	82	3,016,634	.....	.....	328,782	163,075	5	58
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	99
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	108
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan..... "	26	.....	.....	673,500	.....	.....	none	9
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	46½
Rutland	120	2,435,328	1,964,588	.....	324,790	165,340	none	35
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	17½
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. Cent.	.....	.....	102½
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	100
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	105
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	429,484	212,625	6	88½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101½
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	57½
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	95
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	107
Fitchburg..... "	66	3,540,000	100,000	3,633,673	674,574	232,787	6	99½
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	67
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	86½
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,999	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17½
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	60
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	682,195	6½	99½
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	50½
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	124
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	.....	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	2,992,450	1,641,000	4,825,937	814,714	443,993	7	108
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	.....	.....	.....	.....
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	56
Albany and Schenectady..... N. Y.	17	1,000,000	685,301	1,774,584	296,112	164,448	8	145
Buffalo and New York City.. "	91	900,000	1,550,000	2,550,500	.....	.....	.....	.....
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	.....	.....
Buffalo and Rochester..... "	76	1,825,000	184,903	2,415,014	619,976	415,323	10	182
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	.....	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie (New York and Erie).... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	80½
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	72½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	65½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	36
Ogdensburg (Northern)..... "	118	1,578,311	2,780,760	4,933,029	435,845	176,123	none	42½
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Rochester and Syracuse..... "	184	5,132,990	700,123	6,016,778	988,366	549,824	8	154
Rutland and Washington.... "	60	850,000	400,000	1,250,000	.....	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Syracuse and Utica..... "	53	2,400,000	126,000	2,661,477	616,918	376,025	10	182
Troy and Rutland..... "	32	237,690	100,000	329,577	.....	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	.....	.....	.....	.....
Utica and Schenectady..... "	78	4,124,000	none.	4,093,273	1,029,774	724,770	10	195
Watertown and Rome..... "	96	1,011,940	650,000	1,663,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,490	1,388,385	478,413	10	150
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	140,154	80,351	4	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	.....	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	93½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1882.	Net earnings in 1882.	Dividend, 1882.	Price of shares.
Philad., Wilmington and Balt. Penn.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	71
Pennsylvania Central	250	9,768,153	5,000,000	15,600,000	1,943,827	617,625	....	100
Philadelphia and Trenton	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	71
Washington branch	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna	57	.....	.....	.....	413,673	152,536	.....	42
Alexandria and Orange	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh	64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg	22	.....	.....	.....	.....	.....	.....	100
Rich., Fred and Potomac	76	.....	.....	.....	.....	.....	.....	.....
South Side	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee	60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Georgia Central	191	3,100,000	306,187	3,378,132	945,508	508,625	8	102
Georgia	211	4,000,000	1,214	.....	324,424	456,468	7½	.....
Macon and Western	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee	71	.....	.....	In prog.	.....	.....	.....	.....
Wilmington and Manchester	.....	.....	.....	.....	.....	.....	.....	.....
Southwestern	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington	.....	1,430,000	900,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington	28	.....	.....	.....	87,421	44,250	.....	75
Louisville and Frankfort	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh	100	1,239,454	1,371,000	2,963,756	194,429	123,306	6	103
Cleveland, Painesv. and Ash.	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus	135	3,027,000	408,200	3,655,000	777,793	483,483	12	132
Columbus, Piqua and Indiana	.....	.....	.....	In prog.	.....	.....	.....	.....
Columbus and Lake Erie	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	115
Cincinnati and Marietta	.....	.....	.....	In prog.	.....	.....	.....	.....
Dayton and Western	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton	36	.....	.....	.....	.....	.....	.....	.....
Greenville and Miami	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami	84	2,370,784	.....	2,634,157	526,746	314,670	10	120
Mansfield and Sandusky	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River	167	1,860,500	.....	.....	565,751	.....	.....	.....
Ohio Cental	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi	.....	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	150
Xenia and Columbus	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern	131	.....	.....	.....	Recently opened.	.....	.....	.....
Indianapolis and Bellefontaine	83	.....	.....	.....	.....	.....	.....	.....
Lawrenceburg and Ind.	.....	.....	.....	In prog.	.....	.....	.....	75
Lafayette and Indianapolis	62	.....	.....	.....	Recently opened.	.....	.....	.....
Madison and Indianapolis	88	1,650,000	750,000	2,400,000	516,414	268,075	10	99
Peru and Indianapolis	40	.....	.....	In prog.	.....	.....	.....	.....
Terre Haute and Indianapolis	72	632,387	663,100	1,353,019	106,593	71,446	4	108
Rock Island and Chicago	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi	.....	.....	.....	.....	.....	.....	.....	.....
Illinois Central	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago	92	1,932,361	500,000	In prog.	472,109	.....	.....	125
Michigan Southern	315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	145
Michigan Central	282	4,000,000	4,067,396	8,614,193	.....	.....	8	117
Pacific	.....	.....	.....	.....	.....	.....	.....	.....

Stock and Money Market.

The past has been a depressed week in Wall-street. The leading theme has been *Erie*. Notwithstanding the large decline in its stock, it is as weak at 80 as it was a fortnight since at 89. Holders appear to be no more satisfied with it at its lowest point than at its highest. Its value is considered to be entirely uncertain. Its market price for some time to come will depend more upon the position of parties operating in it, than upon any well grounded conviction of its real value. What that is, is a problem which can only be worked out by time. During its period of probation, it can only be regarded as a superlative fancy.

The general market has ruled low, owing in a measure to the season of the year—the *First* and *Fourth* of July: the first, dividend, and the latter a holiday, have tended to divert attention from other transactions. Operations in the street and at stock board are to some extent neglected for more pressing matters. Money may be said to be abundant, though there has been quite an active demand for a few days past. Many of our leading houses have been calling in their loans preparatory to the ordinary payments of the first of the month. As soon as this is passed, money must become very abundant. The payment of the numerous half yearly dividends must throw very large sums into circulation. As an evidence of the amount it will in this way be paid out in the 1st, we would state that the house of Winslow, Lanier & Co. alone pay out over 1,000,000 in dividends and interest on bonds, which will give some idea of the extent of their negotiations. Other private banking-houses pay out large sums in the same way.

The general tone of the market is healthy, although quiet. First class securities meet with a steady demand. There is a disposition to put off the weaker, or those about which little is known, till Fall, when a brisk demand is anticipated, both for the American and foreign market.

The amount of securities which will then come upon the market will be very large, much greater, it is believed by many, than will find an immediate sale. This is likely to be so, but it must not be inferred from this fact alone that we are overdoing the business of railroad construction, or that the securities offering are not good. Many of them may be of questionable character, as would be the case were the offerings only a quarter the anticipated amount. The schemes now upon the market, including such as will make their appearance during the next six months, will require at least \$75,000,000. This is a large sum, but there is no doubt that three times this amount could be well and profitably expended in the immediate construction of railroads. It is not the amount of the expenditure that is to be feared, so much as whether our investments shall be well made. Here is the point of danger. That we are doing a great deal is no necessary proof that we are not doing it well. As before stated, we could profitably and safely increase our investments in railroads, provided we confine them to legitimate projects. Whether we shall be kept within the limit of safety depend mainly upon capitalists themselves. Should they confine their operations to projects that are in a measure self-sustaining, and that have a remunerating business in prospect, our

whole system may be maintained in a healthy condition. It is so now. Most of our projects are and will be remunerating, and we see no reason to believe that public confidence can be sensibly shaken in them. An Erie catastrophe is a rare occurrence. It is only in New York that roads can be mangled with impunity, in the manner this has been. More than two years ago we warned the public against its management, and predicted the reverses that have overtaken it.

The following half-yearly dividends for July are announced by various companies:—

	per cent.
Madison and Indianapolis.....	5
Worcester and Nashua.....	2½
Toledo, Norwalk and Cleveland.....	5
South Carolina.....	4
Sixth Avenue.....	5
Ohio Central.....	4
Cleveland, Penn. and Ashtabula.....	5
Erie and North-East.....	4
Berkshire.....	1¾
Boston and Lowell.....	3
Boston and Maine.....	4
Boston and Providence.....	3
Boston and Worcester.....	3½
Cape Cod Branch.....	2
Cheshire (preferred).....	2
Eastern.....	3
Eastern in N. Hampshire.....	3
Fall River.....	4
Fitchburg.....	3
Lex. and W. Camb. (preferred).....	3
Man. and Lawrence.....	3½
Pittsfield and N. Adams.....	3
Rutland 6 per cent. (preferred).....	3
Stoughton Branch.....	3½
Taunton Branch.....	4
Western.....	3½
Worcester and Nashua.....	2½
Providence and Worcester.....	3
New Bedford and Taunton.....	3½

The following is the report of sales at auction by S. Draper, on Saturday last:—

\$50,000 Tennessee Coupon Fives.....	90 a 93½
40,000 Pennsylvania Coupon Fives '77. 99½ a 100	
23,000 Pacific Mail Steamship Stock.....	99
29,000 Portsmouth and Concord railroad, 1st Mortgage.....	72
2,500 Mansfield and Sandusky R.R., 10 p. cts. 100	
3,250 Portland Township (Sand'ky city) 7s..	99
10 Shares Suffolk Bank.....	88
100 Shares Macon and Western R.R.....	108½
25 Shares American Express Co.....	136

The earnings of the Michigan Southern and Northern Indiana railroad companies for May were:

From passengers and mails.....	\$83,557 50
From freight and miscellaneous.....	51,947 93

Total.....\$145,505 43

The gross earnings for five months ending 31st May were \$453,861 27.

The earnings for eleven months, being from the time of opening the road to Chicago, have been \$968,532 75.

The fiscal year closes on the 30th June, instant, and, from present indications, the total gross earnings for the year will exceed \$1,100,000.

The offerings for Galena and Chicago Union Railroad Company Seven Per Cent. Mortgage Bonds opened on the 25th inst., at the office of Wadsworth & Sheldon, amounted to \$641,000, at prices ranging from 92 to 98½. No bids were accepted for less than 95.

The following are the terms of the Consolidation of Interests between the Toledo and Junction Roads:

1. The parties agree to consolidate, &c., upon

the basis prescribed in the Charter of the T. N. & C. R. R. Co.

2. The parties agree to assume the line of the Port Clinton Railroad, and to construct the line of road from Sandusky, via Port Clinton, Perrysburgh, and Maumee, to Swanton, and the connection with the Michigan Southern Railroad.

3. The parties contemplate an extension from Fremont towards Fort Wayne, or in some other western or south-western direction; and they thereby promise to undertake such extension as early as the interests and resources of the Company will admit.

4. The parties will unite with the Mad River R. R. Co., in establishing and maintaining a railroad connection between Sandusky and Fremont, by Clyde.

5. The stock of the two Companies shall be equalized before consolidating, so as to make their respective stocks of equal value; and to that end, it is agreed that in consideration of the smaller cost per mile, and the present productiveness of the T. N. & C. R. R., there shall be allowed to the Stockholders of said Railroad, of Stock or Bonds, such reasonable allowance per mile, as will carry out this principle of equalization.

6. The Company agrees to establish and maintain Workshops, both at Norwalk and Sandusky.

7. The Consolidated Company to assume and guarantee the respective obligations of the Companies.

8. The Consolidation to take place on the 1st of Sept. next, until which time the net earnings of each are to be regarded as the property of such Company.

The consolidation will take place upon the 1st of Sept. next, if the details of the contract can be settled. Until that time, the Roads will be managed as at present, after which, or until the annual election, Messrs. LICHFIELD, LANE and BOALT, will act as an Executive Committee, over the consolidation interests.

The stock of the Toledo, Norwalk and Cleveland R. R. has reached to a high figure in consequence of its extraordinary receipts, and from the favorable terms of Consolidation with the Junction road. It is in demand at a premium of 50 per cent., and cannot be had at that. While its stock is so high, it is a matter of some surprise to us, that its bonds which are first mortgage, of which there is only a small issue should be selling so low, the last sales being at about 980 interest, while Michigan Southern Bonds, of the same character, are selling at from 104 to 105. There is no reason in which the Bonds of the Toledo should command a higher figure even than those of the Michigan Southern as the former are equally well secured, and have a longer time to run. They are undoubtedly a choice investment, and must go to a premium as soon as their real value becomes known.

The Safest Seat.

In these days of collisions, submersions and derailments generally, it is worth one's while to know where he can expect the greatest security in a railroad train. We expect that if any opinion should be given that the indicated car will be at once crowded beyond its capacity, but that result had better follow than that the safest car should go nearly or quite empty.

It is very well known that the car nearest the engine is exposed to the least dust, and that the rear car of a train is generally safer than the front car. The safest is probably the last car but one, in a train of more than two cars;—that is, there are fewer chances of accidents to this than any other.

If it is a way train at moderate speed, or any train, standing still, a collision is possible from an-

other train in the rear; in which case the last car receives the first shock. Again, an engine and the front cars of a train will often go over a broken rail, or a cow, or stone, without derailment, while the last car, having nothing to draw it into the line of the train, is free to leave the track.—Next to the forward car, the rear car is probably the most unsafe in the train. The safest seat is probably near the centre of the last car but one, and in a very long train, in the centres of the last two or three cars next to the last.

Writing.

A clear and correct style of writing is of the greatest value to every clerk employed in the offices of public corporations. Those who can avail themselves of the instruction of Mr. O. B. GOLDSMITH, 362 Broadway, New York, will find the best arranged rooms and the best facilities for improvement in the city.

His arrangements in this respect are more complete than are generally met with.

North Eastern Rail Road.

The Directors of the North Eastern rail road company, of South Carolina, have made their first annual report to March 1st. 1853, which presents the following exhibit of the condition and prospects of that work.

Total shares subscribed 13,363 at
\$50.....\$668,150 00
Of which, have been paid in..... 29,463 00
Expenses paid during year ending
March 1.....\$ 11,493 68

The Legislature have authorized a subscription, on the part of the State, of \$220,000, subject to the condition of an additional individual subscription previous to July 1st. To secure this, from \$75,000 to \$100,000 are wanting.

The estimated cost of the road under present prices of materials is \$1,500,000; or \$14,500 per mile.

The officers of the present administration of the company are:

T. Pinckney Huger, *President and Chief Engineer.*

John Ravenel, E. Sebring, S. Mowry, W. W. Martin, D. L. McKay, and W. S. Boyd, *Directors.*
N. R. Middleton, *Treasurer.*

W. E. Martin, *Solicitor.*

For the Railroad Journal.

Cincinnati and Fort Wayne Railway.

At a meeting of the board of directors of this company held at the Burnet House in Cincinnati, on the 22d inst., a large number of proposals to construct the road were examined. The whole work, including iron, full stock of rolling machinery and depot buildings was let to a company of very wealthy men in Ohio, who take one million of dollars of the stock of the company on the contract. The portion of the road between Fort Wayne and Winchester to be ready for running of cars within one year, a large force to be placed upon the work between Rossville and Oxford immediately, and the whole to be prosecuted to completion at an early day. The route of this road is, from Cincinnati through Hamilton, Oxford, Richmond and Winchester, to Fort Wayne, passing through a country unsurpassed in fertility of soil, and occupies the shortest line between its termini, besides touching all the towns, and furnishing the most direct route to this city for the business of several western roads with which it intersects.

Locomotive Trucks.

If there is any one condition more than another which a truck should fulfill, it should certainly be that of allowing an easy accommodation on curves. The first trucks made, had outside bearings, and the weight of the forward end of the engines rested upon broad flatseats, six feet apart, on either side of the truck. The rotation of the truck, when striking a curve, being under these wide bearings, caused much friction between the rubbing surfaces, and tended to prevent the truck from turning as easily as it should, whereby there was some danger of derailment. With heavier engines the bearings were brought inside, but for the Erie, broad gauge these were considered as too wide, and the weight was placed directly upon or around the centre pintal. By bringing the resistance directly upon the axis of revolution, its leverage was destroyed.

The Erie road has eighteen or twenty long inside connected, ten wheel engines, built at Paterson. These had their steam chests between the cylinders and had direct action links to work the valves. The weight of the front part of the engine resting through the steam chest joint upon the truck was believed to affect the permanence of the cylinder joints, and the centre bearings of two or three engines were changed to side bearings. The truck spring was straddled by a rocker, such as is used by Hinkley, and there was a square rib on the top of the rocker, which was enclosed in a groove of corresponding shape, on the under side of the engine frame. As this rib fitted with but little side play, the truck was in fact confined so as to prevent any rotation, and the engine became a rigid carriage of twenty-three feet in length between extreme centres.

One of these engines, No. 75, in running around the curve east of the Neversink bridge, one mile from Port Jervis, ran off the track, and after running a few rods on the bridge, went over between thirty and forty feet and struck, bottom side up upon the ground below. Two men were killed, and one, the engineer, saved himself by jumping 25 feet. The point at which the engine left the track, was just at the end of a curve of some 1000 feet radius, and was up grade in the direction of the progress of the engine. The engine was not probably going very fast as the grade was up, the train was heavy, and there was also another train just ahead. The engine went over from the bridge on the side corresponding with the outer rail of the curve just past; two or three cars also went over, but on the opposite side of the bridge, and three or four cars which were off the rails, but which stopped on the bridge, stood also on the innerside of the curve.

We see no necessity for making any projection upon the upper side of a spring rocker, as the spring is amply confined without it.

In speaking of this accident, it might be as well to say that had a square timber been bolted on each side of the bridge, the train would not have gone over upon the ground. There was only a light railing upon this bridge.

The truck must "track" rightly, that is its longitudinal axis must lie directly under the longitudinal axis of the engine. The inner hubs of the wheels may not be squared up of the same length, and should therefore be measured after drawing on, by which the position of the bearings if equi-

distant from the centre, will be known. Adjustable centre plates are generally found to give trouble, and the best plan is probably to use care in measuring for the centre at the first. If a truck or a pair of drivers do not track right, the flange of one or the other wheel will be worn thin, and the engine will have a tendency to leave the rails. A truck running forward much of the time, will work best if the centre is carried forward of the true centre of the truck, so that the forward wheels shall control the rear wheels. The distance forward need not exceed one-half or three-fourths of an inch. A truck is usually made of equal-sized wheels, but this is not essential.

Rogers has used one pair of 33 inch, and one pair of 36 inch wheels in the same truck frame. The allowance for lateral play between the flanges and rails is from five-eighths to three-fourths of an inch on nearly all flanged wheels, while a little play is sometimes allowed in the boxes of the journals.

Trial of Locomotives.

We find in the *Tribune* of Saturday, June 18th, an account of a trial made recently with two of the New York and Erie engines, upon the Susquehanna division of that road. The engines were as follows:

No. 86. 17 in. cylinder, 20 in. stroke, 5 feet drivers, six connected drivers and truck; built by Rogers, Ketchum, and Grosvenor; weight 65,175 lbs.; weight on drivers 47,000 pounds.

No. 117. 18 inch cylinder, 20 inch stroke, five feet drivers, four connected drivers and truck; built at the Taunton Locomotive Manufacturing Company's Works; weight 60,344 lbs., of which 40,000 lbs. were on drivers.

The train was of 76 eight wheeled cars, 75 of which were loaded with lumber, containing over 650,000 feet. Length of train, 2,003 feet; whole weight of cars and load, 1169 tons 544 lbs. Date of experiment, June 14th. No. 117, with this load from Corning to Elmira, 17.61 miles, was in motion 1 hour 21 min. From Waverly to Owego, 19.1 miles, two hours 24 min.

No. 86 with the same load, from Elmira to Waverly, 17.48 miles, 1 hour 3 minutes forty-two seconds.

June 15th, engine 86, with above train, started 1500 feet from a curve of 600 feet radius which was up grade 10 feet per mile. When the engine reached the curve, 64 revolutions per minute were made, curve 900 feet long, time of passing through curve, 1 min. 1 sec.

Engine 117, with same load at same place:—when engine reached curve the speed was 65 revolutions per minute; time through the curve, (900 feet,) 58 seconds.

Third Experiment, made June 15th, 1853, at Owego. Same train as above with the addition of 43 four wheel cars, loaded with coal. Whole weight of cars, load, engine and tender—No. 117—1571 tons, 540 lbs. After deducting cars, engine and tender, the load was 1028 tons; length of train 2616 feet.

No. 117, after running 700 feet entered upon and completed one mile in 5 minutes, second mile in 6 minutes 9 seconds; whole distance being of 5 feet grade per mile. Train stopped upon two curves with an intervening tangent of 400 feet in length. On starting, and after running one minute, the speed was four miles per hour, at the end

of the second minute five and a half miles per hour.

Returned with No. 86. First mile in four minutes forty seconds; second mile 5 minutes 25 seconds.

Fourth Experiment, June 16th. Engine 86, with 76 cars named in first experiment, and also seventy-two four wheel cars loaded with coal, or a gross weight of train and engine of 1823 tons 540 lbs., or a load after deducting engine, tender and cars, of 1193 tons 746 tons. First 2000 feet run in 5 minutes 35 seconds, and the next mile in 7 minutes 55 seconds. Engine 117 on returning with same load, ran the first 1500 feet in 3 minutes 55 seconds, next mile in 6 minutes 23 seconds, second mile in six minutes 12 seconds. Hauled train around $2\frac{1}{2}$ degree curve at Owego.

It was stated that the trials were made with a view of testing the capacity of the road. If this had been the object, engines 57, 88 or 89; would have been the proper subjects for trial. The relative tractive power derived from steam in cylinder with a pressure of 100 lbs per square inch on piston, is as follows for each of the engines:

No. 86—Rogers, Ketchum and Grosve-	
nor.....	9633 lbs.
No. 117—Taunton Locomotive Manufac-	
turing Co.....	10800 "
No. 57—M. W. Baldwin.....	17112 "
No. 88—Ross Winans.....	18470 "

The weight of the engines is as follows:

No. 86 10 wheels, six connected.....	32½ tons.
No. 117 8 " four ".....	30 "
No. 57 8 " all ".....	37 "
No. 88 8 " " ".....	28 "

of 2,000 lbs. each.

If the object was to test the power of the two engines, 86 and 117, we do not regard the trial as fair, since the same train was not hauled the same way over the same road, except upon the curve in the second experiment. Engine 117 was designed for greater power than 86, in the ratio of 11-8 to 1. The engine 117, besides having 18 inch cylinder, had a separate cut off valve, 857 2-10 square feet of tube surface, 90 square feet of fire-box surface, and 16 1-6 square feet of grate.

Engine 86 had a link motion; 923 3-10 square feet of tube surface, 67 57-100 square feet of fire box surface, and 13 3-10 square feet of grate. The extra weight of the No. 86 was not the weight of any parts necessary to increase the tractive power; it was merely the weight of an additional pair of wheels, axles, springs, boxes, crank pins and connecting rods, which could just as well have been taken from the engine, except for the fact that they distributed the weight upon more points and with less injury to the track. The simple fact of greater adhesion could not benefit the No. 86, since the No. 117 must have had sufficient adhesion for her cylinder capacity, which was greater than that of the 86. Had there been any want of adhesion the 117 would have been delayed by slipping the drivers.

The pressure in the boiler should always be noted in any trials of locomotives, since the element of tractive force, or steam pressure is the basis of the whole expression of the power of a locomotive. The adoption of weight in the estimation of practical performance cannot lead to any correct or satisfactory result, and for this reason should be rejected in the outset, except so far as to see that it is not inferior, (a rare case) to the tractive pressure. This introduction of an irrelative element

at the Lowell trial in 1851 led to some doubtful results.

This trial, taken upon the whole, can prove nothing of importance. The capacity of the road to carry unnecessarily large loads may exceed that of narrow roads, *provided* the resistances are less, which is not believed to be the case. The power of the engines is by no means as great as of some which are in use on narrow roads; the particular engines tried not having half, or much more than half the tractive power of engines now running on the Baltimore and Ohio road. We do not believe there is one engine upon the Erie road, leaving out Winans', which can draw 504 tons two and a-half miles, up a grade of 82 feet per mile, at a speed of 10½ miles per hour. See Railroad Journal of June 18, p. 391.

We will conclude by quoting from the Railroad Journal of Sept. 11, 1852, p. 578.

A LARGE TRAIN.

The Schuylkill Haven *Miscellany* mentions a train of 211 loaded cars, brought over the Mine Hill and Schuylkill Haven railroad, some days ago by the locomotive No. 10. The coal weighed 975 1-20 tons, this added to the weight of cars—515 8-20 tons—makes a total weight of 1490 9-20 tons at one draught; the heaviest ever hauled over the road.

The tons in the coal trade are of 2240 lbs. which makes 1490 9-20 equal to upwards of 1669 tons of two thousand pounds,—2,000 lbs. being the standard of a ton adopted by most other roads.

Journal of Railroad Law.

INJUNCTIONS AGAINST RAILROADS.

He who would define the limits of the power of Courts of Chancery in regard to issuing injunctions will find them wrapt in such "glorious uncertainty" as to recall the oft-quoted lines of the poet in regard to the locality of the North.

"Where is the North? At York, 'tis on the Tweed and there

At Nova Zembla,—or the Lord knows where."

In truth, the most learned jurists have confessed that the equity power of issuing injunctions is one which cannot be accurately defined—inasmuch as it must be modified by exigencies which it is impossible to foresee.

The two following important cases, however, serve to illustrate the principles by which Courts are guided in relation to this subject.

The decision first cited is that of Judge Morris, of the 7th Judicial Circuit of Illinois.

COOK COUNTY CIRCUIT COURT.

Northern Indiana and Chicago Railroad Company vs. The Illinois Central Railroad Company.

This cause comes before me on bill of complaint, answer, and affidavit, on both sides, and a motion is now made for an injunction against the defendants to restrain them from running their cars, or permitting any other company to run cars across the complainant's railroad, founded upon this state of facts, to wit: That the complainant constructed its road, and thereafter the defendants located and constructed their track, running it across that of the complainant's on the same level, cutting the complainant's track and putting down the so-called crossing frogs without the assent of the complainants, and against its repeated protest.

In the defendant's charter (11th section,) it is declared, that if the parties cannot agree upon the amount of damage for the right of way across

such track, and the points and manner of crossing, the same shall be submitted to three commissioners—one to be chosen by each party, and the two to select the third; and if they cannot agree upon such third man, then the Judge of the District Court of the United States for this District shall select the same—the decision of this Board to be final. The complainants offered to negotiate with the defendants and settle said matter, or select commissioners in pursuance of the section of law aforesaid, which proposition the defendants refused, and took forcible possession and constructed their track across the complainant's track as aforesaid.

The bill alleges that complainant became a body corporate prior to the 2d December, 1850, in the manner prescribed by the act for a general system of Railroad Incorporations, approved 5th November, 1849, setting out the facts which made the complainant a corporation.

His Honor then proceeded to argue the question raised by defendants as to whether or not the plaintiffs were a duly organized Corporation, and duly authorized to purchase lands.

Deciding these points affirmatively, he proceeded as follows:

But again, the law is well settled that if there has been user of a corporate franchise, by an association of persons, their existence as a corporation can only be inquired into by direct proceedings on behalf of the State, and I so stated the law to be when the question was raised by the answer and argument. On this point see Saund. N.Y.R. 625; 6 Irod. N. C. R. 476; 8 Mass. R. 151; 10 Ala. R. 82.

Again, the defendants insist no injunction can properly be granted in this case till the plaintiff first establish its right or title at law.

I admit that such is the rule laid down in many cases, and in many cases it is not only proper but absolutely necessary. But this rule like all others, has its exceptions, as I will show presently. Justice Story, in his 2d vol. Equity Juris. § 959, b., says: "It may be remarked in conclusion upon the subject of special injunctions, that Courts of Equity constantly decline to lay down any rule which shall limit their power and discretion as to the particular cases in which such injunctions shall be granted or not: and there is wisdom in this course, for it is impossible to foresee all the exigencies of society which may require their aid and assistance to protect right, or redress wrong."

It is, says he, "mainly indispensable for the purposes of social justice in a great variety of cases, and therefore should be fostered and upheld by a steady confidence."

I mention this authority merely to show the rules when no other appropriate remedy existed to protect a right or redress wrong.

But in the case in 6 Vesey Jr. 706-7, Lord Eldon examined this very question, and shows many cases of exception to the rule that you must proceed at law in doubtful titles even.

Injunction was granted to a party *in possession under color of title*. In another, where the title was so doubtful that the judge differed in opinion as to who had the title.

This authority is directly in point. The plaintiff here was in possession, not only claiming title, but in fact had the indisputable right to the possession. He had the possession, and the right of possession, and the right of property—a complete title.

6 Paige 88—the case of the Mohawk Railroad Company vs. Archer, is another case directly in point of the jurisdiction and right of issuing the injunction in this case, where it is said that "this Court has an undoubted jurisdiction to interfere by injunction where public officers are proceeding illegally and improperly under a claim of right, or where the exercise of such a jurisdiction is neces-

sary to prevent a multiplicity of suits at law." Again, "the prediction, as the act complained of is not a mere trespass, but an attempt to exercise a continued right of passing across and through the plaintiff's property."

This is the precise statement of the case now before me. Here I might stop on this point of the case, but I have a few more cases to the same point.

3d Railway cases, 355—North Union Railroad Co. vs. the Poulton and P. Railway Co. It is said, "but it is now clearly settled, that in cases of trespass under color of title, when the mischief apprehended is irreparable, the jurisdiction of the Court exists;" and I incline strongly to the opinion that whether the mischief be irreparable or not, this Court ought by decree at least, if not upon motion, to extend and apply the jurisdiction of preventive justice to all cases of trespass in which (by analogy to cases of specific performance) damages would be an inadequate and uncertain remedy, and the protection of a right in specie, the only mode of doing complete justice between the parties. This is the case here. The defendants by argument say they entered under color of title by a deed from the same grantors who first conveyed to Mr. Judd the right of way. Does any one doubt that time is of the utmost importance to Railroad Companies—that the complainants have to slacken their speed in approaching the crossing in question some twenty times a day and sometimes come to a full stop to get by safely. That this state of facts is to grow worse by reason of additional trains that the defendants are to put on, that dollars and cents can pay for the loss of time, the dread and fear of collision in approaching the crossing, the anxiety of the owners of this property, the trouble, the vexation, the danger of life, limb, and destruction of property, all at stake upon the caprice, whim, or malice of the Engineers or Conductors of the trains running with feelings of hostile opposition to each other, trying to see which shall get by first—what damages can be given in such a case to be called adequate or commensurate with the injury complained of. Eighteen souls have been hurried from this world before their God by reason of this trespass and unlawful appropriation of property; and it is said damages can be given commensurate with the injury under the plausible excuse that it was the result of negligence.

There is no action at law that can reach the damages or prevent the mischiefs of the defendants passing twenty times or more each day through and over the complainant's fixtures to the *permanent and continued injury* of the complainant who it is in every sense of the term without adequate relief except by the application of the remedial power of the writ of injunction. [See 1 Vesey 188; 2d Dow, 519; 1 Baldwin, 226, 238 and 230.]

These show clearly that it is the duty of the Court to restrain Corporations and keep them within their powers.

The General Railroad Act of this State, and the 11th section of defendants' own charter, directs what they shall do in order to cross another railroad track. This the defendants refused to do—but have entered by force, and wantonly, willfully and deliberately taken possession of the complainant's property, in direct violation of their charter.

But again the defendants object to the proceeding, because they say that the complainant has a complete remedy at law, 1st, by mandamus; 2d, by action of ejectment; 3d, by action on the case; and 4th, by action of trespass—q. f.

Now it is well settled that the proceedings by mandamus only lay when the party was without any other remedy. For it is said that courts will not exercise that extraordinary remedy in any case where there is any specific remedy, adequate to enforce the right. So if it be true as urged by the defendants, that the complainant hath three other remedies at law, then the complainant hath not that by mandamus. Yet all these actions named yield limited and partial relief only, and fall far short of giving to the complainant suffi-

cient and adequate relief in the premises, and are wholly insufficient for the ends of justice.

Defendants also object that the complainants have never offered to negotiate with them touching the crossing. This may or may not be true—let us see. John B. Jarvis, the Chief Engineer of the complainants, in his letter to Col. Mason, the Chief Engineer of the defendants, under date of April 12, 1852, nearly one month before the committing the trespass, alleged that he Mr. Jarvis, would "be happy to interchange views and enter into any negotiations that are proper to put this plan of crossing on a satisfactory and fair basis. In the meantime William Jarvis (Resident Engineer) will confer with you as to the plan and mode of crossing."

But again the complainant, by Resolutions of its board, declared their willingness to negotiate with the defendants, and forbid them to cross its track until it was settled by argument, or according to the manner prescribed by the defendant's charter, or the general laws of Illinois.

The defendants say they will suffer much greater loss by the issuing of the injunction, than that which the complainant has or can suffer; that it will stop their works for six months at a loss of more than \$600 a day, deprive them of large rents, &c., derived from the Michigan Central road, and that Courts of Equity will not grant injunctions in such cases.

In the case of Greenholghys. the Manchester, &c. 1 R. R. cases 118, in reply to such arguments the Chancellor says, "there however is no answer, and those companies should be aware that there is not, if there be a clear case against them."

The defendants say that the complainant has laid by a year without taking steps to stop them, and therefore ought to issue.

This and the preceding objection might be and are good reasons for the withholding of the injunction, if the defendants or their attorneys will stipulate that they will, without unnecessary delay, settle the matter with the complainant by agreement, or by selecting commissioners in pursuance of the 11th section of defendants' charter to determine the compensation to the plaintiff, and the point and manner of crossing the complainants' track, and in the meantime to give the complainant the full use of its track, the defendants to keep their trains out of the way, or something to that effect, until these matters are settled as pointed out by the defendants' charter. It is clear that the complainant is without any safe and adequate remedy in the premises, unless it is done in the case before me by injunction.

The defendant's solicitors having produced to me the stimulations herein annexed, which being satisfactory, the motion for an injunction is taken under advisement.

COOK COUNTY CIRCUIT COURT.

Northern Indiana and Chicago Railroad Company vs. Illinois Central Railroad Company—in Chancery.

The motion for an injunction in the above entitled cause having been heard by Hon. B. S. Morris, Judge of the Seventh Judicial Circuit, at the suggestion of the Court, the proceedings in said cause are suspended until the further order of said Judge, upon the defendants entering into the following stipulations:

1st. That said defendants will forthwith and without unnecessary delay, take all such lawful proceedings as may be necessary to ascertain the compensation to be made to such complainants, and the points and manner in which said defendants shall be allowed to cross the track of the said complainants at the point named in the bill of complaint filed herein, in pursuance of section eleven of the act incorporating said defendants; and without delay prosecute such proceedings to a final conclusion according to the provisions of said act; and that upon the determination of the said commissioners, the said defendants will forthwith and without unnecessary delay comply with any lawful decision and award of said commissioners.

2d. That until such final determination, or the

further order of said Judge, trains of cars passing both ways upon the road of the said defendant shall keep out of the way of trains passing upon the Northern Indiana and Chicago Railroad, at the crossing mentioned in the bill, so that the trains passing upon the Northern Indiana and Chicago Railroad shall at all times have the road and the precedence in crossing, which is to be exercised without any unreasonable delay, and that each train passing upon the Illinois Central Road shall come in full stop at said crossing, and send the conductor or fireman on the track, so as to see that the same is clear before proceeding. This regulation to be in force on and after the 25th day of June, A. D. 1853.

All of which said the defendants hereby stipulate to do and perform. Dated this 18th of June, A. D. 1853.

M. BRAYMAN, Solicitor Illinois Central Railroad Co.

BLACKWELL & CECLWITH, of Consul.

Explosions.

One of the largest boilers on the Erie road has recently exploded. We are not aware that any cause has been publicly given as the one leading to the explosion. It is a doubt in the minds of most engineers if a boiler ever explodes in consequence of a steady or an uniformly increasing pressure. It is always referred to the over heating of some part of the boiler, and the sudden injection of cold water thereon. The question is, what result is produced by the water? Is it instantly converted into steam of great pressure? Will it at first take the spheroidal form and lie quiescent upon the furnace, or flues, and not be converted into steam until more water has been received, the temperature of the plates lowered, and until the consequent formation of steam has become instantaneous and overwhelming; or is the water decomposed upon the plates, and the gases liberated and exploded by heat or electricity? These may form subjects for ingenious discussion, but whatever theory is advanced it must be based upon the facts of overheating the iron in the first place, and therefore to not heat the iron will prevent explosions. Some marine boilers have such a form that the steam cannot rise from all the parts and give the water a chance for free access thereto, consequently a plate may be overheated, so the detachment of scale may let the water suddenly upon an overheated plate. But these cases are not at all common to locomotive boilers, as the form of locomotive boilers allows free discharge of steam from the heating surfaces and free access of water.

So whatever may be the chemical process of generation, decomposition, or whatever theory may be formed, it is true that a want of water is the first cause of explosions, and this is a mere, practical deficiency which can at any time (before overheating) be corrected. It is known that when an engine is working, the true level of the water is not known by the gauge cocks and this was especially true in the case of the "No 58" (the one which exploded) as this had a dome boiler, and took its steam from directly over the fire-box. Another point was that the engine was just setting out upon a heavy grade and that the engineer would naturally wish to pump as little water as possible into the boiler. It is impossible now to know what amount of water was in the boiler, but the inference is that at the moment of the explosion there was a deficiency. Had the water, when the engine was standing, been a little below the crown sheet of the furnace, the putting of

the engine in motion would throw the water over the sheet; so too, if the water was just below the crown sheet after starting it would have covered it on reaching the grade. The use of a safety plug is believed to tend to prevent explosions, although the fusible filling of the plug may become porous or filled with sediment or infusible deposits, after long use.

New Orleans, Jackson and Gt. Northern Railroad Company.

The first annual report of this company, presented May 5, 1853, gives the following exhibit of its condition and prospects.

The charter of the company, approved 22d April, 1853, and granted by the legislature under the amended constitution of the state of Louisiana, fixes its capital at \$8,000,000, with exemption from taxation, perpetual existence, and other important and liberal privileges.

The available amount of city and county subscriptions reach \$3,250,000, besides a subscription on the part of the state of \$1,600,000, making the total subscribed stock \$4,850,000.

Ten squares of ground have been purchased for the site of the main depot in New Orleans. The price paid is a little less than \$59,000.

The Canton and Jackson, and the Canton, Aberdeen and Tusculuma railroads, have by acts of the legislature of the state of Mississippi been transferred to this company, which acts have received the concurrence of the stockholders of those roads.

The city subscription of \$2,000,000 by a real estate tax of one-half of one per cent per annum, for six years, has been anticipated by the directors, by an issue of \$1,800,000 of bonds, bearing interest at 8 per cent, the payment of which has been pledged upon the collection of the city subscription.

The charter, besides fixing the capital at \$8,000,000, authorizes the directors to borrow a like sum on mortgage of the property of the company, and to provide for converting bonds into stock in five years.

The president of the board recommends the issue of six million dollars of bonds, payable 30 years hence, with seven per cent interest, with the privilege to the holders of converting half the amounts into stock, under the limitations of the charter.—This plan is proposed to enable the company to construct their road to the Tennessee River.

The estimated annual income of \$3,000,000 upon the completion of the road, is confidently anticipated, and a belief is expressed that this estimate was rather under-rated.

The receipts on stock subscriptions up to March 31, 1853, have been.....\$198,260 25
Bonds issued.....143,548 33

.....\$341,808 58
Expenditures to same date.....254,424 33

Leaving balance on hand.....\$87,384 25
ROUTE.

The line, beginning at Clairborne street, crosses Bayou LaBranch, half a mile from Lake Pontchartrain, crosses the South Pass Manchac at foot of Lake Maurepas, on the 37th mile, and reaches the pine woods 46 miles from New Orleans.

It enters the State of Mississippi eighty-seven and one-third miles from New Orleans. The first thirteen miles of the Delta section offer facilities for the construction of a good railway. The

remaining thirty-three miles to the pine woods are of a more difficult character, the whole distance being subject to inundation from the Lake at high water. The plan of construction upon this part of the line has been fixed for "crib work," consisting of a bottom planking, upon which are laid long cross ties, eight feet apart; then longitudinal stringers, and finally, upon these, the usual cross ties of the superstructure. There will be 2,150 ft. of swamp piling on the sides of the Passes Manchac and Bayou LaBranche. The pile bridging will be 2,030 feet long over the South, and 790 ft. over the north pass Manchac. The estimated cost of the Louisiana division of road, $87\frac{1}{2}$ miles, is \$1,937,821, or \$23,254 73 per mtle.

Add ground for depots in New Orleans, and also cost of sidings, warehouses and workshops, &c., and the entire cost is \$2,187,821.

The location in Mississippi commences at the Louisiana State line. It extends north up the valley of the Tanchipaho river, and from thence it runs to the southern portion of the dividing ridge, between the waters of the Pearl river and the Mississippi. The line, as located, passes entirely along this ridge to a point on the ridge near the county line of Copiah and Hinds, upon the road from Gallatin to the city of Jackson. From hence it is but twenty miles to Jackson, making the distance from the State line to Jackson ninety-six miles. The line from New Orleans to Jackson is but $7\frac{1}{2}$ miles, or 5 per cent. longer than an air line. The estimate of cost from the State line to Jackson is \$2,461,908 68, or \$25,644 88 per mile. From Jackson to Canton, $23\frac{1}{2}$ miles, the work is under contract. The estimated cost is \$184,936, or \$20,635 per mile.

By these estimates the total distance from New Orleans to Canton, 207 miles, will cost \$5,134,666, or \$24,825 per mile.

Plattsburgh and Montreal Railroad.

This company have made a second mortgage of \$100,000 upon their road and fixtures, to the trustees of the first mortgage of \$200,000 for the purpose of enabling them to dispose of their bonds to purchase additional motive power and freight cars, and to erect another extensive freight house and other buildings at Plattsburgh. These bonds are made convertible into stock at any time before maturity, and are payable 15 years from January 1, 1853, with coupons attached, payable in the city of New York on the first days of January and July.

The recent exhibit of this company, made with reference to the sale of these bonds, presents the following facts:

POSITION OF LINE.

The road extends from Plattsburgh on Lake Champlain, to the Canada line at Mooers, a distance of twenty-three and one-sixth miles. At the Province line, this road unites with the Montreal and New York railroad to Caughnawaga, on the St. Lawrence, a distance of $29\frac{1}{4}$ miles. The whole line from Plattsburgh to Caughnawaga, $52\frac{1}{2}$ miles, is very favorable for high rates of speed, and for economical operation. The two roads are united under one management, contributing each to the general expense, and dividing the earnings in proportion to length of road.

The terminus on the St. Lawrence is opposite the head of Montreal Island, at Lachine, from

whence a railroad of eight miles has been in operation to Montreal for several years.

The New York end of the road is substantially constructed on a road bed of favorable soil, except at a few points which have been well ballasted. The rails are 57 lbs. to the yard, laid upon eight ties for each length. The fencing is mostly completed and the stations erected. Large buildings are already erected at Plattsburgh.

The equipment of the Plattsburgh and Montreal line consists of three locomotives, 4 passenger and 40 freight cars. The equipment of the Canada end of the road is of about the same amount. Great additions will be necessary in the spring for increased equipment to accommodate the increased business which will seek the road.

FINANCIAL.

Capital stock as by charter	\$500,000
Stock subscribed	201,432
Amount paid in	174,042
Funded debt	131,000
Floating debt	63,646

COST OF ROAD.

Entire cost, by Treasurer's statement	\$349,775 68
Being per mile, only	15,207 00

EARNINGS.

The lateness of the season at which the line was completed last year, being opened to Mooers only July 26th, and to Caughnawaga on the 20th September, and the incapacity of the line previous to the close of the travelling season, and the close of freight contracts upon opened lines, have made the earnings up to last February but \$7,975.

CONNECTIONS, PROSPECTS, &C.

This line connects at Caughnawaga with the Lachine road and Montreal by ferry, while a bridge at the same place has been pronounced feasible at a moderate cost. At Montreal the connection will be made with the Atlantic and St. Lawrence road. The Grand Trunk Railway of Canada, will soon be completed to Lachine. A company is also formed for a railroad extending from Lachine up the Ottawa region. The rivers St. Lawrence and Ottawa are also of themselves able to furnish more business than this road can accommodate.

The line connects South by steamboats to Whitehall, from whence there is a continuous railroad line to Troy, Albany and New York, and also to Saratoga and Schenectady, and thence over the New York Central Railroad to Buffalo. At Plattsburgh a ferry also connects with Burlington, and from thence by Vermont Central and Rutland Railroads to Boston and to the East.

In addition a company is now formed to construct a railroad from Plattsburgh to Whitehall, which will complete an uninterrupted railroad line from Montreal to New York, and very soon from Quebec to New York, the whole being almost upon an air line, and after crossing the province line, will lie wholly in New York.

We believe the above must prove a productive road from its local traffic, and from the importance of the connections, it now forms. It traverses an excellent section of country, possessing all the elements of a lucrative business. Prospectively, it must form a link in one of the most important lines of road in the whole country. A railroad upon the west shore of lake Champlain, the building of which is no longer problematical, will form a direct route from New York to Montreal, very much shorter than any other, either in operation

or in prospect. Between New York and the Canadas an immense trade and travel already exists, which is rapidly increasing. There is no work sustaining better relations to this business than the above.

Constitutionality of Municipal Subscriptions to Railroads.

The great railroad tax question was yesterday finally settled by the Supreme Court, in the case of the Police Jury of Algiers, use of the Opelousas railroad vs. the Executors of McDonogh, in which the constitutionality of the assessment came up for decision.

Chief Justice Slidell delivered the opinion of the Court. It was able and elaborate. He discussed and decided the question, in all its bearings, overlooking nothing of importance. On every point he showed that the law was, in itself, strictly constitutional, and that the proceedings had under it had been entirely legal. We do not deem it necessary to give an extended synopsis of the judgment of our tribunal of last resort. The mere announcement of the fact will be entirely sufficient.

Although we anticipated such a decision from the first—although we felt assured, all the time, that the railroad tax was absolutely constitutional and legal, and could not be broken—still we must confess to a very considerable degree of satisfaction at the decision—at the delivery of the final fiat, or, at least what amounts to it, that settles everything, and from which there is no appeal. An adverse decision would have been fraught with disastrous consequences—would have caused property to decline—would have been a drawback to the city, from which she would not have recovered in a decade. Everything depends upon the speedy construction of our two great railroads. The three millions and a half voted, was first wanted, for it could be soonest made available. Its loss would have embarrassed the roads and delayed operations; and embarrassment and delay, at this time, would be ruinous. Now, however, the coast is clear; the skies are undimmed by the smallest cloud; and the glorious promise of the future is so near that it is almost realized!—*N. O. Com. Bulletin.*

Jeffersonville Railroad; Important Arrangements.

We learn that the Lawrenceburgh and Jeffersonville railroad companies have just concluded an arrangement for the running of the Jeffersonville trains between Shelbyville and this city, on the Lawrenceburgh road, so that in about two months, the cars will be in direct connection between this city and Louisville.

The connection also between the cities of Terre Haute and Lafayette with Louisville, will thus be complete by railroads. The line of the Lawrenceburgh road to Shelbyville is perfectly straight and of easy grades, and as the Jeffersonville Company is proceeding to relay their line from Shelbyville to Edinburg with a heavy rail, the time of running between this city and Louisville under this arrangement, will be within a few minutes as short as it could be on an air line.

This direct communication between the Wabash and this city (with all our railroad connections), and the city of Louisville, without any delay or embarrassment, as to transhipment or low water, at so early a day, will be hailed, and ought to be celebrated, with pleasure.

Louisville is a very important market for our produce, and for purchasing groceries, and the opening of a direct connection thus afforded should call out a gathering of Kentuckians and Hoosiers, which would fill every train between the Wabash and the Falls. What do you say, all concerned? Let the Press say so, South and West, and it will be done. We say, Aye!!

We congratulate both companies on the arrangement, which, while it will add largely to the early business of the Lawrenceburgh company, it affords the Jeffersonville company a terminus and connections, which are all that is needed to bring it up to first class.—*Ind. State Journal.*

Applications for Territorial Rights and Machines must be made
to the Patentee.
G. ARTHUR GARDNER,
Trinity Buildings, Broadway,
New York.

W. G. ATKINSON,MINING ENGINEER, SURVEYOR AND DRAFTSMAN,
CUMBERLAND, MARYLAND,

Will attend to business in his Profession in the Coal Region and vicinity.

REFERENCES:

Jerry Coules, Esq., New York.
Col. Wm. Young, do.
Jas. W. McCulloch, Esq., U. S. Treas., Washington.
June 25, 1853.

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY 6 PER CENT FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW LANIER & Co.
No. 53 Wall st., June 18, 1852

THE LITTLE MIAMI RAILROAD COMPANY offer for sale ONE MILLION of their SIX PER CENT BONDS, with Coupons, Interest and Principal payable in New York, the former half-yearly, 1st of November and 1st of May.

They are in sums of \$1,000 each, payable 1st of May, 1853.

These Bonds are issued under express authority of the Legislature of the State of Ohio; are a part of the \$1,000,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station houses, &c., up to this date, \$2,708,109 19.

This Company own stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also in the Hillsborough Road, to the amount of \$11,716.

The receipts of the Road have been as follows:

For the year ending—

December 1, 1844.....	\$18,632 26
December 1, 1845.....	46,327 58
December 1, 1846.....	116,052 02
December 1, 1847.....	221,139 52
December 1, 1848.....	280,085 78
December 1, 1849.....	321,398 82
December 1, 1850.....	405,597 24
December 1, 1851.....	487,845 89
December 1, 1852.....	526,746 35
The receipts from Dec. 1 to May 1, (last 5 months).....	260,051 27
For the same time the year before.....	172,281 18

Increase in 5 months.....\$87,770 09

The position of this road being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia road, and runs in connection with the Cleveland and Columbus road, in fact they are now run as one line, greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of five per cent in 1851. In 1852 two cash dividends, each 10 per cent, were made.

The present surplus and reserved fund amounts to \$98,546 16.

The mortgage covers the entire line of road costing to date.....\$2,708,109 19
To be expended on double track, &c. 1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the city of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. Lanier, Esq., of this city, in trust for the

Bondholders, with ample power to take possession of the road, its real and personal estate, franchises &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. This mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the city of Cincinnati, and all other debts of the Company, except this loan of \$1,500,000.

SEALED PROPOSALS will be received for any sum not less than \$1,000, until Thursday, the 1st of September next, at 3 o'clock P. M.

Proposals will be addressed to WINSLOW, LANIER & Co., Agents of the Company, No 52 Wall st., New York, indorsed "Proposals for the Little Miami Railroad Bonds."

One-half the purchase money will be required to be paid at the time of accepting the bids, the residue in thirty and sixty days. Any purchaser will be at liberty to pay in full at once.

Interest on the Bonds will run from the day of payment.

The above \$1,000,000 will be sold absolutely and without reserve to the highest bidder.

For further information apply at our office.

WINSLOW, LANIER & Co.

CENTRAL RAILROAD CO.
OF NEW JERSEY.**\$950,000 of Stock.**

BY ORDER of the Board of Directors, the Finance Committee of the Central Railroad Co. of New Jersey will open Books of Subscription for the Unissued Stock of the Company, amounting to \$950,000, at the BANK of AMERICA, in the City of New York, on the 27th June instant, and keep the same open one week, unless the whole amount shall be sooner subscribed. This Stock comprises all that the Company are entitled to issue, and the money received is to be applied to the construction of a second track, improvements at Elizabethport, and other preparations imperatively demanded by the connections to be opened in another year. This mode of distribution has been adopted, in preference to a pro rata allotment, to enlarge the number of stockholders, and facilitate the acquisition of stock by those now desirous but unable to procure it.

The Ferry, 12 miles, from New York to Elizabethport, and the Railroad, 63 miles, from Elizabethport to Easton, Pa., have been operated through the entire distance for nearly a year, and both are fully equipped for the present business. Passengers preferring the land route can go from New York by the way of Newark to Elizabethtown and there intersect the trains.

From the terminus at Easton, the Lehigh Valley Railroad is in active course of construction to Manch Chunk, 46 miles, and will be opened in July, 1854, connecting New York, winter and summer, with the Lehigh coal fields, by a route of only 125 miles; the Lehigh road having only descending or level grades, and the Central Road no grade over 21 feet to the mile. At Tamaqua the Lehigh road connects with the Catawissa road, now constructing, and to be completed in May, 1854. This connects with the Sunbury and Erie road, now under contract and to be completed in two years. Thus the year 1855 will see a new route of favorable grades and curves only 462 miles in length, opening from New York to Erie on Lake Erie.

A direct and favorable connection with Pittsburgh and the Pennsylvania Central Railroad, can also be made through existing roads and charters.

From New Hampton, a point on the Central Railroad of New Jersey, 59 miles from New York, the Warren Branch road in connection with the Delaware, Lackawanna and Western road and the Oswego, Syracuse and Binghamton road, will bring the Lackawanna coal region within 133 miles of New York, with grades of only 21 feet to the mile (except for a few miles in leaving the coal basin at Scranton), and give an unbroken line of six feet

gauge, 310 miles in length, from New York to Oswego on Lake Ontario. Of this distance, 156 miles are finished and in operation; 80 miles are under construction and to be opened this Fall; the remaining 74 miles are located, contracted, and to be completed in the Fall of 1854.

It may be interesting to state that the Central Railroad of New Jersey, from its local business, without any of the anticipated connections, has been enabled to pay seven per cent on the cost of the several sections as they have been opened, and that the entire road, with its present local business, is now paying dividends at that rate.

At the close of the fiscal year, April 1, 1853, the financial condition of the company was as follows:

Capital stock.....	\$1,034,700 00
Mortgage bonds, 7 per cent.....	1,500,000 00
Other bonds, 6 per cent.....	113,000 00
Bills payable and balance due.....	249,022 04
Balance of earnings over dividend..	1,006 85

\$2,897,728 89

This was represented by the following property:

Railroad, average \$37,800 per mile.....	\$2,379,886 64
Ferry interest and boats.....	140,900 00
Station houses, shops, etc.....	78,000 00
Land at Elizabethport.....	55,016 77
Equipment.....	218,504 64
Materials, wood, coal, cash, etc....	25,420 84

\$2,897,728 89

Full statements of the condition of the company can be obtained at the office, 5 Wall street, where those desirous to examine the road with reference to investment can procure tickets for the trip.

The Finance Committee call the attention of capitalists with the greatest confidence to the present position and future prospects of the road, believing that no road in this vicinity presents greater inducements for investment. They reserve the right to reject or reduce subscriptions, if the whole amount subscribed should exceed the amount to be issued.

Ten per cent will be required to be paid on allotment of the stock, and the remainder in instalments of ten per cent every sixty days on notice, as required. Interest at the rate of seven per cent will be allowed till the instalments have all been called. If the dividends on the full stock are at a higher rate, the difference will be made good to the scrip Stockholders when their stock is filled up.

Dated New York, June 17, 1853.

JOHN T. JOHNSTON,
JOHN C. GREEN,
WILLIAM E. DODGE,
WILLIAM S. WETMORE, } Finance Committee.

To Contractors.

OFFICE JAMES RIVER AND KANAWHA CO., }
Richmond, June 18, 1853. }

SEALED proposals will be received by the undersigned, at Buchanan, in the county of Botetourt, Virginia, until 5 o'clock P. M. on the first day of August next, for the Locks, Dams, Culverts and Sections of the Canal, from Buchanan to Craig's Creek.

Payments will be made in current bank notes. Besides the usual reservation of twenty per cent on the monthly estimates, the contractors will be required to give ample security, satisfactory to the Board of Directors, for the completion of the work at the time and in the manner specified in the contracts.

Plans of the above works will be exhibited by Edward Lorraine, Assistant Engineer at Buchanan, and specifications will be delivered by him, and also at the Company's office in Richmond, on and after the 15th day of July.

Time will be taken for the consideration of the bids until the 5th day of August, when, if satisfactory, the several jobs above advertised will be let.

WALTER GWYNN,
Chief Engineer J. R. and K. Co.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
SECOND QUARTO SERIES, VOL. IX., No 28.] SATURDAY, JULY 9, 1853. [WHOLE No. 899 VOL. XXVI.

The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH GOLDBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, July 9, 1853.

Wills' Valley Railroad.

A project is engaging the attention of the people of Northern Alabama, called the Wills' Valley railroad, which is one of the more important works in the Southern States, though its object and direction is not very well expressed by its title. Its design is to carry forward the Alabama and Tennessee railroad, The Great Western line extending from the extreme north-east through Central and Western Virginia, and Eastern Tennessee to Chattanooga, the Wills' Valley road will prolong this great line in the direction of the Gulf, and as it unites with the Alabama and Tennessee road at or near Gadsden, on the Coosa River, it will complete the great chain of railroad above described to the navigable waters of the Alabama River, through this, with the Gulf of Mexico, which will be its ultimate terminus.

The proposed road will leave the Nashville and Chattanooga road at a point $9\frac{1}{2}$ miles distant from Chattanooga. Soon after leaving this road, it strikes into the Valley of Wills' Creek, which pursues a very direct course, a little south of east to its junction with Coosa, the leading tributary of the Alabama. The entire length of the road as surveyed will be $82\frac{1}{4}$ miles. The road is a very favorable one, the estimated cost of graduation being only \$3393, per mile the iron is estimated at \$463,836, and that of the whole road, with a small equipment, 1,094,212. The route has been carefully surveyed and active measures are in progress to raise the necessary means for its construction, which will doubtless be successful. The road is too important not to command the necessary aid abroad should such aid become necessary. It is an indispensable work in the great line all portions of which with the exception of the above, have been for some time past in active progress. It will prove a very important ally to the Alabama and Tennessee road, in securing to it a new connection with the Tennessee River, and with the roads concentrating at Chattanooga by the shortest practicable route.

We copy the following from the late report of the Chief Engineer of the road James H. Oliver, Esq., showing its geographical position.

The above road is most happily situated, being a link in the continuous chain of railroads, leading direct from Boston by way of New York City, Philadelphia, Baltimore, Washington, Lynchburg, Abingdon, Knoxville and Chattanooga, (all of which are finished or under vigorous construction.) Hence by way of Wills' Valley Cahaba Valley, Selma, and from thence to Mobile and New Orleans. At present there is a connection from Selma to Mobile and New Orleans by steam boats, which will soon be replaced by railroads, the Wills' Valley Road completing the connection to Selma.

The entire route passing through the points above named, differs very little from an air line, thus forever avoiding the possibility of competition, this added to the fact, that it traverses every parallel of latitude, and necessarily the channel through which must pass a constant interchange of commodities, for on the same parallel of latitude there can be no interchange of trade, the productions being of a similar character, but when a road passes directly through every parallel of latitude connecting all of the most important commercial points, as is the case with your road, it must

necessarily be a great thoroughfare of trade and travel, and can be viewed in no other light than a great national enterprise involving in itself future considerations of no unimportant character, when this government may be necessitated to resist the encroachments of another foreign power, and add another victory of New Orleans to the annals of its history.

The Wills' Valley Railroad is therefore a link in the great chain of railways which possesses every requisite necessary to make the most perfect system of railways which ever could have been devised, recapitulated as follows:

1st, Traversing every parallel of latitude, and of necessity involving a continual interchange of commodities, as well as an extensive travel.

2d, Running direct, and therefore the shortest possible route, forever avoiding the possibility of competition.

3d, Connecting all of the most important commercial points in every parallel of latitude, viz: Boston, New York City, Philadelphia and Baltimore, with Mobile and New Orleans and other important Southern cities.

4th, Cheapness of first cost and of the subsequent repairs, owing to its light grading, and having few bridges of any character. And we might add its natural advantages as a post route, and its influence on our military operations, should an occasion ever present itself, and which probably may occur at some future period.

By a mere glance at the map of the U. States the most casual observer will at once see the correctness of the foregoing statement without entering into a precise estimate of the comparative distances of various routes between the important commercial points before referred to, it is enough to say, that as a straight line is the shortest possible distance between two points, so certain is your road a link in the shortest line of communication between those great commercial cities.

It is worthy of remark in connection with the geographical position of your road, that it forms a part of the identical route recommended about 18 years ago, under a resolution from congress to report on the shortest and best route from Washington city to New Orleans, and which has lately been brought into notice by some of the leading Journals of New Orleans.

I have presented your claims for the Wills' Valley Railroad as to its geographical position and I challenge the projection of a road which when completed can interest so vitally as many great commercial cities, and at the same time possess every other qualification to render it a link in the most perfect system of railroads. It will be seen that by this road it is one hundred and ninety miles nearer from New Orleans to Washington than by the New Orleans and Nashville road, and it will be further seen that the distance from Mobile

to Washington by this road, is shorter by several hundred miles than by the Montgomery route. We invite a close examination of the map in connection with this subject, and by tracing a line through those important points, it will be seen that in point of directness it very nearly approximates an air line, which will discourage all thoughts of competition.

From the preceding statements which are apparent from a glance at the map, it will only be necessary to call the attention of the various cities and railroad companies to the interest which they have in the completion of the Wills' Valley railroad to secure their most hearty cooperation.

We learn that the construction of this road is to be commenced at once. It is a work which will be regarded as indispensable, so soon as the Alabama and Tennessee road shall be completed. In addition to a very large prospective *through* business it will traverse an excellent section of southern country capable of yielding a lucrative local business. It will be likely to be viewed with favor by capitalists, and we have no doubt its securities will find a ready sale, so soon as a sufficient amount shall be subscribed and expended to render their safety unquestioned.

Plate Driving Wheels.

The application of the spoke form to wooden wheels was a necessity of the material, for if we reject the primitive wooden roller, there is perhaps no other form which would answer any tolerable conditions of strength and lightness. The preservation of this form in railway wheels, where made of cast iron, was made from the fact that a no more suitable form had occurred to engineers. But the practical talent of our railroad machinists suggested the plate and the double plate forms as best adapted to the material and the service imposed upon it. Bush & Lobdell long ago commenced the manufacture of plate wheels, and a large number of foundries in other parts of the country are now applying the same principle of form under different modifications. The advantages of the plate form as compared with the spoke form will be shown in this article to be partly in strength, and in a minimum of atmospheric resistance. The plate form secures also a much more uniform chill, as the same thickness of metal is poured around the entire circumference, so that cooling goes on uniformly after pouring the metal. This difficulty of an uneven chill of the spoke wheel has led to putting an extra amount of iron in the rims, so as to equalize the cooling, and also to cool nearly in the same time as the hub, so as to avoid straining the rim. The spoke wheel is also much more difficult to be kept clean from the combined disadvantages of its form, both of creating more flying dust and retaining it between the spokes. It fans the track, and holds half the dust it creates. In March, 1843, some experiments were made at the Boston and Worcester railroad shops, to test the comparative strength of the plate wheel and of the different spoke wheels. Many founders, machinists and railroad men were present. The test consisted in raising an iron axle, weighing 131 lbs., to different heights and striking the wheel fair on the tread. The following shows the resistance of Bush and Lobdell's plate wheel, 33 inches diameter, weighing 496 lbs., and of the strongest spoke wheel tried, which was that of the South Boston Iron Co's. Their 33 inch spoke wheel weighed 523 lbs.; and from its weight of 27 lbs. more than one of the same diameter and

form, cast by Ross Winans, their wheel stood a slightly heavier blow than Winan's. The spoke wheels from these two makers stood the most severe tests of any others tested.

Plate Wheel, 33 inches diameter, 496 lbs.

Received nine blows at ten feet high each without any effect.

Strongest Spoke Wheel, 33 inches diameter, 523 lbs.

1st blow at six feet high, between spokes, cracked the rim.

2nd blow at six feet, over spoke, no effect.

3rd blow, at ten feet, over spoke, cracked the rim.

4th blow, at seven feet, between spokes, no effect.

5th blow, at eight feet, between spokes, broke the wheel.

As we have said this test of the spoke wheel was the most severe of any applied to any other before breaking, there being eleven spoke wheels tried, it is easy to perceive the extraordinary amount of strength afforded by the double plate form.

Upon the resistance of plate wheels to the air, the *Railroad Journal* of August 4, 1849, page 485, contains an account of some experiments made with wheels in England for the purpose of ascertaining this resistance.

A wheel of the plate form, 3 feet in diameter, was secured upon a shaft, revolving in bearings, and placed over the mouth of an old mine pit of 279 feet deep. Upon a drum of 27½ inches diameter, forming a part of the axle, a rope was coiled, and a weight, of 56 lbs., attached so that on reaching the bottom of the pit it should detach the rope from the drum. After the weight had descended and the rope was detached, the wheel made 172 revolutions. The revolutions of two spoke wheels tested under precisely the same circumstances, were respectively 116 and 126. The spoke wheel revolved 46 seconds after the rope was detached, the disc wheel 53 seconds; showing a less resistance of the plate wheel of 15 per cent. But as these experiments were made upon a stationary axle, and as the speed of the spokes is different upon a wheel *rolling* the same rate and number of revolutions upon a track, the outer ends of the spokes moving 1¼ and the inner ends 3 times faster, and as the resistance increases as the square of the velocity, so it was considered true after finding the velocities upon a diagram for each point in the spoke, and of each point of the revolution, that the average of the squares of the speed were three times greater in the case of a rolling wheel, than with a wheel revolving upon a stationary axle, so that the comparative excess of resistance of the spoke wheel would be 50 per cent. greater than with the plate wheel.

It is from these and other practical considerations that the double plate form appears the best adapted for engine drivers. The greater strength of a crank hub cast within a plate driver and the ready means for the insertion of counter-balances by casting the required amount of metal at any point, indicate the plate form as the best every way. The open spoke driver shows the coarsest and least clean of any parts of the engine. After the eye has become accustomed to the plate wheel it will be regarded as the most elegant and appropriate of any which can be applied.

Some makers of chilled wheels already make plate drivers with chilled rims, but the main thing wanted is a center to which a wrought or a chilled tire can be secured at pleasure.

The application of the plate wheel for cars has become general throughout the country. On the Reading road the spoke wheel is retained from the facility it gives for "trigging" the wheels on the inclines at the mines. But the penalty of an uneven tread is soon felt, as the destruction of the chill, caused by sliding, leaves the wheel to wear in spots between every spoke, so that the periphery of the wheel approximates to a polygon with as many sides as there are spokes.

If the necessity for wrought iron wheels is felt for the cars of the "lightning trains," now run by some roads, we believe a feasible and a superior plate wheel, with removable tire, may be manufactured entirely by welding, so as to avoid the defective construction inflicted by riveting, or by the use of cast iron hubs, or other imperfect attempts at a wrought iron wheel. The expense of a good wrought wheel with a slip tire, would be no greater for a series of years than the present expense of chilled car wheels. A wrought wheel with tire would cost \$60, and the tire would require to be renewed every two years, at an expense of \$20 for each renewal. The present chilled wheels cost \$15 each, and must be renewed every year. So that for ten years ten chilled wheels at \$150, would be required on each end of each axle. The wrought wheel would cost \$60 and would require for the same time besides the first tires, four additional tires, costing \$80, or \$140, in all. The expense of turning and renewing tires would be perhaps something greater than for renewing chilled wheels, but at any rate the difference in expense would be trifling. There is no reason why the wheel center will not endure twenty or thirty years. The only mechanical defect in the renewal of ordinary wheels is the waste of three fourths of perfectly sound material. Your master mechanic will say that there is danger of bursting a tire. But the absurd plan of stretching a tire bar half an inch in length in confining it to a wheel is no criterion of the merits of the application of a tire. Carry the same principle to every bolt, every joint,—strain the metal every-where where the greatest strength should be preserved to resist strain, and sufficient breakages will occur to relieve the shrunk tire from any special charge of fatality.

New Albany and Salem Railroad.

The New Albany, Salem and Michigan City railroad, says the *Indiana Sentinel*, is now being pushed forward with great energy. The track layers are continuing their operations north of Bedford, and will reach Gosport during the present season. The road is completed from Michigan City to the north line of White County, about 30 miles north of Lafayette. Another company of track layers have commenced at Crawfordsville, and will reach Greencastle during the present season. This will leave only the connecting link of twenty-five miles between Gosport and Greencastle to be completed. We may, therefore, safely calculate on the completion of this road by an early day next Spring. When completed, this will be the longest continuous line of railroad in the State, being something over 200 miles in length.

Anthracite as a Fuel for Locomotives.

In 1849, Geo. W. Whistler, Jr., Esq., made a report to the President of the Reading railroad to show the relative economy of coal to wood for locomotive fuel. From his experiments with the coal burning and wood burning engines upon that road, he deduced as the general ratio, one ton of anthracite to 18-10th cords of wood, burning the latter in the Reading built engines. This remains as the present relative efficiency of the two kinds of fuel on that road.

The principal item in the excess of the cost of repairs of the coal engines is caused by the destructive effects of the coal fire upon the furnace. Iron often proves unsound, and in the case of the engines on the Reading road was abandoned for the use of copper, but the mechanical action of the particles of coal projected against the copper sheets soon cut them out, and rendered necessary a return to the use of iron, which was selected with the greatest care.

The essential peculiarities of the Baltimore engines, enabling them to burn coal, were an extension of the grate, and of the area of cross section of tube openings, and the variable exhaust pipe.

In comparing the expense of burning anthracite with wood, the expense of renewing furnaces had to be taken into account as forming the chief difference in the cost of repairs.

The expense for renewing fire box was stated as \$486, but deducting \$108 worth of old copper saved, made the actual outlay \$378, which expense it appeared would be incurred every fourteen months, making an expense of \$324 per year. Deducting \$75 as the depreciation of a wood burning furnace in the same time, there is left \$249 per annum as the annual excess of repairs of the coal furnace. The renewal of furnace required 7 weeks detention of the engine.

The extra cost per year, including all repairs of furnace, tubes, renewal of grates, etc., for the coal engine was stated as \$456 more than for the wood burning engines.

There is reason to believe that these extra expenses for repairs are now considerably lessened. The furnaces of the Reading built engines are now made wholly of iron 5-16 inch thick. The following facts furnished by Mr. Nicolls, superintendent of the Reading road will give some information upon the practical duration and maintenance of the coal burning engines.

"The side sheets of a locomotive furnace burning coal, will last from twelve to eighteen months and will cost \$120 to renew. The other parts of the furnace last from 5 to 7 years.

"The iron tubes last some three years without piecing.

"The grate bars weigh 1530 lbs.—per set—and last 3 to 6 months."

Mr. Whistler's report contained some very useful suggestions upon the manner of working the steam, and regulating the draught for coal engines, and as these suggestions will apply with the same relevancy to the present plan and operation of engine, it is well to present them here.

"The use of the cut-off on coal engines has a more important bearing on the economy of fuel than the same arrangement upon a wood burning engine, and for these reasons: when the coal engines are worked upon the full stroke, the exhaust is very strong, and the draught through the fire

proportionally increased; this soon produces an exceedingly hot fire, and every fresh supply of coals thrown upon it at once crumbles and compacts upon the grate, offering an increased resistance to the passage of air through its mass, while less perfect combustion results, and much of the finer coal upon the surface, is carried through the tubes and wasted.

This "cutting-up" of the fire, as it is termed, will take place when necessity requires that the engine should be worked upon the full stroke, and for this reason the cut-off becomes indispensable to a good coal burning engine.

"The first effect produced by a change from the full stroke to the cut-off is that of lessening the draught through the fire, by the moderated exhaust in the stack; evaporation then goes on more slowly in the boiler, and would reduce the pressure of steam necessary to working on the cut-off, were there no means of again increasing the intensity of the draught. The variable exhaust however, furnishes this with facility, and evaporation again becomes rapid, though with much less disturbance to the fire. All these considerations were well understood at the time the Baltimore coal engines were being constructed and the necessity for cylinders even of a greater diameter than 16½ inches, in anticipation of an adhesion of only twenty-three tons, was urged by the builder, but not allowed by the engineer of the Reading railroad. This restriction together with the increased weight of the engine, beyond that anticipated, has impaired the beneficial effects of the cut-off on the Baltimore coal engines, to such an extent, that economy in the consumption of steam and more quiet combustion of coal is almost counteracted by the rapid evaporation required by the small cylinders. I would not be understood by this to controvert the received truth, that the same quantities of heat will evaporate equal quantities of water, under all pressures; for so far as this question alone is considered, mere size of cylinders, could have no effect in increasing or diminishing the quantity of fuel consumed; but for the practical difficulties just stated, and the fact that for higher pressures, higher temperatures are required, and therefore radiation from all parts of the boiler must take place to a greater extent a larger expenditure of fuel will result. To this loss, there must also be added, that caused by leaking, which is in direct proportion to the pressure, and when it is required to carry steam very high, self preservation teaches men to keep the boiler blowing off all of the time, as the only surety that steam is not made too fast.

"When the Baltimore engines are worked on the full stroke, they make an abundance of steam with seven inches area of blast-pipe, though the effect upon the fire is to "cut it up," as explained; but when working on the cut-off, the area of blast-pipe requires to be so reduced that much of the ill effects on the full stroke are felt, and the resistance due to the blast pipe is also greatly increased, for the area may be reduced to 2¼ inches. No better proof of the inadequacy of the cut-off alone to insure economy with the present size of cylinders, can be offered than the fact, that except where attention has been paid by the engineman to the variable exhaust, the economy due to the cut off has not resulted from its use. * * *

"It is quite practicable to substitute cylinders

18 inches in diameter, on the Baltimore coal engines, in place of the 16½ inches, and then the consumption of coal to wood, in all probability, would bear that proportion which experience proves attainable, viz: one ton of anthracite coal to two cords of wood."

Since the report of Mr. Whistler, the cylinders of the Reading and of the Baltimore built engines have been enlarged to 18 and to 19 inches in diameter. The present class of engines building at the Reading Railroad company's shops are upon Millholland's plan of boiler. His patent, granted Feb. 17th 1852, claims the combination of a blank grate (or grate having no openings for air at the front and sides), with a combustion chamber, or gas chamber, which is inserted like a smoke-box in the center of the length of the boiler. This gas chamber is secured in its place both by the support afforded by the tubes, and by stay bolts, and is surrounded by water. The tubes extending from the fire-box to this chamber, are, in the Reading engines, about 4½ feet long, and 3 inches in diameter; the tubes extending from this chamber to the smoke-box are 8 feet long and 2 inches in diameter. An opening, surrounded by a water space, is made at the bottom of the gas chamber and is covered by a door when the engine is at work. Some of the stays in this chamber are hollow to admit a supply of air, besides that entering through the grate.

We are not informed as to the economy attending the use of this arrangement. The only point upon which its value rests is if the combustion of the coal and gases is but partially completed in the furnace, under ordinary draughts. The operation of this arrangement should prove the nature and extent of combustion with common boilers. The gas chamber must possess the disadvantage of breaking up the draught midway of the boiler, and if combustion is already, perfect in the furnace, (which is believed by many experienced mechanical engineers to be the case), then the air entering the gas chamber through the stays must impair the draught or reduce the necessary blast-area. There are four tube sheets instead of two, although from the tubes being so short there is less liability of their leaking.

The general plan of these engines is as follows. Outside connected, horizontal cylinders, 18 inches in diameter, 20 inch stroke; six drivers having chilled rims 46 inches diameter, and a pair of smaller leading wheels under front end of engine. The furnace is extended so as to have all the available surface. There is about 25 square feet of grate area. The tubes are as described above, the length of gas chamber being two feet. 1000 square feet of tube and furnace heating surface. The furnace grates are not made so as to be moveable when upon the road. The feed water is injected around the passage leading up to the gas chamber. The water space around the passage, being below the action of the heating surface, collects and retains all of the sediment received into the boiler. Boiler 48 inches diameter.

There are two steam domes, with pipes leading from each to a double poppet, equilibrium throttle valve. The valve motion is that of a stationary box link, of cast iron. The variable exhaust is obtained by a cone placed in the exhausting nozzle, and worked by a handle on the foot board. The exhaust nozzle is near the bottom of smoke-

box, and projects the steam into a vertical "draught pipe" extending upwards to above the base of the chimney, so that the effect of the exhaust is exerted chiefly at the bottom of the smoke-box, and is partly equalized by the action of a very high column of steam, reaching to the chimney top.

The frames of the engines are extremely heavy, being solid, $4\frac{1}{2}$ inches wide on top, and 4 inches deep. They extend only from the forward side of the fire-box to the forward end of engine. They have the pedestals and braces welded on, and each side, of about 17 feet in length, weighs 1650 lbs, or 3300 lbs, together.

The draw iron is very heavy and reaches from the tender, under the furnace, and to a girt connecting the frames, beneath the middle of the length of the boiler; so that the engine works around its own center on a curve, and is unconfined at each end.

The spark arresters for these engines are peculiar, and deserve a description. The straight chimney has a flaring top, over which is secured a flat topped conical cap, or truncated cone, the sides of which are of best plate iron, and the top grated with bars $\frac{1}{8}$ inch thick, laid edgewise, and $\frac{1}{8}$ inch apart. The inclined sides of the cap are perforated with rectangular openings of $\frac{3}{4}$ inch by $\frac{3}{8}$ inch, in such a manner that the iron is cut through on but three sides of the opening, leaving the chip to adhere by one of its longest edges, and to be bent straight down, so as to allow the smoke to rise vertically. The sparks are projected against the back sides of these little pieces and are, in consequence, thrown down around the pipe. As many of these openings are cut through the cap as can be made without cutting away too much of the strength of the iron, which latter has to be of the best quality.

By the last report of the Reading road twenty-six of these engines were burning coal successfully and economically. Mr. Millholland is building ten additional burthen engines this year, all of which will be upon his plan of boiler.

Northern N. Y. Railroad.

The Boston Courier states that at a meeting of the board of directors of the Northern (New York) railroad corporation, held in that city yesterday, the following named gentlemen resigned: Messrs. T. P. Chandler, B. G. Baldwin, Benjamin Seaver, Isaac Spalding and Farnham Plummer. And Messrs. George N. Seymour, Henry Van Rensselaer, Chas. J. Hendee, John A. Conant and Edw'd Crane were elected to fill the vacancies.

The board, as now constituted, is composed of the following gentlemen: Messrs. W. Raymond Lee, Henry M. Holbrook, J. C. Rogers, Isaac Livermore, Edward Craue and C. J. Hendee of Boston; John A. Conant, of Vermont; J. H. Titus, J. L. Russell, Hiram Horton, Sydney Lawrence, Geo. N. Seymour and Henry Van Rensselaer, of New York.

W. Raymond Lee was elected President.

It is understood that this construction of the board was the result of entirely harmonious action on the part of all parties in interest, and that arrangements have been made to settle, in a satisfactory manner, many questions which have heretofore been a cause of trouble and embarrassment in the affairs of this corporation.

Journal of Railroad Law.

COLE COUNTY CIRCUIT COURT (MISSOURI.)

Jefferson, vs Price.—This is a cause in which plaintiff lately applied to Judge Miller of the circuit court for an injunction, to restrain the contractor of the Cole county section of the Pacific railroad from throwing upon the land of the former waste from the tunnel now being cut through the Morean Hill. In addition to the injunction prayed for, the plaintiff claims damages for the alleged trespass, consisting in the covering his land with the earth taken from the hill. Two days were occupied in the argument of the application for an injunction. It was admitted that the railroad company had the right to take a tract 100 feet wide, for the purposes of their road, but denied that they had the right to deposit earth on the lands adjoining.

The defendants answered that the charter of the company authorized them to take tracts of such greater width as might be necessary for the road in case of excavations. In the place in question, the engineer requires a tract 800 feet long and 500 feet wide. He had ordered the land in question to be staked out, that proceedings should be instituted for its due appropriation by the Co. according to law. The width of the land necessary for the road varied with the nature of the ground. On a level 100 feet are all that is required. But a greater width is necessary where there is occasion for heavy cutting, filling and tunneling.

It was next insisted by the plaintiff that by the constitution of Missouri, private property could not be taken without making due compensation to its owner.

The defendant's counsel replied that their proceedings in regard to the plaintiff's land were merely incipient. Taking another's land, implied an absolute appropriation thereof,—such as had not occurred in the present case. The plaintiff's title to his land was not affected by what had been done; and the defendants were entitled to a reasonable time for the purpose of having the land duly appraised and paid for. Should the railroad company be guilty of any unreasonable delay, in respect to these matters they might justly be deemed trespassers from the beginning, and held accountable as such for damages. The company had done what they could to have the land legally condemned, but their line was not yet fully located, and as to such portions as had been located, the engineers were fully employed.

It was also suggested—with doubtful logic—that railroad companies employed in works of public utility are possessed of extraordinary privileges.

The court refused the injunction.

It will be observed that this decision does not affect the plaintiff's claim for damages which is still undecided.

RAILROADS IN CITIES.

While Judges and lawyers have been for several weeks gravely inquiring whether the city railroads are nuisances, the people have promptly decided that point for themselves by forsaking, when they can, the omnibus for the railroad and the Third Avenue cars have commenced running, while Judge Duer is deliberating and probably riding to and from the City Hall every day in vehicles whose legality is doubted.

Confidence is also shaken in all the pending injunctions against the city railroads, by the decision of Judge Edmonds on Saturday, upon dissolving the provisional injunction in the case of the Mayor &c., and Russ and Reed. By the annexed extract it will be seen, that the Judge holds that all injunctions of the nature in question must be issued upon the application of the Attorney General.

"But this aspect of case controls my decision. In the year 1830, because Chancellor Kent in the case of the *Attorney General vs. The Utica Insurance Company*, 2 John, Chancery reports, 377, refused to allow the application of the powerful corrective of an injunction to a corporation under the circumstances of that case, the Legislature passed a law, a section of which reads. "Upon a civil action being commenced by the Attorney General in the Supreme Court, it shall have power to restrain by injunction any corporation from assuming or exercising any franchise, liberty or privilege, or transacting any business not allowed in the charter of such corporation, and in the same manner restraining any individuals from exercising corporate rights and not granted to them by any law of the State."

This was a wise law which has been overlooked by my brethren. It gives me ample remedy, which it is only necessary to seek in the manner prescribed within it.

In respect to the Broadway rail case, *Palmer and Davis against Sharp and others*, its present aspect may be seen from the following statement of the points relied on by the respective Counsel of the parties.

It was urged by Mr. Field, for the grantees.

1st. That the plaintiffs failed in establishing their title in Broadway. The weight of evidence placed in the corporation. There was nothing to sustain the title but the presumption from the existence of the highway. The origin of that presumption is inapplicable to our circumstances, as is shown in the decisions of the courts of this state upon this point.—Broadway, below Vesey street, was opened by the Dutch. It passed through the land of the corporation from Vesey to Duane street. The land from Duane to Amity belonged to the sovereign; from Amity street upwards.—the fee of the land was by legislative act vested in the city.

2nd. There is a preponderance of testimony showing that the road would be advantageous to the city, for the following reasons.

1st. Relief to Broadway, which is now overcrowded.

2d. No racing.

3d. Easier riding.

4th. Quicker riding.

5th. Cheaper riding.

Besides, rails are no injury if laid flush with the pavement. The cars are no injury, because (1) fewer in number, (2) occupying less space, than stages (3) moving in a right line.

3. It is objected that the resolution contains a contract for cleaning the streets, and such a contract can only be made by the Street Department. The answer here is, that the provision applies only to contracts, to be paid for out of the public treasury, not to privileges granted on condition of doing certain things connected with the privilege, e. g. to pave or make sidewalks, or set telegraph poles, or dig sewers.

4th. There is no evidence of corruption on the part of the Common Council.

Judge Duer, during Mr. Field's argument rather in auspiciously, as regards his prospect of success in the Superior Court, desired him to discuss these two points of law, viz:

1st. Whether the corporation can make a grant which operates as a *monopoly* of the use of the street.

2d. Whether any municipal legislature can make a *contract* to hold for ten years, which shall deprive a *future* municipal legislature of its legislative powers over the subject matter of such contract.

Upon the first point suggested, Mr. Field contended that the grant was no monopoly; that he had been introducing evidence for several days to prove it not to be such; that when the uses of the grant interfered with the rights of others, the court could interfere by injunction.

Judge replied—That this point turned upon a sound judicial construction of the resolution creating the grant.

Upon the second point, Mr. Field denied the grant to be a *contract*, affirming that the grant was repealable at any subsequent time; that it was not void *ab initio*, but voidable at the action of the corporation, citing the Brick Church case as an instance of the repeal of an ordinance, vesting certain privileges of burial; and that if the corporation could make no manner of engagement, its corporate existence would be useless.

The judge replied—That where charters and ordinances had been amended or repealed, a reservation was contained in them which sanctioned such avoidance.

In his closing argument for the plaintiffs, Mr. Wood prefaced by stating that he adopted the negative of the points suggested by the judge, and would rely upon them in the courts above, if necessary.

He then proceeded to urge—

1st. That the grant interfered illegally with Broadway, if the projected railroad encroach upon the rights of adjacent owners, or interferes with the mode of use which the public make of Broadway, the two classes of plaintiffs mentioned in the complaint are *injured*, and for this injury the remedy sought is appropriate.

What is Broadway? An ancient highway; and this fact is to be judicially taken notice of. *Prima facie* adjacent owners have the fee in the street. Case of John and Cherry streets, 19 Wend. 659; 11 Barbour 452. Deeds granting land bordering on roads and streets have been liberally construed. Upon the abandonment of a highway there is a *reverter* to the adjacent proprietors.

2nd. It has been contended that Dongan's charter of 1686 grants the streets to the city of New York. This is true in one sense. But the grant of a street is not a grant of the fee. Chancellor Kent, in his edition of the Charters of New York, in a note to page 16, writes, "a grant was likewise made of all the existing streets, lanes, highways, and alleys, within the city for the use of the corporation and inhabitants; and with power to the corporation to establish, make, lay out, amend and repair all streets, highways, alleys, lanes and water courses, ferries and bridges, necessary and convenient for the inhabitants." The chancellor's language clearly expresses that he considered the mere use alone to be vested in the city.

For the sake of the argument suppose this a

mistaken view. Still, though the fee be in the public, the adjacent owners have a right to use the street for certain purposes. A mandamus would be granted, to command the authorities to allow the construction of a vault. 1 Ser. and Rawle, 219.

The public also have rights which cannot be taken away. The authorities may prescribe the manner of use. The public travel upon Broadway cannot be obstructed.

3d. The resolution authorising the Broadway railroad is a mere grant.

The Common Council passed the resolution and the grantees accepted the offer which it embodied. The Common Council may be called the legislature of the city. But there are two kinds of legislation. 1st. Legislation proper. 2d. A grant clothed in legislative garment for convenience. The present act belongs to the second class of legislation. This subject was discussed in two cases, which I will give the court at another stage of this argument.

The attention of the court was called to a debate in Parliament, between earl of Chatham and Lord Mansfield. The latter contended that Parliament could pass any law, and therefore one taxing America. On the other hand, the Earl of Chatham thought that a certain class of laws could not be passed, without a representation of the persons upon whom it was to act. Which was right, very few persons in this country, at least, will now doubt.

The resolution before the court granted both a franchise and property.

The rails of the road will take more than twelve feet of the 'cream' of the street, besides what may be taken by the projection of the cars over the rails. This grant conveys an easement; but one which can, *ex necessitate*, be enjoyed by the grantees alone. The right to run cars and take toll is a franchise.

The grant is *administrative*, and requires the consent of the Mayor.

The Municipal legislature was not sovereign, but subject to judicial control, especially when granting a franchise.

The legislature of a state is not subject to judicial control. But this is because of the sovereignty of that body, from the nature of the case, *proprio dignitate*. It is better to submit to the errors of the state legislature than to subject it to such control. The courts however, control legislatures in this country, *sub modo*, when they have passed unconstitutional laws, by pronouncing such laws void. Such is not a direct judicial interposition, but it is exercisable only when a question of property or liberty is brought before the judiciary. Neither a writ of prohibition, mandamus, or injunction would be issued against the legislature.

But the petty Common Council partakes of none of the qualifications of a sovereign legislature. The counsel had many decisions where the writs of mandamus, prohibition, and quo warranto had been issued, but their very numbers made him conclude that it was not respectful to submit them.

Christopher, vs. the Mayor and others, 2 Barbour, and Lawrence, vs. the Mayor and others, 3 Barbour, were cited in support of these positions.

In conclusion, the adjacent owners on Broad-

way, have exercised their rights from time immemorial; they have vested rights in the premises which cannot be interfered with, and any obstruction to these rights is a nuisance. A mere alleyway will be left on each side of the track, over which sixty-one cars are continually to pass. And this is to take place just after Broadway has become a business street, abounding in stores and hotels requiring appropriate vehicles. If the cars drive out other vehicles, then the grant is a monopoly. The corporation if not bribed to make this grant, have, in spurning better offers, recklessly abused their trust, and that with the collusion of the grantees.

The court will take time to decide the question.

For the American Railroad Journal.

Locomotive Trial Trip

We have been furnished by Mr. H. L. Martine, Superintendent of the Machine Shop at Scranton, with the result of an experiment made on the 18th ult., upon the Delaware, Lackawanna and Western railroad, which seems to challenge the world for its equal in the capacity and draught of locomotive engines:

"The Ontario is a ten wheel engine, six drivers, four feet six inches in diameter, connected; cylinders 17 inches in diameter, 24 in. stroke; manufactured by Rogers, Ketchum & Grosvenor, Paterson, N. J.

	lbs.
Weight on drivers.....	50,500
" trucks	17,700

Total weight of engine.....	68,200
Weight of tender with wood and water...	40,400

Weight of engine and tender.....	108,600
or 54 tons 600.	

The Wyalusing is a 10 wheel engine, six drivers 4 feet 6 inches in diameter, connected; cylinders seventeen inches diameter, 24 inch stroke; manufactured by Danforth, Cooke & Co., Paterson, N. J.

	lbs.
Weight on drivers.....	48,200
" trucks	17,600

Total weight of engine.....	65,800
Weight of tender, wood and water.....	40,400

Weight of engine and tender.....	106,200
or 53 tons 200.	

First experiment was made with train composed of 100 four wheel cars of coal, whose gross weight was..... 796 tons, 1100
Deduct weight cars..... 300 " 100

Total weight of coal.....	496 tons, 1000
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The Ontario, T. Duncan, engineer, I. T. Puterbaugh, conductor, attached to the above train at Tunkhannock station and started up a grade of 21 feet in the mile, at the rate of 5 miles an hour for one mile, and came to a stand on a reverse curve; cut off 9 cars, leaving 91 cars, weight 725 tons, with which she went to Hopbottom Station at the rate of 7 miles per hour, the grade continuing the same.

The Wyalusing, John Warren, engineer, A. Hunt, conductor, was then attached to the whole train of 100 cars, at 10 o'clock 28 minutes, and arrived at Oakley's Station at 10.55, making the run up a grade of 21 feet, through continuous curves of about one thousand feet radius, at four miles per hour.

The Ontario again attached to the same train of one hundred cars at Oakley's, and drew the train at the rate of six miles an hour, under circumstances similar to the Wyalusing, grade and curves continuing the same.

At New Milford, another 100 cars of coal were added to the train, making a train of 200 cars, 2,652 long, or over half a mile.

Total weight of train, including engine, tender, &c.....	1,653 tons,	400
Deduct weight of engine, tender and cars.....	655 "	1300

Total weight of coal..... 997 tons, 1100

The Ontario, attached to above train, started the whole train on a level, out of a switch, both ends of the train being on a curve at the same time. The trip was made from New Milford to Great Bend, a distance of six miles, in 30 minutes, being at the rate of 12 miles an hour, overcoming in the distance a grade of 15 ft. to the mile, for about $\frac{3}{4}$ of a mile."

We also have the result of a similar trial of engines, made in May last, on the New York and Erie and Cayuga and Susquehanna railroads:

Engine No. 25, on the New York and Erie railroad, hauled from Great Bend to Binghamton, a distance of fifteen miles, in one hour, one hundred coal cars, containing each five tons gross of anthracite coal, and ninety-two of the same laden cars, with four other cars heavily freighted with bridge timber, were taken on to Owego, a further distance of 22 miles.

It must be borne in mind that each coal car weighs three tons, making each loaded car to weigh 8 tons, gross weight.

At Owego the ten-wheel engine "Tunkhannock," built by the firm of Rogers, Ketchum and Grosvenor, took one hundred cars of anthracite coal, containing five hundred and two tons gross of coal, weighed and hauled over the Cayuga and Susquehanna railroad to Ithica, thirty-five miles, at a speed of nine miles per hour, and without a single accident or slipping of wheels upon the whole trip. 10 miles of the distance are over an ascending grade of 21 feet to the mile, and two thousand feet on an ascending grade of 30 feet to the mile.

LACKAWANNA.

Economic Limit of Speed.

Of all the members which compose the great body of the railway, the locomotive is probably the nearest perfected. No signal improvements have been made upon it for several years, nor are we aware that any expectations are had of essentially altering its structure so as to make it to a great extent, more perfect than now. Its great points were the multflue boiler, the blast pipe, the expansion valve, and the close ash pan. They are still the most important among its arrangements. There are, still, useful and economical applications and improved modes of working, which are well understood on some roads, but which are not generally applied.

The capabilities of the locomotive upon common roads seem however to be well known. That it will draw fifty times its own weight, on a level, is known; that it will move at the rate of 60 miles per hour we have daily evidence. From a certain relation which its principles present, we are not led to expect, that for ordinary purposes these results will be sensibly exceeded.

So far, then, as its actual capacity will go, there

are reasons for believing that capacity is now known and realized; but its effective capacity may yet be very much increased by diminishing the resistances with which it is called to encounter. The essentials to high speed, a level, firm, continuous, straight road, a double track, a safe system of signals, and a regular and fixed arrangement for despatching trains, so that their arrival at any point can be accurately calculated; are yet awaiting a general application.

The principle of continuity for a railroad, is of itself a very important one. The early tracks were laid with rails of cast iron, three feet in length. These were very quickly changed, when the railway came to be tested, by the substitution of wrought iron rails, of from 15 feet to 18 feet in length. This limit of length, was that indicated by the ability of the rolling mill, and was accepted by railroads as the best that could be had. But the same imperfections existed as with a three feet rail, only to a less extent, and these imperfections still present a serious obstacle to the economical maintenance of high speeds. And they show that the attainment of speed lies more with the directors and road-master, than with the engine man.

One thing which unfits a road for high passenger speeds, is the unnecessary speed of heavy freight trains. The freight engine as generally adopted, is fitted for a passenger engine more than for any other business. The freight engine should be distinctive and peculiar, adapted for the most efficient and economical speed; the passenger engine should be adapted for the quickest speed allowed by the condition of the road. Freight does not possess a continually accumulating value, it has a fixed value—Independent of fluctuations in markets—and when consumed, its value is destroyed. The detention of freight upon trains need not affect the business connected with its purchase and sale; in other words it need not be made as so much capital lying idle. With human beings, the case is different. Time spent in travelling, is time wasted for business purposes.

The necessity exists for the highest speed for passengers, provided it be safe. Let any line show by a usual practice, that they can carry passengers one hundred miles per hour, and so soon as this fact is established, this speed will be a necessary condition on all important roads. If a man's time is worth one dollar an hour to him, and the charge of fare for an hour's ride of forty miles is one dollar, he spends two dollars for the end of being moved. If he can be moved the same distance for the same fare in half that time, the expense is reduced 25 per cent.

The primitive and imperfect character of the railroad has been retained up to the present time, and now, more than at any previous time does its business demand its improvement.

With this imperfection in general existence upon most railroads, it seems that new roads should turn their attention, in season, to the merits of the "continuous rail," with a view to its adoption. The saying which they will realize in a lessened depreciation of rolling stock and road bed would no doubt warrant its general introduction. To test it fully, an entire line should be laid with it, and the expenses of repairs ascertained. The rail possesses a principle of perfection, and should be allowed to develop that principle. It promises safety, economy, and the means for high speeds.

Memphis Convention--Pacific Railroad.

Below we give the substance of remarks made by General M. Hunt, of Texas, upon the resolutions offered by Hon. John Moore, of Louisiana, which were as follows:

Resolved, That the construction of a railroad direct from the Mississippi river to the Pacific ocean will be one of the most effectual and practical means of promoting and securing to the southern and western states a due share of the commerce of the U. States.

Resolved, That Congress has the power to make a liberal grant of the public lands to aid in the construction of said railroads under the conditions heretofore stipulated in like grants for the carrying of the mails and transporting the troops and property of the U. States.

Gen. Hunt moved a reference of these resolutions to a committee composed of one person for each state represented, and accompanied his motion by the following remarks:

The gentleman from Louisiana, Judge Moore, had made reference in his address to the South-Western railroad from the Mississippi river to the Pacific ocean as necessarily having to pass through Texas, and that a grant of land would probably be made by that state to the part of the road which would pass through its limits, he availed himself of the occasion to state that Texas had already made the grant—that the Texas Central railroad was chartered in 1852. It was to commence, in the city of Galveston—that the company had the right to construct its main trunk to any part of Red river, in the limits of Texas, and make and maintain as many branch roads as they might deem expedient—that the state of Texas had donated eight sections of land of 640 acres each, amounting in the aggregate to 5,120 acres per mile to the trunk road and the branches, that the company may make, and that the charter was perpetual.

The concentration of the several projected roads from the important points on the Mississippi river of St. Louis, Cairo, Memphis, and Gaine's Landing at or near Fulton, and of the Vicksburg, Shreveport, and Texas, and the New Orleans, Opelousas, and Shreveport road at Shreveport, had induced the Texas Central railroad company, to run its main trunk to Red river near Fulton, and to make a branch from there to San Francisco, or to San Diego.

The Government of the United States grants to any railroad company the right of way through any of its public domain with an appropriation of an adequate strip of land for the railroad bed.

The Hon. Robert J. Walker has in his possession the written authority of 13 gentlemen of great respectability in California to allow their names to be used as officers and directors for the construction of roads from San Francisco and San Diego to the Colorado of the west, near the mouth of the Gila and of the South-eastern boundary of California.

These roads from San Diego and San Francisco are to meet and unite with the Great Texas Central railway, after it passes through New Mexico, at or near the mouth of the Gila into the Colorado of the west.

The road, however, from the Colorado of the west although it is intended to be a continuation of the Great Texas Central railroad will be under the government of officers and directors who are citizens of California, as the general railroad law of California, requires that the directors of all railroads within its limits, shall be citizens of that state.

It will be thus seen that the Great Texas Central railroad company has already made its connections to construct its road to San Francisco or San Diego or to both. It is understood that Col. John C. Hays, is to be the president of the continuation of the road from the western boundary of New Mexico to San Francisco and San Diego.

The point at which the road is to cross the Rio Grande has not been determined by the Co; it is

expected to be at or near El Paso Del Norte, or Albuquerque.

The report of the engineers now making reconnoissances from the Red river to the Pacific will determine the company in this respect.

As President of the Texas Central railroad, and of which the Hon. Robt. J. Walker is vice president, I can say that any propositions which may be made by the companies of St. Louis, Cairo, Memphis, Little Rock, Gaines' Landing, Vicksburg and New Orleans roads pointing in the direction of Texas, whether near Fulton or Shreveport, or further west, will be received with the greatest consideration and respect.

Gen. Hunt continued his remarks by saying that the government of the United States had donated six sections of land per mile to a road from Cairo to Fulton—6 sections of land per mile for a road from St. Louis to intersect with the Cairo and Fulton road—six sections of land per mile to a road from some point of the Mississippi river, (probably this,) on the eastern border of the state of Arkansas to intersect the Cairo and Fulton road. So it seems that congress has already actually made appropriations for three roads from the Mississippi river concentrating in one road, which is to terminate at or near Fulton in a direct route to the Pacific ocean. The question, he said, seemed to have been settled as to the points at which the government of the United States had determined to aid roads on the South-Western route from the Mississippi river. Three points had been designated, and appropriations of six sections of land of 640 acres each, to all of them, had been donated by the United States. It appeared to him that the western border of Arkansas and the northern part of Texas, on the Red river was the proper point for the trunk of the Pacific road, to commence at, and that the Texas Central railroad afforded the various local roads which are to terminate in the valley of the Red river that trunk.

All experience, he said, had shown that private enterprises were infinitely more successful in the accomplishment of great internal improvements in the U. S. than when any of the several States of the Union had undertaken them, and he believed that it would be better for private enterprise to undertake the Trunk of the Pacific road, than for the United States government to do so. There was an abundance of capital in the United States to make the road to the Pacific ocean. The Texas Central railroad company would be grateful to the United States for donations of land along its whole route.

Propositions had already been made to construct the Texas Central railroad, without solicitations on the part of the company, and propositions are now under consideration, and negotiations in progress to construct it.

Gen. Hunt concluded his remarks by saying that it would afford the Texas Central R. R. Co., the greatest satisfaction, to have the St. Louis, Cairo, Memphis, Gaines' Landing, Vicksburg, Little Rock, and New Orleans railroad companies interested and associated with them in constructing their road from the valley of the Red river to the Pacific ocean.

In Convention, third day, the resolutions of Judge Moore being under consideration.

Gen. Hunt of Texas said he did not rise to oppose the resolution; that he was willing for this and all the other resolutions which had just been offered by the enlightened committee to be also adopted; that he would be anxious for the government of the U. S. to construct the road as recommended by the committee, if the enterprise was beyond the reach of an individual corporation or corporations. But he did not so consider it. Repeated efforts had been made in congress to induce the government of the United States to undertake the construction of the road, or to vote ample means for the purpose, all of which had been rejected by congress. He begged leave to repeat in substance, in part, what he had said on yesterday, as the committee of two delegates from each state represented in the convention were absent in their

deliberations at the time of his remarks when the honorable gentlemen from Louisiana, Judge Moore, made reference to the necessity of the passage of a road from the Mississippi river to California, through the territory of the State of Texas, and expressed the belief that Texas would grant land to such road, he had said to the convention that there had already been granted to the Texas Central railroad company a charter to pass with a road through the whole extent of the state, with a grant of eight sections of land of 640 acres each, to every mile of road that might be constructed by the company within the limits of the state, he also described the route contemplated by that main trunk road to Red river, and the course of its branch road from Red river within the limits of Texas, and through New Mexico and California in the direction of San Francisco and San Diego.

He alluded to the readiness with which the Texas Cent. R. R. Co. would listen to, and entertain with the greatest consideration, propositions from the St. Louis, Cairo, Memphis, Little Rock, Gaines' Landing, Vicksburg and New Orleans companies,—whose roads point towards Texas, in their course for California—to become interested, and unite with them in constructing the great road from the valley of the Mississippi, on the Red river, in Texas, to the Pacific ocean, and said that it was a source of high gratification to him, to notice in the resolution of the committee this morning, that the valley and not the Mississippi river itself, was proposed as the starting point for the main trunk road. He had also stated on yesterday that there was ample individual capital in the U. States, or that capital could be negotiated for in the United States to back the great enterprise and carry it through, without appealing to the government of the United States to construct and own the road.

If, continued Gen. Hunt, we are to invoke the aid of the Government of the United States in the construction of the road, let it be by asking liberal donations of the public domain, and the loan of its credit in endorsing, or guaranteeing the payment of certain amounts of the bonds of the company, and give the Government liens on the lands granted, and the road itself for their indemnity against loss. This it appeared to him would be better policy than to ask the Government to adopt some plan for the building of the roads to California, and these repeated efforts have resulted in as many repeated failures.

Let us, therefore, he said, undertake the work by private enterprise, and if we cannot obtain the lands or the loan of credit which will be solicited from the Government of the United States, let us ask the States interested in the construction of the South-western road to the Pacific Ocean, to loan us their credit to limited amounts each, and take liens on the lands granted, and the road itself, for indemnity. Suppose that each of the States represented in this convention was to loan its credit to the Texas Central Railroad Company, for one thousand dollars each per mile of road from Red river to the Pacific Ocean, or even half that amount, (\$500 per mile) and his word for it, said Gen. H., we will be enabled to carry you to San Diego or San Francisco from this city in ten years from this date, in a run of from three to five days. And to accomplish this desirable object let all the companies who have in contemplation the construction of roads to the valley of the Mississippi or Red river, unite and become interested with the Texas Central Railroad Company and the energies, the talent, the wealth and the influence of those who compose them, combined cannot, fail to speedily consummate the great work so much desired by us all. Yes, sir, said Gen. Hunt, let all the valley of the mighty Mississippi, from St. Louis, to New Orleans along the Gulf of Mexico to Galveston and Brazos Santiago be united and arouse themselves to action. Let us make a long pull a strong pull and a pull altogether, at St. Louis, Cairo, Memphis, Gaines' Landing, Vicksburg, Natchez, New Orleans and Galveston, and in the whole of the intervening country between and our utmost wishes

must and will be speedily consummated by private enterprise.

As he had remarked, said Gen. Hunt, he should not oppose the passage of the resolution proposed by the committee, and whilst he believed Congress would vote lands to a trunk and branch roads passing in the direction of California, he did not expect the Government of the United States would ever, either own or undertake to make of itself, a railroad or railroads across the continent to California.

The estimate of my esteemed and enlightened friend, Mr. Smeades, of Mississippi, which you have just heard, makes the income from a road from here to the Pacific Ocean (at \$200 each, for passengers,) one hundred millions of dollars per annum, if only the same number pass over the road which are now annually passing to the same places across the continent south of the limits of the United States. In addition to these passengers, I will add as only one item, that as soon as the road is constructed, a double track will be required for the transportation of coal, alone to propel the steamers which will be necessary for commercial and passenger purposes from our shores on the Pacific to the great East. That from China, and the numerous other countries in the East, including, probably, at no distant day, Japan, it was impossible to compute the immense commerce which would, as by magic, be thrown into our lap, and also through our territory, to Europe. That after the first road commenced its regular business, it would not be ten years thereafter before it would probably be necessary to build ten double track roads from the valley of the Mississippi, on Red River, to the Pacific ocean.

In reference to the cost of the road to the Pacific Ocean from the valley of the Mississippi, on the Red river, to the Pacific Ocean, and the inability of private enterprise to afford it, he would state that from the best sources of information he had been able to consult, that the cost would not exceed from seventy-five to one hundred millions of dollars. Col. Abert, Chief of the United States Topographical Corps, has officially estimated the cost of a railroad from the Mississippi to San Diego at eighty-five millions of dollars. From Red river it will be several millions less. The road can be built from the valley of the Mississippi to San Diego or San Francisco, for less than forty millions in cash, including running stock, depots, and depot buildings, by appropriating part stock and part bonds by the company in payment to the contractors. If such a road would derive an income from the passengers alone of one hundred millions of dollars per annum, as had been suggested by Mr. Smeades, or even half that sum, there would be much less difficulty in obtaining the capital necessary for the construction of the road than gentlemen seem to anticipate. In his opinion it was unnecessary to solicit the Government of the United States to construct the road, if that solicitation is based on the opinion that private enterprise cannot consummate it with the donations of lands now granted, and which will doubtless be granted to the Texas Central railroad company.

Ohio and Pennsylvania Railroad.

The iron has arrived, the cross ties are mostly on the ground, and every preparation made to put down the second track between this city and Sewickley. This will add greatly to the convenience and facilities of this end of the road, which is crowded with business.

We are glad to learn that the road is now doing an excellent business, all its trains running full. The freight business is rather dull, but the fall business will soon commence, and will doubtless be heavy.

A cash dividend of $3\frac{1}{2}$ per cent, for the last six months, will be declared on the 1st of July,—which will be the commencement of future regular cash dividends of from 7 to 12 per cent. As the road is only just completed, the fact of its being able to pay a dividend equal to 7 per cent. per annum from its earnings, is evidence of the excel-

lence of its location and of its superior management.—*Pittsburgh Gazette.*

American Railroad Journal.

Saturday, July 9, 1853.

Stock and Money Market.

There has been very little doing in Wall street the past week. The preparation for the ordinary payments on the first of the month, and for the Fourth, as a necessary consequence, checked all operations, that had not a particular reference to these days. During the present week transactions have been very much limited by the continued absence of a large number of our business men.

In the stock market but little is doing. The tendency of the *fancies* is downward. There appears to be no disposition to speculate in anything but a few low priced *Mining stocks*. The demand for first class securities continues fair, and the prices of these are well sustained. Money is abundant, with every indication of continuing so thro' the hot season, owing to a general indisposition to enter upon new contracts until the end of the Fall business.

It was announced, on Thursday last, that Mr. T. J. Townshend, treasurer of the Erie railroad, had resigned.

The election of the Central railroad of this state held at Albany, resulted in the choice of the following directors: Erastus Corning, John V. L. Pruyn, and E. C. Melutosh, Albany; Russell Sage, Troy; Alonzo C. Paige, Schenectady; David Wagner, Utica; Horace White and J. Wilkinson, Syracuse; J. H. Chedell, Auburn; H. B. Gibson, Canandaigua; Joseph Field, and A. Boody, Rochester; Dean Richmond, Buffalo.

At the annual meeting of the Hartford, Providence and Fishkill railroad company held at Stonington on the 27th ult., the old directors were re-elected. The earnings from operations of road were for the year ending 1st June,

1853.....\$69,629 52
Year ending 1st June, 1852..... 60,119 04

The annual report was ordered to be printed for the use of stockholders. The work on the extension is progressing favorably, and is expected to be opened for travel in the course of the present year.

A meeting of the stockholders of the Philadelphia, Wilmington and Baltimore railroad was held at Wilmington, June 30. It was voted almost unanimously to accept the act of the legislature of Maryland, granting the company the right to build the bridge over the Susquehanna, and in order to raise the necessary funds, it was voted to adopt the plan suggested by the directors in their circular, of creating new stock at \$40 per share.

The earnings of the New Haven Railroad Company for the month of June, 1853, amounted to \$59,738 80, against \$55,546 13 for the same month in 1852, showing an increase of \$4,192 67.

The receipts of the Milwaukee and Mississippi Railroad Company during the month of June, 1853, amounted to \$18,563 17, showing an increase over those for May of about \$4,000.

The receipts of the Erie railroad for June show a fair gain upon those of June 1852:

They were.....\$362,748 90
June 1852..... 312,367 08

Increase.....\$50,381 82

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipmt.	Gross Earnings in 1852.	Net Earnings in 1852.	Dividend, 1852.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	95
Androscoggin and Kennebec..	55	809,378	905,300	1,994,429	131,006	.....	none	30
Kennebec and Portland.....	72	876,411	800,000	2,180,000	133,338	.....	none	40
Port., Saco and Portsmouth..	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland.....	20	227,981	291,200	In progres	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,270	622,000	2,540,217	150,638	79,659	none	53½
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	10	108
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	....
Northern	82	3,016,634	.....	.....	328,782	163,075	5	58
Manchester and Lawrence....	24	717,543	.....	.....	.....	.....	6½	99
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,513	8	108
Portsmouth and Concord....	47	.....	.....	1,400,000	.....	.....	none	....
Sullivan	26	.....	.....	673,500	.....	.....	none	9
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	46½
Rutland	120	2,435,328	1,964,588	.....	324,790	165,340	none	35
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	17½
Vermont and Canada.....	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	ent.	102½
Western Vermont.....	51	392,000	700,000	.....	Recently opened.	.....	none	....
Vermont Valley	24	.....	.....	.....	.....	.....	none	....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	100
Boston and Maine.....	83	4,076,974	150,000	4,092,927	659,001	338,215	7	105
Boston and Providence.....	53	3,160,390	390,000	3,546,214	429,484	212,625	6	88½
Boston and Worcester.....	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101½
Cape Cod branch.....	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River.....	52	1,591,100	193,500	1,801,946	229,004	72,028	5	57½
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	95
Fall River.....	42	1,050,000	none.	1,050,000	229,445	99,589	8	107
Fitchburg.....	66	3,540,000	100,000	3,633,673	574,574	232,787	6	99½
New Bedford and Taunton....	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County.....	26	547,015	819,743	1,245,927	67,251	23,415	none	67
Old Colony	45	1,964,070	282,300	2,293,534	322,213	101,510	none	86½
Taunton Branch.....	12	250,000	none.	307,136	137,406	24,399	8	....
Vermont and Massachusetts..	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17½
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	60
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	682,195	6½	99½
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	50½
Providence and Worcester...	40	1,457,500	300,000	1,731,498	253,690	139,514	6	....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	....
Hartford and New Haven....	62	3,000,000	472,000	.....	600,408	332,223	none	124
Housatonic.....	110	.....	.....	2,500,000	329,041	168,902	none	....
Hartford, Prov. and Fishkill..	50	.....	.....	In progres	.....	.....	none	....
New London, Wil. and Palmer	66	558,861	800,000	1,511,111	114,410	.....	.....	....
New York and New Haven....	61	2,992,450	1,641,000	4,825,937	814,714	443,993	7	108
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	....
New London and New Haven..	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester.....	54	1,211,110	701,600	2,596,488	267,561	116,965	4½	56½
Albany and Schenectady..... N. Y.	17	1,000,000	685,301	1,774,584	296,112	164,448	8	145
Buffalo and New York City..	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York.	132	.....	.....	In progres	.....	.....	none	65
Buffalo and Rochester.....	76	1,825,000	184,903	2,415,014	619,976	415,323	10	182
Buffalo and State Line.....	69	879,636	872,000	1,921,270	Recently opened.	.....	....	130
Canandaigua and Niagara F..	50	.....	.....	In progres	.....	.....	.....	....
Canandaigua and Elmira.....	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.....	35	687,000	400,000	1,070,786	74,241	23,496	none	....
Erie, (New York and Erie)...	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	79½
Hudson River.....	144	3,740,515	7,046,395	10,527,651	1,063,659	338,783	none	72½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	64½
Long Island.....	95	1,875,148	516,246	2,446,391	205,068	44,070	none	36
Ogdensburg (Northern).....	118	1,578,311	2,780,760	4,933,029	435,845	176,123	none	42½
Oswego and Syracuse.....	35	350,000	201,500	607,803	90,616	43,609	4	70
Rochester and Syracuse.....	184	5,132,990	700,123	6,016,778	988,366	549,824	8	154
Rutland and Washington.....	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	....
Saratoga and Washington....	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Syracuse and Utica.....	53	2,400,000	126,000	2,661,477	616,918	376,025	10	182
Troy and Rutland.....	32	237,690	100,000	329,577	Recently opened.	.....	...	33
Troy and Boston.....	39	430,936	700,000	1,043,357	Recently opened.	.....	none	....
Utica and Schenectady.....	78	4,124,000	none.	4,093,273	1,029,774	724,770	10	195
Watertown and Rome.....	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,400	1,388,285	478,413	10	150
Morris and Essex.....	45	1,022,420	128,000	1,220,325	140,154	80,351	4	....
New Jersey.....	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central.....	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	....
Erie and North East.....	20	600,000	.....	750,000	Recently opened.	.....	....	125
Harrisburgh and Lancaster...	36	783,950	688,051	1,609,494	200,219	106,932	8	....
Philadelphia and Reading....	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	92½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net earnings in 1852.	Dividend, 1852.	Price of shares.
Philad., Wilmington and Balt. Penn.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	71
Pennsylvania Central	250	9,768,153	5,000,000	15,600,000	1,943,827	617,625	100	100
Philadelphia and Trenton	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio	381	9,183,300	9,827,123	19,542,307	1,325,563	615,384	7	71
Washington branch	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna	57	.....	.....	.....	413,673	152,536	42	.....
Alexandria and Orange	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh	64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg	22	.....	.....	.....	.....	.....	.....	.....
Rich., Fred and Potomac	76	.....	.....	.....	.....	.....	100	.....
South Side	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee	60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Georgia Central	191	3,100,000	306,187	3,378,132	945,508	508,625	8	102
Georgia	211	4,000,000	1,214	.....	934,424	456,468	7½	.....
Macon and Western	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee	71	.....	.....	In prog.	.....	.....	.....	.....
Wilmington and Manchester	.....	.....	.....	.....	.....	.....	.....	.....
Southwestern	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington	28	1,430,000	900,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington	65	.....	.....	.....	87,421	44,250	75	.....
Louisville and Frankfort	.....	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh	100	1,239,454	1,371,000	2,963,756	194,429	123,306	6	103
Cleveland, Painesv. and Ash.	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus	135	3,027,000	408,200	3,655,000	777,793	483,483	12	132
Columbus, Piqua and Indiana	.....	.....	.....	In prog.	.....	.....	.....	.....
Columbus and Lake Erie	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton	60	1,694,000	906,000	2,600,000	321,793	200,967	115	.....
Cincinnati and Marietta	.....	.....	.....	In prog.	.....	.....	.....	.....
Dayton and Western	40	310,000	550,000	925,000	.....	.....	80	.....
Dayton and Michigan	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton	36	.....	.....	.....	.....	.....	.....	.....
Greenville and Miami	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami	84	2,370,784	.....	2,634,157	526,746	314,670	10	120
Mansfield and Sandusky	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River	167	1,860,500	.....	.....	565,751	.....	.....	.....
Ohio Central	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi	.....	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania	187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd	87	552,000	800,000	1,317,140	.....	.....	150	.....
Xenia and Columbus	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern	131	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine	83	.....	.....	.....	.....	.....	.....	.....
Lawrenceburg and Ind.	.....	.....	.....	In prog.	.....	.....	75	.....
Lafayette and Indianapolis	62	.....	.....	.....	.....	.....	.....	.....
Madison and Indianapolis	88	1,650,000	750,000	2,400,000	516,414	268,075	10	99
Peru and Indianapolis	40	.....	.....	In prog.	.....	.....	.....	.....
Terre Haute and Indianapolis	72	632,387	663,100	1,353,019	106,593	71,446	4	108
Rock Island and Chicago	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi	.....	.....	.....	.....	.....	.....	.....	.....
Illinois Central	Ill.	.....	.....	.....	.....	.....	136	.....
Galena and Chicago	92	1,932,361	500,000	In prog.	472,109	.....	125	.....
Michigan Southern	315	2,499,410	2,629,000	6,480,246	592,187	293,046	145	.....
Michigan Central	282	4,000,000	4,067,396	8,614,193	.....	.....	8	117
Pacific	Miss.	.....	.....	.....	.....	.....	.....	.....

The aggregate receipts of the 6 months were.....		\$2,159,455
Same time 1852.....		1,626,955
Increase.....		\$532,500
The receipts of the Hudson River railroad for the month of June were.....		\$94,978 79
Same month 1852.....		64,827 73
Increase equal to 46 per cent.....		\$30,151 06
The business of the Sub-Treasury for the month past has been:		
June 1, 1853, balance.....		\$6,642,381 31
RECEIPTS.		
On account of Customs.....		\$3,867,155 86
On account of Patent Fees.....		3,105 52
On account of Post-Office department.....		37,246 54
On account of Miscellaneous.....		141,860 81
Total.....		4,059,368 73
Total.....		\$10,701,750 04
PAYMENTS.		
Treasury Drafts.....		\$2,990,739 56
Transfer Drafts.....		128,856 72
Post office Drafts.....		181,913 07
Total.....		3,301,509 35
June 30, 1853, balance.....		\$7,400,240 69
June 1, '53, by balance of funds to pay interest and Coupons.....		\$32,239 69
By appropriations.....		1,378,728 00
Total.....		\$1,410,988 59
To payments.....		10,126 58
Balance.....		\$1,400,862 01
Receipts for Customs in the year ending June 30, '52.....		\$28,910,527 22
Receipts for Customs in the year ending June 30, '53.....		38,738,627 79
Increase in 1853.....		\$9,827,627 79
Total Funds on hand.....		\$8,801,102 7
The commerce of the port of New York in June 1853, was:		
ARRIVALS FROM FOREIGN PORTS.		
Tons.		
16 Steamships.....		30,034
102 Ships.....		82,133
94 Barks.....		41,877
150 Brigs.....		28,542
96 Schooners.....		11,815
458 Total.....		194,401
FLAG.		
Tons.		
No. Vessels.....		
264 United States.....		132,539
106 British.....		33,371
29 Bremen.....		12,331
7 Hamburg.....		2,930
10 Oldenburg.....		2,548
4 Hanover.....		1,050
4 Prussia.....		1,311
4 Dutch.....		501
2 French.....		358
1 Mecklenburg.....		240
3 Swedish.....		1,156
14 Norwegian.....		4,303
1 Belgian.....		340
1 Sardinian.....		245
2 Sicilian.....		442
2 Danish.....		332
2 Venezuela.....		350
1 Dominican.....		120
1 Portuguese.....		135
458 Total.....		194,401
The arrivals of Specie and Gold dust for the month of June, at this port, were \$4,418,537.		

Comparative Export of specie from the Port of New York, for the fiscal year ending June 30.

	1852-3.	1851-2.
July.....	\$2,971,000	\$6,004,000
August.....	2,936,000	2,673,000
September.....	2,122,000	3,490,000
October.....	2,452,000	1,780,000
November.....	810,000	5,034,000
December.....	1,180,000	5,668,000
January.....	748,000	2,869,000
February.....	1,121,000	3,552,000
March.....	592,000	612,000
April.....	767,000	200,000
May.....	2,162,000	1,835,000
June.....	3,264,000	3,556,000
Total.....	\$21,125,000	\$37,273,000
Decreased export.....	16,148,000	
	\$37,273,000	

Comparative deposits of Gold Dust at Philadelphia for the fiscal year ending June 30.

	1852-3.	1851-2.
July.....	\$3,200,000	\$3,127,000
August.....	2,675,000	4,049,000
Sept.....	4,254,000	3,951,000
Oct.....	4,140,000	4,744,000
Nov.....	7,260,000	5,490,060
Dec.....	3,330,000	5,338,000
Jan.....	4,962,000	4,162,000
February.....	3,549,000	3,010,000
March.....	7,534,000	3,892,000
April.....	4,766,000	3,091,000
May.....	4,366,000	4,336,000
June.....	4,544,000	6,689,000
Total.....	\$55,580,000	\$51,879,000
Increase 1852-3.....	4,701,000	
	\$55,580,000	

Comparative exports of Domestic Produce from the Port of New York, for the fiscal year ending June 30.

	1852-3.	1851-2.
July.....	\$2,966,000	\$3,188,000
August.....	2,341,000	3,260,000
September.....	3,289,000	2,594,010
Oct.....	3,498,000	2,702,000
Nov.....	3,529,000	2,452,000
Dec.....	2,948,000	2,512,000
January.....	2,995,000	2,419,000
February.....	3,325,000	3,353,000
March.....	4,705,000	4,313,000
April.....	4,224,000	4,244,000
May.....	4,166,000	4,250,000
June.....	5,057,000	3,566,000
Total dom. prod.....	\$43,013,000	\$38,853,000

Ohio and Mississippi Railroad.

At the recent annual meeting of the stockholders of this company, the following gentlemen have been chosen directors:

James C. Hall, Thos. Philips, Charles Stetson, Richard W. Keys, Charles D. Coffin, John Slevin, John Baker, Nathaniel Wright, Charles W. West, H. H. Goodman, George W. Cochran, Eden B. Reeder, Cincinnati. Abner T. Ellis, Samuel Judah, William J. Hebbard, Cyrus M. Allen, Vincennes. Thomas Gaff, John Cobb, Aurora. Hagaman Tripp, Vernon, (La.) Richard A. Clements, Washington, (La.) M. W. Shields, Brownstown, (La.)

At a meeting for organization, Hon. A. T. Ellis was unanimously re-elected, and after some remarks upon the present prosperity of the company and the duties which called him back to Vincennes, tendered his resignation, which was accepted, and complimentary resolutions passed. James C. Hall was then unanimously elected President for the ensuing year. H. H. Goodman, Secretary; Chas. D. Coffin, Solicitor.

The Slip Cast Iron Tire.

As much interest is manifested by railroad managers in the merits of this important improvement, and as its success depends, as much as does that of the wrought iron tire, upon an excellence of material and manufacture, we propose to give some hints as to how these desirable requisites may be secured.

It is well known that no part of the material of railroads is subject to more severe wear than the surface of the wheels of the cars and engines. This arises from the constantly recurring blows against the rails upon each point in the circumference of the wheel. To endure this the material of the surfaces of the wheels must be sound and strong, and to give a good guarantee of the possession of these qualities it should possess, as it will when earned a reputation for reliability. The Lowmoor and the Bowling companies have secured a reputation for their manufactures by furnishing an article constantly the same and always reliable. Their processes of manufacture are established and are not experimental: their men are practised to each operation of the manufacture of iron, and the consequence is that the purchaser can predict with certainty the success of any of their manufactures. No one in ordering a set of wrought tires would send to the nearest rolling mill as very few domestic tires, whatever they may be in special instances, are found to stand constant service. The insufficiency of domestic tires does not arise from any inability of our arriving at perfection in their manufacture, but from the fact that the process by which one good tire, or set of tires, has been made has not been perseveringly repeated in each succeeding tire.

Railroad superintendents and master mechanics know well enough what are the consequences of iron, or bad working, in tires. Splitting, unequal wearing, bursting, &c., are predictable results.

So it is with the cast iron tire. It has merits of economy in use and maintenance. Service and safety are afforded by its use, and for freight engines especially, it is very doubtful, if a more reliable material can be found. But it requires a strong, tough iron, of uniform character, such as would be selected for the most important purposes. The practice of working up old castings along with pig iron, from any or all quarters, would leave the manufactured product in the same circumstances as would be had by the domestic wrought tire, made from scrap, or any ordinary metal answering to the denomination of iron. The process of casting tires and wheels, requires the most practiced hand for melting, pouring and chilling, and none can claim a perfect knowledge of this important part of iron founding, except where it has been derived from long experience.

The establishment of Bush and Lobdell, at Wilmington, Del., possesses peculiar advantages in this respect, for the production of chilled wheels and tires. Having long ago completed the most successful chilled wheel, and having maintained a constant reputation for the manufacture of a superior article, they are certain of the success of their work. The partners of the firm having together the best knowledge and the largest experience in the selection of iron and the processes of conversion into wheels, are enabled also to insure the success of their work without trial of it. When

an agency for the sale of the slip tire from the works of these makers shall be established in Cincinnati, as it soon will be, our Western railroad men will have the advantage of the guarantee of "the best tire for driving wheels of freight engines."

Paterson Locomotives.

The completion of a new locomotive, of superior design and construction, at the shops of Danforth, Cooke & Co, Paterson, N. J., was the occasion of an agreeable entertainment, given, on Saturday last, by that firm to their workmen. The workmen, numbering five hundred, proceeded from Paterson in an extra train, drawn by one of Danforth, Cooke & Co's, magnificent engines, to Jersey City, where they repaired to the Hudson House, the place assigned for their meeting. As it was our fortune to be present, and to have an opportunity for an examination of the work, whose completion was the event of this spirited celebration, we will give a description of the engine for the benefit of the large number of our readers who are interested in the construction of locomotives.

The engine is called the "Governor Williamson," and was built for the New Jersey railroad and Transportation Company.

It is outside connected, has 15 inch cylinders, 20 inch stroke, 6 feet driving wheels, and a center bearing truck. The frame is solid, with pedestals welded on, and provided with tightening wedges for taking up the wear of the driving axle boxes.

The boiler is 45 inches diameter, and has 129 two-inch copper tubes, 11 feet 6 in. long. The furnace is 4 feet 2 inches long, 3 ft. 4 in. wide, and 4 ft. 6 in. deep.

The valve motion is that of the shifting link, made of wrought iron, and having all its joints and wearing surfaces case-hardened. The arms of the lifting shaft are welded on. The link motion has been adjusted to equalize the admission of steam, for both strokes of the piston, with great accuracy. There are five notches in the front half of the circle or guide for the reversing lever. On the first of these the steam is cut off at 17¼ inches of the stroke, each way; on the second at 15 inches, on the third at 12½ inches, on the 4th at 10 inches, and on the fifth at 8 inches of both strokes. The steam ports are 14 inches by 1¼ inches.

The tires are of Lowmoor iron; the spark arrester is of Radley & Hunter's patent. The shell of the fire-box is covered with sheet brass, planished in a beautiful manner. The cylinder sides and ends, and the steam chests are also protected by planished sheet brass covers. The domes are of beautiful design, having symmetrical mouldings, and are wholly covered with brass. The forward dome has a globular top, on which is perched a large gilt eagle. The engineer's house, or "cab," is beautifully grained in imitation of oak, and has light columns between the windows, (which are Gothic,) with gilded bases and capitals.

The whole frame, boiler braces, spring straps, and equalizing levers are all planed and polished, in the style of the best "outside work." The braces which secure the fire-box to the frame are "expansion braces," fitted with much care, and allow the boiler to expand, without strain, when heated. This is a very useful arrangement.

The tender is mounted on two trucks of 4 wheels

each, and contains 1500 gallons of water. It is beautifully painted and ornamented.

This engine is constructed throughout of the best materials to be had, as are all of the engines built at these works. The workmanship is *extra*, there being much in extent and perfection of finish which is not generally met with upon locomotive work.

We would recommend such of our readers as can have an opportunity, to see this piece of mechanism, believing that they will say with us that, taking into consideration the symmetry of its design, the beauty and perfection of its workmanship, and the taste with which it is finished and ornamented, it is doubtful if it has been surpassed, if ever it has been equalled, in the United States.

Another point which deserves attention is, the very favorable proportions of this engine in the features of evaporative power and communicating capacity. Very few of the first class express engines of the English roads have received more liberal allowance of boiler and furnace room, or more ample steam passages than the "Governor Williamson." In this country the practice in the construction of passenger engines has been to allow much less of these elements of locomotive power.

Messrs. Danforth, Cooke & Co. have very convenient and complete works for filling large orders for locomotives. They have prepared themselves and have shown their ability, for executing first-class work. Their Mr. Cooke was for many years the foreman of Messrs. Rogers, Ketchum & Grosvenor's works.

An account of a large performance of one of their freight engines will be found in another part of the present number of our paper.

Locomotive Establishments.

The business of building Locomotives forms, at the present time, an important branch of manufacturing industry. The demand for engines consequent upon the construction of so many new roads is taxing every shop to its utmost capacity, and very many shops have contracts extending to deliveries a year or more ahead. Old establishments are extending their works and increasing their force, while new establishments are erecting in many parts of the country. The following is believed to give a pretty full list of all the establishments, devoted to this business, in the United States.

Where the writer has a personal knowledge of the establishments he has made some remarks upon their business character of work, capacity, etc.

Portland Locomotive Works, Portland, Maine.—J. C. Churchill, Treas. John Sparrow, Supt.

Amoskeag Manufacturing Co. Manchester, N. H. O. W. Bayley, Agent. Build two to three engines per month.

Lowell Machine Shop. Lowell Mass. W. A. Burke, Supt. This company are adding to their works, and will be enabled to complete three to four engines per month.

Essex Co's Works, Lawrence, Mass. Gordon M. Kay, Agt. Charles Hastings, draughtsman and designer. This company have built many superior engines and can build three to four per month.

Boston Locomotive Wks, Boston, Mass. Holmes Hinkley, President; D. F. Child, Treasurer. This

old and extensive establishment has stood at the head of Locomotive building in the eastern states for several years. They have established a style of engines which has been the model for many of the builders at the east. They are now building at the rate of eight engines per month,

Union Works, South Boston. Seth Wilmarth, Proprietor. Lately enlarged, and can build two to three engines per month. Mr. Wilmarth has built many of the finest and quickest express engines on the Hudson River and other roads.

Globe Works, South Boston. John Souther and Co. Proprietors. Can build two or three engines per month.

Taunton Locomotive Manufacturing, Co. Taunton, Mass. W. W. Fairbanks, Agent. This establishment ranks among the finest and best arranged in New England or elsewhere. The Taunton company have done much to establish a good style of engines, and their engines have also been extremely successful in their performance. Mr. P. I. Perrin draughtsman and Mr. B. F. Slater, the former foreman, have done much towards producing this result. The Taunton company can turn out three engines per month.

William Mason and Co. Taunton, Mass. These gentlemen have only lately commenced the manufacture of locomotives, but Mr. Mason's reputation has long been established as a skilful machinist in other departments.

Corliss, Nightingale & Co. of Providence, R. I. have built several Locomotives. They have endeavored to make some practical changes in the construction of engines, and have made many experiments with this view.

Rogers, Ketchum and Grosvenor of Paterson N. J. This establishment is among the oldest and largest in the United States. It may probably be said that Thomas Rogers, the managing partner, has done more than any builder in the country to improve the style and construction of American Locomotives. His engines are models of beauty, strength and speed. The whole number of hands employed is about eight hundred, of which half, at least, are employed in the locomotive department. This establishment has been the *parent* of three other fine shops now doing a large business in the same town. Capacity of shop seven engines per month.

New Jersey Locomotive and Machine Co. Paterson, N. J. James Jackson, President; John Brandt, superintendent. This large establishment was originally started by Swinburne, Smith and Co. and was soon after incorporated under the management of William Swinburne, formerly the principal superintendent of Roger's shop. The present manager, John Brandt, organized and controlled for several years the motive power of the Erie Rail Road, and has established the success of the N. J. L. and M. Co. since his connection with them by building truly first class work. Capacity of shop two to three engines per month.

William Swinburne, Paterson N. J. Mr. Swinburne has a large and extremely convenient establishment, upon the line of the Union Rail Road. Capacity of shop, two to three engines per month.

Danforth, Cooke and Co. Paterson N. J. This is an *extension* of the firm and business of Charles Danforth and Co. cotton machinists and manufacturers. Mr. John Cooke, the manager of the locomotive shop was for several years the prin-

cipal machinist in Rogers shop, and is familiar with the best class of work. This establishment is well stocked with excellent tools and has already finished some superb engines Capacity of shop two to three engines per month.

Richard Norris & Son, Philadelphia; successors to the firm of Norris, Brothers. Their establishment has been recently enlarged and is now doing a large business. Number of engines built by William Norris, Norris Brothers, and Richard Norris and Son, since their commencement, 650. Capacity of shop eight per month.

M. W. Baldwin, Philadelphia. Mr. Baldwin's shops are large and his reputation as a builder has been established for many years.

New Castle Manufacturing Company, New Castle, Del. Andrew C. Gray, President; William H. Dobbs, superintendent.

Ross Winans, Baltimore, Md. Mr. Winans has a large and fine establishment and has done a large business for many years. Mr. Winans deserves great credit for his exertions for the successful improvement of the coal engine. His engines are now burning Anthracite and Bituminous coal upon some of the largest roads in the country. Their success is fixed and certain and their use has become general.

A. W. Denmead & Son, Baltimore, Md.

Murray and Hazlehurst, Baltimore, Md.

Smith and Perkins, Alexandria, Virginia. This firm are extending their works to build three engines per month. Mr. Perkins was for many years the Master of machinery of the Baltimore and Ohio railroad, and built some of the most successful and economical coal engines upon that road. His "slip tire" and "heater" have been of great value wherever introduced. All the tools in this shop are of the best patterns, made at the North.

Wm. Ettenger & Co., Richmond, Va.

Schenectady Locomotive Works, Schenectady, N. Y. John Ellis, Agent; Walter McQueen, Superintendent. Mr. McQueen was the designer of the fine engines built by Wilmarth, and the Lowell Machine Shop, for the Hudson River railroad.

Cuyahoga Steam Furnace Company, Cleveland, Ohio. W. B. Castle, Secretary. E. T. Sterling, Superintendent. Mr. Rogers is the efficient foreman of this establishment, and we are informed that he has contributed much towards a good class of engines for the western market.

Harkness, Moore & Co., Cincinnati, Ohio.

Niles & Co., Cincinnati, Ohio.

H. and F. Blandy, Zanesville, Ohio.

The above establishments are all in operation, many of them having been at work for a number of years. Among the shops in progress are the following—

One in Jersey City, N. J. This is a large establishment, and is progressing quite rapidly. Mr. Breese, of the former firm of Breese and Elliot, is, we believe, engaged in it. Mr. Gould from the Hudson River railroad, is to have charge of the shop.

A large establishment is building at Trenton, N. J.

A. L. Grier, Esq., of Covington, Ky., is commencing the manufacture of locomotives.

C. Cooper and company, of Mt. Vernon, Ohio, are also entering upon this business.

Very many railroads have built engines for their

own use. The Boston and Providence railroad company have stocked their road with engines built at their own shops under the care of Mr. G. S. Griggs. The Western railroad of Massachusetts, have had some very fine express engines built at their Springfield shop by Mr. Wilson Eddy. The Reading road are having ten large coal-burning freight engines built this year at their shops in Reading, under the care of Mr. Jas. Millholland. The Baltimore and Ohio company are now having several engines built at their Mount Clare shop, under the direction of Mr. S. J. Hayes. Mr. Hayes is an experienced machinist and fully understands the value of the system of improvements which the Balt. and Ohio company have adopted for their motive power.

There are probably no less than one thousand locomotives built yearly by the shops now in operation, sufficient to stock from three to four thousand miles of road. From ten to fifteen thousand tons of cast iron, and the same amount of wrought iron, and a large amount of other stock are used by these establishments for this yearly production.

The payments for labor alone must reach \$2,000,000 yearly, while the finished products are valued at \$7,800,000.

Galena and Chicago Union Railroad.

Earnings, Etc.—From the report of N. K. Towner, Esq., Secretary of the Operating Department of the Galena and Chicago Union Railroad, we are enabled to present our readers with a tabular statement of the earnings of the road for the fiscal year ending May 1, 1853:

	Passengers.	Freight, Mails, &c.	Total.
May.....	\$15,408 03	\$16,320 45	\$31,728 48
June.....	17,313 46	25,911 66	43,225 12
July.....	13,980 95	20,973 68	34,954 63
August....	16,603 67	23,555 18	40,158 85
September..	20,766 73	35,264 95	56,031 68
October....	22,908 17	35,903 83	58,712 00
November..	15,137 34	31,664 60	46,802 04
December..	12,434 08	26,271 27	38,705 35
January....	11,010 29	21,662 02	32,672 31
February...	11,453 39	14,245 84	25,699 23
March.....	75,559 06	12,667 53	28,226 59
April.....	19,885 88	16,746 05	36,631 93
Totals....	\$192,461 05	281,087 16	473,548 21

The number of passengers carried on this road for the year, was 140,016. The lowest number in one month was 9,127, in February, and the highest 14,661, in October.

The expense of running the road was as follows:

Locomotive services.....	\$15,459 33
Train ".....	7,124 47
Station ".....	42,504 69
Locomotive repairs.....	7,906 39
Car ".....	12,711 44
Track ".....	29,329 87
Building ".....	183 13
Fuel.....	42,490 10
Oil and Waste.....	5,758 52
Printing and stationery.....	1,052 36
Loss and damage.....	3,729 43
Taxes.....	9,119 25
Incidentals.....	10,337 41

Total.....\$187,396 39

The number of miles run by locomotives was 202,953. The earnings per mile run were 233.5, and the expenses per mile run, 92.3.

A comparison of earnings for the years 1853 and 1852, exhibits the following:

	1853.	1852.
Passengers.....	\$192,461 05	\$85,176 15
Mails.....	8,190 40	4,086 28
Freight.....	272,406 16	121,805 24
Totals.....	\$473,057 61	211,067 67

This gives an increase:

In Passengers.....	\$107,294 90
Mails.....	4,704 12
Freight.....	150,600 92

Total.....\$261,989 94

A comparison of the operating expenses of eight New England roads, viz.: Western, Boston and Worcester, Brvston and Maine, Fitchburgh East, Boston and Lowell, Boston and Providence, and Old Colony—with the Galena and Chicago, gives the following result:

	Eight N. Gal. & E. roads.	Ch. R.
Comparative cost of maintenance of way, per mile run....	1.45	14.3
Cost of repairs of engines and cars, per mile run	13.7	10.1
Cost of both, per mile run.....	28.2	24.4
Cost of carrying one passenger or one ton of freight one mile.....	1.4	1.2
Useful effect or number of passengers or tons carried per mile run....	54.1	73.7
Cost of all the work done, per cent. of the gross receipts.....	50.5	39.5

Equipment of Locomotives.

It is an interesting inquiry to locomotive builders to know the increase of locomotive equipment upon trunk lines, consequent upon the opening of "feeders" or branch lines. A certain proportion of the business of all roads is *local*, and a large part of the business of most roads is *through*, or such as is thrown upon it from other lines which form its "feeders." Suppose there are four lines of railroad, each of one hundred miles, forming together one line from a large city to four hundred miles distant in the country. Suppose the business of each section of one hundred miles to be the same as the rest, and to require for its local accommodation two freight and two passenger trains daily each way, each train being supposed of a length equal to the capacity of the engine to draw it. Allowing the passenger engines to run one hundred miles, and the freight engines fifty miles, daily, there are required twelve engines, besides spare engines, on the division farthest from the city. The next division, having its own business in addition, and doing the through business of the "upper road," will require 24 engines, the next, 36 engines, and the road running into the city 48 engines. So we see that there is an arithmetical mean in the increase of locomotive power, for every mile run in approaching the principal receiving and delivering terminus. As our railroad returns do not distinguish between business from their own and from other roads, it is difficult to state the actual increase of motive power on old roads consequent upon the opening of new ones. Our builders can, however, readily understand that the opening of every important line at the South and West requires not only its own equipment, but throws an additional business, which must be met by additional equipment, on other roads connecting with it. Roads are not built now-a-days merely to accommodate an already existing business, but to create a business which shall extend over the entire country.

The concord Rail Road, in New Hampshire has about the proportion of one locomotive for every three miles of its length. The Nashua and Lowell road, below it, has one to every two miles, while the Boston and Lowell road, the recipient of the

business from most of the upper roads, has nearly one engine for every mile. The Cheshire road has one engine to every four miles, the Fitchburg road below it has nearly one engine for every two miles of its main line. The Western Railroad has 1 engine to every 2½ miles. The Boston and Worcester road has one engine to every two miles. Of the Central line of New York, the Albany, and Schenectady has one to every two miles, the Utica and Schenectady one to every three miles, the Syracuse and Utica one to every three miles, the Rochester and Syracuse one to every three and one sixth miles, and the Buffalo and Rochester one to every four and one half miles.

Comparison of Whole Chilled Driving Wheels with Chilled Tires.

Since the established success of the chilled tire upon several of the southern roads, there have been largely introduced whole chilled driving wheels, upon many roads at the north and elsewhere. The chilled wheel presents the same surface, and has the same characteristics of safety, durability and adhesion. But its application and maintenance are attended with far greater expense than with the removable tire, so much so, that it may be positively asserted that the removable tire is the only economical application of the chilled surface.

The chilled tire costs as much more at the outset as by the extra expense of fitting and securing the tire. But the wheel center never breaks, and is always ready to receive new tires when needed, so that the labor of boring a set of tires and securing them, on the one hand, is the only charge to be compared with the expense of taking out an entire set of drivers, losing the fitting of the wheels, crank pins, &c., on the other hand.

To renew the whole wheel is equivalent to throwing away one half of the material as good as new, and the entire loss of the labor expended in fitting the wheels, turning and fitting crank pins, replacing the wheels, re-setting valves, etc. It is well known that a set of crank pins are not worn out when the tires come to be renewed, especially where the pins have been case-hardened, or faced with steel. On the Baltimore engines, with short crank pins without brasses, the wear of the pins at one time equalled the wear of the tires. But the Baltimore and Ohio road adopted the plan of case-hardening the crank pins, and Winans welded a sheet of steel around the pins of his engines, and turned the journal therein. So that even in these circumstances of severe wear the crank pins of the Baltimore engines now outwear three sets of tires.

The security of the slip tire is complete, when it is held upon a conical surface by hook-headed bolts passed sideways through the rim, the body of the bolt lying in the wheel center. This is the general method of applying the chilled tire, and is now in use on more than 800 wheels, and gives the most entire satisfaction. Its tendency is to work the tire, if anything, farther and farther upon the wheel by long use; if the taper of the rim of the wheel does not exceed one-half an inch in the whole diameter, for the width of the rim.

The great merits of the tire are its simplicity entire safety and expedition of renewal; by all of which it relieves the men engaged with the engine from a great deal of trouble, and saves the road a great deal of expense. The wheels are turned and

the tires are bored by gauges, so that tires can be bored at any time and kept on hand ready for immediate application.

The following comparative statements of expenses of renewing the wheel and the tire is made up from the estimates of the master of machinery of the Baltimore and Ohio road, and refers to a set of eight 43 inch wheels, as used on the engines of that road. This statement shows the comparative loss of time and expense by detaining the engine, as estimated by him.

EXPENSES FOR RENEWING EIGHT CHILLED WHEELS.	
7752 lbs. castings.....	a 2½ cts. \$193.80
124 lbs. bands for hubs.....	3½ " " 4.36
Boring out wheels.....	21.00
Banding hubs of wheels.....	12.00
320 lbs. of crank pins.....	a 3½ cts. 11.20
Turning ditto.....	13.75
Forging crank pins.....	12.00
Grinding crank pins into wheels.....	3.00
Chipping key ways and drawing on wheels	23.20
Painting wheels.....	8.00
Fitting in counterbalances.....	6.00
9 days labor, by two men, at \$1.62, and } " four " " 1.00,..... }	10.87
Detention of engine six days, at \$5.....	30.00
	\$349.18

EXPENSE FOR RENEWING THE SAME SET FOR SLIP TIRES.	
4360 lbs. of tires.....	at 2½ cts. \$109.00
60 " bolts.....	" " 4.80
Boring out tires.....	" \$2. 16.00
Labor in putting on tires.....	6.00
Detention of engine one day.....	5.00
	140.80

To this add one-third expense of a set of crank pins, as being the proportion due to each renewal, say..... 15.00

\$155.80

Showing a saving of \$193.38 for each renewal.

New Works.

The Practical Mechanics' Journal, June, 1853. (Republication.)

The Practical Draughtsman's Book of Industrial Design, and Machinists' and Engineers' Drawing Companion. Translated from the French of Armengaud, Brothers and Amouroux, by Wm. Johnson, Editor of the *Practical Mechanics' Journal*.

We have received the June numbers of the above works from the Publishers, Messrs. Stringer & Townsend, of this city. The former work, always progressive and practical, is useful to engineers, machinists, architects, builders, and to many other classes of scientific and practical men.

The latter work, the republication of the English translation of the Armengauds, is of very great value to students of mechanical drawing. It is a monthly quarto of sixteen pages, having 5 copper plates, each of a double page size, devoted to the construction of forms of the most useful description.

We can only give the authors' appreciation of the subject of Industrial Design, with the remark that they have treated it in a style which shows no loss of importance at their hands.

"Industrial Design is destined to become a universal language; for in our material age of rapid transition from abstract, to applied, science—in the midst of an extraordinary tendency towards the perfection of the means of conversion, or manufacturing production—it must soon pass current in every land. It is, indeed, the medium between thought and execution; by it alone can the

genius of conception convey its meaning to the skill which executes—or suggestive ideas become living, practical realities. It is emphatically the exponent of the projected works of the Practical Engineer, the Manufacturer and the Builder; and by its aid only is the Inventor enabled to express his views before he attempts to realize them.

The work will be completed in 12 monthly parts at 37½ cents each.

A Veteran Engineer.

Mr. Leonard Crossman has been employed in running locomotives on the Boston and Providence railroad for *nineteen years*. The first trip with locomotives, from Boston to Dedham, was made in June, 1834, and Mr. C. commenced running in the August following. His first engine was the old "Whistler," an imported engine of Stephenson's construction. With this and with the "Philadelphia," a Norris engine, he for a long time ran the steamboat train over the Providence road. During this long service, Mr. Crossman has never met with any accident resulting in the death of a passenger. We rode up to Boston with him a few days since, and were much interested in his recital of some of his early reminiscences of locomotive engineering. At one time he was running a freight train down "Sharon Hill," and in attempting to "brake up" the brake fell upon the track. There were then no brakes upon any of the freight cars, and he could only reverse his engine to stop the train from getting under too much headway. He attempted this, when the reversing rod broke loose, and the engine and train rushed headlong down the grade. He stuck at his post, and after running a few miles and approaching a slight rise in the opposite direction, the train stopped.

The old "Whistler" was, as late as last January, in the company's old engine house at "India point," in Providence. She was then capable of doing quite efficient service.

Those who are now so deeply interested in railway progress may thus see, in our midst, the oldest engine and the oldest engineer in the country, with perhaps a rare exception; and can contemplate more fully what that progress has been. We will say, moreover, that however much engines may have been improved in this long time, it is doubtful if the engineers of the present day are more successful than their worthy fellow craftsman who has performed his duty through every year of the history of the railway in this country.

The Road to Illinoistown Blocked.

On yesterday afternoon, according to appointment, a Committee of the Directory of the Belleville and Illinoistown Railroad, consisting of Messrs. Morrison, Abend, Roman, Morris, Seargent, and Hughes, had a conference with the Common Council of this city, upon the project of extending that road to Alton under the famous Seventeenth section of their charter. Col. Morrison addressed the Council at length upon the project, setting forth its present financial condition the surveys which have been completed, and the connection proposed to be made with the Central Road in the neighborhood of Cairo. His remarks, however, were very general in their nature, and did not extend to the law sanctioning the enterprise. That point was not discussed at all, and was left for the Council and the citizens to examine for themselves. Throughout, Col. Morrison was listened to with very respectful attention, though, as we have repeatedly said the advocates of the proposed road in this city, do not number

a corporal's guard, and not the slightest favor was exhibited for it.

At the conclusion of his remarks Alderman Adam offered a series of resolutions upon the subject, which were adopted by the Board unanimously. They not only deny the legal power of the Belleville and Illinoistown Railroad Company to construct the road to this city, but pronounce it as an enterprise unnecessary, adverse to the interests of this place, and at variance with the long settled policy of the State. In their view, the communication with St. Louis by packet boat is as speedy, as easy and as intimate as the demands of travellers and the wants of commerce require. Immediately after the adoption of the resolutions the Board adjourned. So the question is definitely settled as far as the city of Alton is concerned, that the projected railroad from Illinoistown to this place, under the "Spider provision" of the Belleville charter, shall not be constructed if courts of law have the power to stop it. What action the Directory of that road will take in this state of the case remains to be seen.—*Alton Telegraph*.

Railroad Items.

The Mayor of Baltimore has communicated to the city Council his official sanction of the ordinance to indorse the bonds of the Connellsville railroad company to the amount of a million of dollars.

The Montgomery, Ala., Journal of the 22d inst., states that the city Council has subscribed \$500,000 to the capital stock of the Alabama and Florida railroad company. The law was passed, conditioned to be ratified by a vote of the citizens to be held this day, 27th inst. This amount, if confirmed, enables the company to start with a subscribed capital of \$1,000,000.

The arrangement for a consolidation of the Toledo, Norwalk and Cleveland road and the Junction road, have been completed and adopted by the stockholders. The combined road, we believe, is to be called the Toledo and Cleveland road.

The directors of the Somerset and Kennebec railroad company at a meeting held at Waterville, Friday, June 10th, completed the organization of the company by making choice of Joseph Eaton, of Winslow, for President, and Increase S. Johnson, of Waterville, for Treasurer.

It is understood that Mr. Eaton accepts the management on the condition that subscription to the amount of 50,000 dollars be obtained to the stock in addition to the \$300,000 already obtained.

Notice of the opening of books of subscription to the capital stock of the Atlantic and Ohio railroad company is given in the Warren Transcript. That paper states that papers have been filed at Columbus for the organization of this company, with a capital of \$8,000,000, and that the project has been planned by some of the most wealthy and energetic capitalists in Ohio.

Hon. John A. Dix, Sub-Treasurer of this city, it is stated, has been elected President of the Davenport, Iowa, railroad, known as the Mississippi and Missouri company, connecting the Chicago and Rock Island railroad, at Davenport, with the Mississippi River. Hon. A. C. Flagg is the Treasurer.

Mr. Jenne, Chief Engineer of the Black River & Utica road—states the *Wheeling Times*—says that the stock has been subscribed to the amount of \$100,000, and a company formed for the manufacture of railroad iron in this city. The works will go into operation as soon as the machinery, a part of which is already made, can be finished. The company has made contracts for all the iron it can make in one year.

A new railroad company has been organized under the name of the Peru and Chicago railroad, with Judge Mitchell, of the Columbus, Piqua and Indiana railroad, as President. The route of the road is from Peru, Indiana, to Chicago. It is proposed to connect with the Columbus, Piqua and Indiana road by running a road in a direct line

from Union, the western terminus of this road, to Peru.

The vacancy of the presidency in the Southern Michigan road, caused by the death of Mr. Dextater, has been filled by the election of Mr. J. B. Jervis, who was president previously to the election of Mr. Dextater.

On the organization of the North Missouri railroad company, John O'Fallow, Esq., was elected president. St. Louis county has subscribed \$500,000 toward the road, and the total means at the command of the company amounts to \$963,000.

Several of the directors of the Syracuse and Binghamton railroad, with the president, Hon. Henry Stevens, and Mr. Gilbert, chief engineer, were in Binghamton last week, for the purpose of considering and determining the location of the depot there, and the question of crossing the track of the Erie road.

The village of Rome, Oneida Co., takes \$150,000 worth of stock in the Ogdensburg, Clayton, and Rome railroad. The vote was unanimous.

Mr. Horatio Newhall, a large stockholder in the Galena and Chicago Union railroad company has applied to Hon. J. M. Wilson Judge of the Cook Co. county court of Common Pleas for an injunction to restrain the company from building the proposed western Branch of their road. The grounds upon which the injunction is asked, are, that the building of the road is not warranted by the charter of the company, and that its construction would prove ruinous to the stockholders. The application is to be heard on Thursday, the 30th inst.

The contractors of the Milwaukee and Watertown railroad are Messrs. Bishop & Co., of Bridgeport, Ct., who are to build the road by July 1st, 1854, for \$570,000, one quarter in stock.

The LaCrosse and Milwaukee railroad is now being constructed to Portage city, and the credit of Milwaukee is given to the amount of \$200,000. From Milwaukee to Portage city, on the Milwaukee river, is 102 miles; and the road to be completed by January 1, 1855. From Portage to LaCrosse on the Mississippi, the road is to be pushed forward as rapidly as possible.

The Grand Jury of Alleghany county Pa., have recommended a subscription of \$500,000 to the Pittsburg and Steubenville, \$150,000 to the Cleveland and Pittsburg, and \$159,000 to the Chartier's Valley railroad. The whole debt created by the county of Alleghany, city of Pittsburg, and Alleghany city, and the debt recommended to be created foots up \$5,000,000.

European and North American Railroad.

A. C. Morton, Esq., Engineer-in-Chief of the European and North American Railroad company, arrived in town yesterday, and proceeds to Augusta to-day with a party of engineers, to make the location of the line from Augusta to Bangor, via China and Unity. It is now ascertained that from Portland to Bangor, by the way of Augusta and Unity, the distance is as follows:

	Miles.
Portland to Augusta.....	60
Augusta to Unity.....	30
Unity to Bangor.....	32

122

From Portland to Bangor, via Waterville and Newport, is as follows:

	Miles.
Portland to Danville Junction.....	24.42
Danville to Waterville.....	55.00
Waterville to Bangor.....	55.00

137.42

From Waterville to Bangor via Unity, according to the recent survey of Mr. Shearer, the distance is only 49.70 miles, or a saving of over 8 miles over the Newport line.

We understand that it is now so arranged that the European and North American Railroad Com-

pany are prepared to build from Bangor to Unity over the short route to Waterville, with a line to Augusta, so that from Portland to Bangor the line by way of Waterville will only be 132.12 miles, and by the way of Augusta 122 miles,—making, by this arrangement, a saving of only 10 miles, by means of adopting the Kennebec and Portland railroad for the Grand Trunk from Portland to Halifax, over that obtained by adopting the Androscoggin and Kennebec road.—*Portland Advertiser.*

Texas.

Vicksburg and Shreveport Railroad.—Mr. Coleman, the President of this important enterprise, is now in the city, raising subscriptions to forward the work. We trust he will meet with the success due to so valuable a work. Louisiana is fortunate in obtaining for the direction of her railroads such men as have charge of her great improvements. It would be difficult anywhere to find gentlemen possessing, in a higher degree, the qualifications for their posts than Messrs. James Robb, Judge Overton and Mr. Coleman. We are pleased, to perceive that these great companies act in harmony, concert, and with the best understanding, and that the only rivalry which exists between them is the honorable one which shall get ahead fastest.

The Opelousas Road, we understand, is determined to surprise us with a ride of 25 miles on the 4th of July next. In the meantime, the Great Northern is pushing its way towards the Mississippi with giant strides. There are, we learn, fifteen hundred laborers at work on the line between Pass Manchac and Mississippi.

The New Orleans and Mobile road, along the sea coast, has scarcely been organized when its stock is all taken up, and none can be found now for love or money. This road is bound to go ahead.—*San Antonio Ledger.*

Central Railroad of New Jersey--Correction.

TO THE EDITOR OF THE AM. R. R. JOURNAL.

In the report of the board of directors of the Central railroad company, published in the Railroad Journal of the 21st May, 1853, the actual cost of the "extension" is compared with the cash estimate made by the engineer of the company, founded on his survey, and location of said extension.

This comparison shows the cost to have exceeded the estimate, but the work having been paid for in the bonds of the railroad company, the cost of this part of the road was thereby increased, and it should have been stated in justice to the engineer, that had the railroad company been in a condition to have made the payments for the "extension" in cash, the work would have been completed within the engineers estimate.

This statement is made in justice to the engineer, by order of the board,

JOHN T. JOHNSON, pres't.

It is stated in relation to the law just passed for the establishment of electrical telegraphic communication between France and Algeria, on the northern coast of Africa, that by agreement with the government of Sardinia, the wire is to cross the Mediterranean in three leaps. The first will be from Spezzia, on the Italian coast near Genoa, to Corsica; the second from Corsica to Sardinia; and the third from Sardinia to Bona, on the coast of Africa, thence along the shore to Algiers and Oran. The submarine telegraph cable connecting Sardinia with Bona will be of one piece, two hundred kilometres—124¼ miles—in length; and there will be on the whole line a total of four hundred and fifty kilometres of submarine wire.

Brunswick and Florida Railroad.

We learn that Hon. S. Foote, who recently visited England for that purpose, has disposed of the Brunswick and Florida railroad companies sterling bonds, in payment for the iron for the road. Shipment of rails from Liverpool to Brunswick will commence immediately. The iron for some ten miles of this road arrived some weeks since, and is now being laid down.

Correction.

In our article on the cost of transportation of freight, in our number of June 25, the expense set down to the Erie road for "incidental charges, repairs of machinery, watchmen, etc." should have been \$0,025, instead of \$0,250. The average for the Central line, for "repairs of freight cars" should be \$8.11, instead of \$8.18. This correction was crowded out last week.

New Screw Cutter.

Mr. D. M. Robinson, of Piermont, N. Y., foreman in the machine shop of the Erie railroad, has lately invented and constructed a machine for cutting screws on iron bolts, which has two peculiarities: one is, that the driving power is applied to a pulley, giving the pulley and the cutting die one uniform rotary motion, and thus avoiding the reverse motion of the common machines, and thus saving at least one-third of the power and time of bolt-cutting. Another advantage is, that the cutting edge of the cutting die is perpendicular to and parallel with the centre of the bolt, when fitted to its place to be cut. The machine promises to be of much utility.

Cast Iron Welding.

In the foundry connected with the railroad repair shop at Piermont, N. Y., Harvey Rice, Esq., Superintendent, the experiment has been successfully tried of casting fused iron upon unmelted iron. A flange had been broken from the outer surface of a locomotive cylinder. Mr. R. E. Falkenberry, foreman of casting, so adjusted the moulding-sand to the broken flange and to the cylinder, and so applied the fused iron as to restore the part wanting. The minutiae of the process he will explain to those who inquire. The new part added to the flange is so skilfully welded on, that the precise line where the new and old parts unite cannot be detected after the parts are polished.—*Plough, Loom and Anvil.*

Removal of Red River Raft.

Mr. Sweet, of Milwaukee, has been on a visit to Red River Raft, for the purpose of examining the work to be done in the removal of it, and to decide on a proposition made to him by the contractor of the work, Mr. Mapes, of Illinois, to become a partner in the contract. The Shreveport Gazette learns that Mr. Sweet was satisfied that the work can be easily done, and expected to join in the contract. The Gazette says:

A boat will be constructed, with circular saws running out in front and at the sides, to go by steam, which will saw the logs in the water. Operations will be commenced between the middle and last of October. It is believed that one of the government snag boats built and being built on the Ohio, can be brought over here to operate about and below the raft.

A Six Foot Track.

We learn from the *Miltonian* that the Sunbury and Erie railroad is to be graded for a six foot track. Orders to that effect have been given to those engaged in getting out the ties, and the contractors are to grade the road one foot wider than at first determined upon. This important improvement is steadily progressing towards an early completion.

Bar Iron--Important Discovery.

Messrs. Davis & Co. Cincinnati, have erected a furnace, forge and rolling mill all in the same room, and are now making the best quality of bar iron directly from the ore, and with common bituminous coal. The arrangements appears to be ample and excellent, and the price of iron must be materially reduced by its adoption. The metal as it is melted in the furnace is drawn off in the liquid state to the puddling oven, where it is balled and put under the strip hammer. After being sufficiently hammered into blooms it is again heated and put through the rolling mill. All these operations are cheapened by the new arrangement, so that the cost is but trifling compared with the old process. Mr. Cist, of Cincinnati, speaks of its advantages as follows:

The great advantages claimed in this process are—the cheapness with which the iron is made, the cost estimated at but \$23, where the ore and coal is near at hand—the use exclusively of the common bituminous coal—the uniform good quality of the iron—and, compared with a blast furnace, costing, say \$30,000, which usually produces nine tons pig iron, worth say \$30 per ton, the daily products would be \$270, the same investment, say \$30,000, will build twenty of these furnaces, allowing \$15,000 for machinery, houses, &c., which twenty furnaces, at the poorest yield ever yet made, will produce 40 tons blooms daily, worth, at the least, \$60 per ton when pig iron is worth \$30, making \$2,400 daily product from a \$30,000 investment, against \$270 product at a blast furnace, and the comparative cost of labor, nothing, compared with increased product. The works are all continued in a building 30 by 50 feet, and the estimated room required for twenty furnaces and necessary machinery, is a single shed 140 feet long and fifty wide.

The Statistics of Buffalo.

The directory of the City of Buffalo for the year 1853 has been recently issued, from which we gather the following statistics of that flourishing city: There are eleven banks there, with a capital of \$1,400,000, with six railroads having their terminus in that city, and three others in various stages of progress. The number of churches is 42. There are eight daily newspapers, six tri-weekly, and 11 weekly published in Buffalo. The directory contains about 14,000 names. The population of the city at the present time is probably all of 60,000.

New Haven Railroad.

The New Haven railroad company paid \$5,000 to Mrs. M. W. Dimock, of Mansfield, whose husband was killed at Norwalk. This was the sum claimed by her, and it was promptly paid.

Discovery of a Deposit of Hydraulic Lime.

We are informed that the Engineers of the Ills. Central railroad have discovered within a few miles of this city, a large, and apparently inexhaustible deposit of Hydraulic Lime, lying contiguous to the Mississippi. Specimens of the rock are now being tested to ascertain its value.—*Dubuque Herald*.

WEST POINT.—The Board of Visitors of this institution have recommended several important changes. Among them are the erection of a new building for cavalry exercise; the enlargement of the Cadet's Hospital, additional quarters for officers, and increase in the number of cadets, so as to give two additional to each State, corresponding with the numbers of Senators; an extension of the period of instruction to five years; and an increase of the pay of the cadets from \$24 to \$28 per month; the equalization of the pay of all the professors, and also the pay of their assistants, with some others of less moment.

At a meeting of the stockholders of the Chattanooga, Harrison, Georgetown and Charleston Railroad company, held at Chattanooga, on the 28th inst., V. K. Stephenson, Esq., was elected President, and Ker Boyce, James Williams Robert Cravens and James A. Whiteside was elected Directors of the company.

Girard Railroad Meeting.

In our last we noticed the fact that a meeting of our citizens was being held at the Alambra; but that no action had been taken up to the hour of our going to press.

The following resolution and provisions were subsequently offered and unanimously adopted:

Resolved, That the views and wishes of the citizens of Mobile, in regard to subscribing to stock to the amount of \$1000,000 to the Girard Railroad Company, as expressed at a public meeting held at the Alhambra on the 11th May last—remain unchanged, and it is deemed important that the corporate authorities of this city take immediate action to carry those views and wishes into effect.

1st. Provided that the location of the road near and at the Mobile terminus, shall be under the control and direction of the city of Mobile.

2d. Provided that the authorities of the city are assured, by the most satisfactory evidence, of the ability of the company to put the whole road in complete running order within three years.

3d. Provided that branches from Montgomery and Selma, and other points in the State of Alabama, should be permitted to join the road at any time and place they may select, and that no discriminating charges shall be exacted at any time on any part of the road.—*Mobile News*.

Portland and Montreal Railroad.

We learn that only ten miles of track upon this road are to be laid, and that the work is now proceeding at the rate of nearly one mile per day. The locomotive will run over the whole road about the first of the coming month, and in season for the pleasure travel, which bids fair to be very large.

Kentucky.

Covington and Lexington Railroad.—The completion of Grant's Tunnel, ten miles from Covington, on the Covington and Lexington railroad, was made the occasion of an excursion on that road on Saturday last.—Upwards of 1000 citizens of Covington and Cincinnati participated. The Tunnel, which was finished on the Thursday previous, was lighted with candles about six feet apart the entire distance through, (2,167 feet) and presented a very beautiful appearance. The first tunnel (Anderson's) is 763 feet long and about 100 feet below the surface of the earth, and Grant's tunnel about 300 feet below. The track is laid about half a mile beyond the tunnel, and the company expect to have the track laid as far as Falmouth by the 15th of August, when a train of passenger cars will be put on.

Ohio.

CENTRAIL RAILROAD.—The *Zanesville Gazette*, a few days since, contained an article on the coast, &c., of the important structure, that is of interest to the stockholders and to the public generally. The road from Columbus to Zanesville is 59 miles long. The construction account \$565,535 55. The superstructure cost \$3000, 849 11. The right of way, \$23,220 93. The discount on bonds, premium and exchange, taxes, salaries, repairs, &c., to January 18th, '53, amounted to \$161,975 41. The receipts of the road were \$51,447 03.

The total cost of the road, including machinery, grounds for depots, &c., is \$1,192,326,

Survey Commenced.

A full corps of Engineers have commenced the survey of the line of the Independence railroad—from Williamsport, Va., to the N. W. Va. road.—Mr. Joseph Dudley, an experienced and skillful man, late Engineer of the Vermont Central railroad, is the Chief Engineer.—*Marietta Int.*

The Huntsville Advocate says, the project of a Railroad from some point on the Selma road near or above Montevallo to the Mobile and Ohio Railroad nearly West of Demopolis and through Tuscaloosa, is exciting a lively interest in that region. It is an important and valuable and will and be a profitable connection.

Railroad Letting.**KENOSHA AND BELOIT RAILROAD.**

ON and after the first day of August, next, and until the 15th of August, inclusive, proposals will be received, under seal, at the Office of the Kenosha and Beloit Railroad company, in Kenosha, for the construction of the entire road from Kenosha to the Rock River Union Valley Railroad, a distance of about 60 miles.

The proposals may be made for the grading, masonry, ties, and entire construction in a single contract—or for the same and all items separately, and in independent contracts by different individuals. They will likewise be received for the above in parts. The work will besides be divided into sections of moderate length, and proposals, as above, for a single section or any number of sections will be received.

Profiles and specifications may be inspected at the Engineer's Office in Kenosha, on and between the days above specified, and forms of proposals will be supplied to all who desire to take contracts.

ALEX. C. TWINING, Engineer.

Engineer's Office, Kenosha, June 20th.

To Railroad Contractors.**PEORIA AND OQUAWKA RAILROAD.**

PROPOSALS will be received by the undersigned, at their office on Mainstreet, opposite the Court House, until the 15th of July next, for the grubbing, clearing, grading and trestlework of that portion of the above road extending from the city of Peoria to the junction with the Chicago and Mississippi railroad, a distance of fifty miles. The line will be divided into two mile sections, but contractors can bid for as many as they please.

Profiles, Specifications, etc., can be seen at the office of the Chief Engineer, Richard P. Morgan, Esq.

CRUGER, SECOR & Co.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's Office of the Pittsburg, Maysville, and Cincinnati Railroad, in M'Connellsville, until the 20th July, for the Graduation and Masonry of the line of road (about 35 sections) between the Muskingum river and the Central Ohio Railroad.

Bids enclosing proper testimonials, will be received for the whole or any number of the above sections.

Plans and specifications will be ready for examination after the 10th of July.

The division between the Muskingum and Hocking rivers will be offered for contract, as soon as the location is completed. ROBT M'LEOD, Chief Engineer.

M'CONNELLSVILLE, June 4th, 1853.

"Gardner's Rock Drill."

DESIGNED for Tunneling, Quarry use, and Rock Excavations of all descriptions, by the use of which a saving of 60 to 75 per cent is made.

Applications for Territorial Rights and Machines must be made to the Patentee.

G. ARTHUR GARDNER,

Trinity Buildings, Broadway,

New York.

June 9, 1853.

Notice to Contractors.**FREMONT AND INDIANA RAILROAD.**

SEALED PROPOSALS will be received at the Engineer's Office, in Fremont, until the 20th day of July next, at noon, for the Grubbing Clearing, Grading, Masonry, Bridging and Cross Ties for said road, from Fremont to Lima; sixty-six miles.

The line will be divided into sections of about one mile each, and bids will be received for one or more, or the whole.

Propositions for completing the entire line ready for business, are also invited.

The Company reserve the right to reject any and all proposals that are not considered satisfactory.

This road, running through a populous and healthy country, where supplies are cheap and abundant, offers unusual inducements to Contractors.

Maps, Profiles, Plans and Specifications, will be ready for examination on and after the 15th day of July.

A. BROOKS, *Chief Engineer.*

Fremont, O., June 23rd, 1853.

AMOSLEAG MANFG CO.

MANUFACTURERS OF LOCOMOTIVE and STATIONARY STEAM-ENGINES, Boilers, Cotton and Woolen Machinery, Tools, Turbine Wheels, Mill Work and Castings of every description.

MANCHESTER, N. H.

WM. AMORY, *Treasurer,* O. W. BAYLEY, *Agent,*
65 State St., Boston, Mass. Manchester, N. H. July 6.

**Lawrence Scientific School.
Harvard University.**

CAMBRIDGE, MASS.

THE next term of this Institution will open on the first day of September, 1853, and continue 20 weeks.

Instruction by recitations, lectures and practical exercises, according to the nature of the study, will be given in—

Astronomy	by Messrs. Bond.
Botany	" Prof. Gray.
Chemistry, Analytical and Practical	" " Horsford.
Comparative Anatomy and Physiology	" " Wyman.
Engineering	" " Eustis.
Mathematics	" " Pierce.
Mineralogy	" " Cooke.
Physics	" " Lovering.
Zoology and Geology	" " Agassiz.

For further information concerning the School, application may be made to Prof. E. N. Horsford, Dean of the Faculty.

Cambridge, July 15, 1853.

Notice to Contractors.

PROPOSALS for the grading, bridging and masonry of the Western division of the Covington and Ohio Railroad, will be received at the Office of the Engineer at Guyandotte, Cabell County, Virginia, between the 20th and 30th of June next. They will embrace about forty-six mile sections, bridges over Twelve Pole, Guyandotte and Mud Rivers, and a tunnel of 1500 or 1600 feet in length, at the bend of Mud River.

Also, between the 1st. and 16th. of July next, proposals will be received at Covington, Virginia, for the grading, bridging and masonry of that portion of the Eastern division, lying between the town of Covington and Hayne's Farm, on Jackson's river—a distance of 10 or 11 miles of very heavy work including much heavy retaining wall, two large bridges over Jackson's River, and probably 2 tunnels.

The successful bids will be declared as soon as practicable after 16th July.

By order of the Board of Public Works.

CHARLES B. SHAW,
Chief Engineer Covington & Ohio R. R. Co.
Lewisburg, Va., May 24, 1853.

**Krupp's
BEST CAST STEEL.**

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions, not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines. Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

—Particularly applicable for—

Engravers' Transfer Rollers and Plates; Die-sinkers', Tool-makers, Reed and Lace Makers' use; Dredging Chains, etc., etc. Manufactured at Essen, in Rhenish Prussia, by **FRIED. KRUPP**.

Agents, **THOMAS PROSSER & SON,**
ap80 23 Plattstreet, New York

Notice to Contractors.**MARIETTA AND CINCINNATI RAILROAD.**

Lettings of Eastern and Western Divisions.

PROPOSALS will be received up to the 12th of July, at the Engineer's office in Marietta, for the graduation, Masonry, etc., of the seventh and 8th Divisions of this road, extending from Marietta to Zane's Island, opposite the city of Wheeling.

The line will be divided into about one mile sections, on some of which there will be heavy masonry, and other work worthy the notice of the most responsible contractors.

Plans, Profiles and Specifications will be ready for examination at Marietta, and on the line of the 8th Division, near Wheeling, on and after July the 4th.

Proposals will be received at the same time and place for the construction of about 20 miles, being that portion of the road between Blanchester and Milford, 14 miles out of Cincinnati, on the Little Miami Railroad.

Plans, Profiles and Specifications for this division will be ready for examination at the Engineer's Office, in the Manchester Building, Third Street, Cincinnati, on and after the first day of July.

The line of the road from Marietta and Belpre to Blanchester, being already under contract, and well advanced in construction; the work now offered forms the only remaining link to complete the connexion from Cincinnati to Philadelphia, by way of the Pennsylvania railroad.

Recent subscriptions of \$1,150,000 by the Pennsylvania railroad Co., the city of Wheeling and individuals, to the capital stock of the company, will ensure the prompt completion of this great work from Cincinnati to Wheeling.

WM. P. CUTLER, President.

A. KENNEDY, Engineer.
Marietta, May 30. 1853.

**CENTRAL RAILROAD CO.
OF NEW JERSEY.****\$950,000 of Stock.**

BY ORDER of the Board of Directors, the Finance Committee of the Central Railroad Co. of New Jersey will open Books of Subscription for the Unissued Stock of the Company, amounting to \$950,000, at the BANK OF AMERICA, in the City of New York, on the 27th June instant, and keep the same open one week, unless the whole amount shall be sooner subscribed. This Stock comprises all that the Company are entitled to issue, and the money received is to be applied to the construction of a second track, improvements at Elizabethport, and other preparations imperatively demanded by the connections to be opened in another year. This mode of distribution has been adopted, in preference to a pro rata allotment, to enlarge the number of stockholders, and facilitate the acquisition of stock by those now desirous but unable to procure it.

The Ferry, 12 miles, from New York to Elizabethport, and the Railroad, 63 miles, from Elizabethport to Easton, Pa., have been operated through the entire distance for nearly a year, and both are fully equipped for the present business. Passengers preferring the land route can go from New York by the way of Newark to Elizabethtown and there intersect the trains.

From the terminus at Easton, the Lehigh Valley Railroad is in active course of construction to Manch Chunk, 46 miles, and will be opened in July, 1854, connecting New York, winter and summer, with the Lehigh coal fields, by a route of only 125 miles; the Lehigh road having only descending or level grades, and the Central Road no grade over 21 feet to the mile. At Tamaqua the Lehigh road connects with the Catawissa road, now constructing, and to be completed in May, 1854. This connects with the Sunbury and Erie road, now under contract and to be completed in two years. Thus the year 1855 will see a new route of favorable grades and curves only 462 miles in length, opening from New York to Erie on Lake Erie.

A direct and favorable connection with Pittsburgh and the Pennsylvania Central Railroad, can also be made through existing roads and charters.

From New Hampton, a point on the Central Railroad of New Jersey, 59 miles from New York, the Warren Branch road in connection with the Delaware, Lackawanna and Western road and the Oswego, Syracuse and Binghamton road, will bring the Lackawanna coal region within 133 miles of New York, with grades of only 21 feet to the mile (except for a few miles in leaving the coal basis at Scranton), and give an unbroken line of six feet gauge, 310 miles in length, from New York to Oswego on Lake Ontario. Of this distance, 156 miles are finished and in operation; 80 miles are under construction and to be opened this Fall; the remaining 74 miles are located, contracted, and to be completed in the Fall of 1854.

It may be interesting to state that the Central Railroad of New Jersey, from its local business, without any of the anticipated connections, has been enabled to pay seven per cent on the cost of the several sections as they have been opened, and that the entire road, with its present local business, is now paying dividends at that rate.

At the close of the fiscal year, April 1, 1853, the financial condition of the company was as follows:

Capital stock	\$1,034,700 00
Mortgage bonds, 7 per cent	1,500,000 00
Other bonds, 6 per cent	113,000 00
Bills payable and balance due	249,022 04
Balance of earnings over dividend	1,006 85
	\$2,897,728 89

This was represented by the following property:

Railroad, average \$37,800 per mile	\$2,379,886 64
Ferry interest and boats	140,900 00
Station houses, shops, etc.	78,000 00
Land at Elizabethport	55,016 77
Equipment	218,504 64
Materials, wood, coal, cash, etc.	25,420 84
	\$2,897,728 89

Full statements of the condition of the company can be obtained at the office, 5 Wall street, where those desirous to examine the road with reference to investment can procure tickets for the trip.

The Finance Committee call the attention of capitalists with the greatest confidence to the present position and future prospects of the road, believing that no road in this vicinity presents greater inducements for investment. They reserve the right to reject or reduce subscriptions, if the whole amount subscribed should exceed the amount to be issued.

Ten per cent will be required to be paid on allotment of the stock, and the remainder in instalments of ten per cent every sixty days on notice, as required. Interest at the rate of seven per cent will be allowed till the instalments have all been called. If the dividends on the full stock are at a higher rate, the difference will be made good to the scrip Stockholders when their stock is filled up.

Dated New York, June 17, 1853.

JOHN T. JOHNSTON,
JOHN C. GREEN,
WILLIAM E. DODGE, } Finance
WILLIAM S. WETMORE, } Committee.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
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The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAU COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, July 16, 1853.

Railroad Negotiations.

New Orleans, Jackson and Great Northern Railroad.—Mr. James Robb, President of the above company, recently sailed for England for the purpose of negotiating its bonds in the London market.

The length of the road is 410 miles, and will cost at the best calculation \$30,000 to the mile or \$12,800,000. The means provided are as follows—

Subscription of City of New Orleans.....	\$2,000,000
" " State of Louisiana.....	1,600,000
" " Counties.....	717,600
" " Individuals.....	458,525
" " Contractors.....	20,000

\$4,976,125

The surveys of the whole line are not yet completed. A small portion of it only has been plac-

ed under contract. The whole amount expended thus far in construction is \$68,127.

The city subscription is met by a tax upon the real estate of the city of one-half per cent., which will produce from \$350,000 to \$400,000 annually; distributing the payments through six years. By the terms of subscription on the part of the State, only one half of the subscription will become due by the first of January, 1859. The full payment of the latter subscription may never become due unless the capital stock should be increased to the amount of \$8,000,000. The payments of the County subscriptions are distributed through a series of years, none being made upon less time than 5. Upon this basis Mr. Robb goes to London to negotiate a loan of \$6,000,000, to carry forward the work.

Now, admitting the importance of the work to the city of New Orleans, and its prospective value as a commercial enterprise, it strikes us that the present attempt to negotiate a loan to the amount of \$6,000,000 is premature, ill advised, not justified by the financial condition of the company, and very likely to end disastrously, rather than to be productive of really beneficial results.

We are opposed to the policy of building railroads entirely upon *credits*, as this road is proposed to be built. Our objection is not a new one.—We have watched with care the recent movements of New Orleans, and more than two years ago we pointed out the dangers into which she was likely to fall. We took the ground that municipal corporations were incompetent to the task of constructing and managing railroads, which are commercial enterprises, and can only succeed by bringing in aid of their management private interests and individual sagacity. Where the management of a railroad, or any similar work, is entrusted to the officers of a municipal corporation, the immediate interest they have to make all they can out of the work as it progresses, or their position in reference to it far outweighs the more remote and contingent good they may have at stake; and experience has proved the rule to be universal that such work will be *mismanaged*. Take the case of Pennsylvania. The construction of her public works has been but one scene of profligacy from beginning to end, and it is now a grave question whether the State would not be better with-

out, than with them. There is an immense amount of venality and corruption in the management of the Erie Canal in this State, which would be as glaring as in the case of the Pennsylvania works, did not its immense revenues hide the multitude of sins that are committed; It is notorious that "Government work," as it is called, costs twice as much as would a contract put out by an *individual*. The reason is obvious. In the latter case the *gains* are measured by what can be *saved*; in the former by what, as far as Government is concerned, can be *wasted*. Such is the case with all work where *private* interests do not act as guard over expenditures.

The policy we urged upon the people of New Orleans was to provide a very large individual stock subscription as the basis of any loan they might be obliged to make. Suppose the road to cost \$12,000,000, at least one-third of this sum should have been *private* subscriptions. Such amount would have required at least 5000 stockholders, each of whom would have become not only a firm friend of the road, but a vigilant committee of safety, always on hand to defend its rights, and to maintain its interests. Each person would feel every cent lost, to be *his* loss. The stockholders would scrutinize every act of the directors, and their vigilance always excited would operate as a wholesome check upon any unadvised or unwarranted step. In such case nothing could go wrong, without being brought to light, and the spirit of inquiry investigation aroused, would bring to the aid of the directors the best talent and ability in the whole community. Where the majority of a community were stockholders, they would be able to create a public feeling in favor of a work which would be of incalculable value, in a pecuniary point of view. When, on the other hand, *individuals* are not interested in favor of, they will be against a railroad, and this fact alone often adds vastly to its cost in the increased cost of many of the more important items of construction.

We advised the people of New Orleans to pursue the same course that their sister city, Mobile, has done. *That* city, only one-sixth the size of New Orleans, undertook, single handed, the construction of a much greater work; the Mobile and Ohio railroad. By the adoption of a proper policy the completion of this great work is now not only

secured, and that too at an early day, but the whole has been rendered a task of as little difficulty as would have been the construction of fifty miles of road. As is the case with the New Orleans, and Great Northern, the line of the former traverses, for the greater part of its distance, a country possessing sufficient local means to prepare the road bed for the iron. Its managers laid it down as an inflexible rule that they would put no part of the road under contract, only so fast as the local population would provide the means of graduation. No difficulty whatever was found in securing the proper pledges from the proper parties, as soon as they were made to understand what was expected from them, and the work upon the entire line is now making the most rapid progress from local means alone; and when the work of graduation shall be completed, the company will find capitalists ready to take their bonds and furnish them with the balance necessary to complete the road upon most favorable terms. But these are not all the advantages resulting from the policy adopted in the case before us. The road, in a great measure, has become the common property of the community it traverses. It has taken strong hold on the confidence and affection of its stockholders, which is bringing into its management the best ability that the country affords. It serves as a means of educating the whole community interested upon the subject of railroads their influence, mode of construction, management, etc., etc. Such are the results already achieved to a very considerable extent upon the line of this road though the influence it is destined to exert, is hardly begun to be felt.

These remarks may seem of too general a character to have much bearing upon any particular case. But they are applicable to all cases. We are not only opposed to building railroads entirely on credit, but we think it a great misfortune for any company to obtain this credit easily. If an individual who borrows a sum of money pledges an equal value as *Security*, he wastes his own means by wasting his trust. In such case the indebtedness he creates has no tendency to render him extravagant. We want to see Railroad companies placed in the same category. Their managers should have a direct and immediate interest in the result of their acts. This must be the case to secure an economical administration. Money that comes easily, is always expended lavishly. Take the case of the Erie Railroad company. As soon as they found they could have money for the asking, it went as freely as it came. It is not too much to say that a sum larger than its present Capital Stock has been lost outright; sunk:—The legitimate result of building a road upon credit, and one that could never have happened had one half the cost of this road been raised by *Stock* subscriptions.

The credits of municipal corporations should only be resorted to in the case of eminent necessity; only to supply what may be lacking private enterprise shall have exhausted its means. In such case, such corporations do not become direct parties to such works, and no injurious result follows. When, on the other hand, the credit of corporations are resorted to in the *outset*, its effect is to completely destroy all public spirit. It completely emasculates it. When individuals feel themselves released from the

necessity of aiding an enterprise by the action of a city in its corporate capacity, they can never be brought up to the work by any subsequent effort.

Suppose, after all the money furnished by the city and State, and such as may be obtained on the proposed loan is spent, and still a large sum should be wanting to complete the road, how is this to be raised? Not by *private* subscription by any means. Individuals are not going to put their means into a road only to benefit a State, or a large city. But the State and city may change their policy, and refuse to increase their aid. In such case the work may be brought to a dead stand,

We think the above company have gone to work exactly the wrong way, the credits of the city of N. O. and the State of Louisiana, should have been kept as a resource for *final* resort, upon the failure of all other sources of supply. In fact these credits should never have been resorted to at all. There was no necessity for such a step. There is an abundant amount of capital both in the city and upon the line of the proposed road, for its construction, which could have been made available for this object had the proper policy been pursued: The Mobile and Ohio Railroad Company find no difficulty in constructing their great work without State aid certainly with the greater capital of New Orleans, the New Orleans, Jackson and Great Northern company could have accomplished as much. If the citizens of New Orleans have not the enterprise to furnish a sufficient amount of means to secure the construction of the above road they will certainly lack the capacity for its proper management. The time has not yet come for this work, and they will do well to postpone it till they find themselves in possession of *all* the conditions of success.

Again, we think they mistake in sending their securities at this early day to England for sale. To be sure, they could not be sold in this, nor in any *domestic* market, which is conclusive proof that they are not well based. There is a very large amount of foreign capital sent over here for investment, now lying idle for the want of suitable securities to meet the requirement of purchasers. Our capitalists are certainly sufficiently lax in their notions as to what constitutes a good security, and when one is offered that does not come up to their standard, it ought not to be negotiated. If those offering cannot bring them up to it, they should withdraw them till they can. This running off to England with what cannot be sold in our own market, may in the end be productive of the worst results.

Bonds of R. R. that cannot be sold at home, should not be sold at all. For good securities there has never been a time for two years when there has not been a regular and steady demand, and the markets at the present instant would take a much larger amount than is now offering. There is a plenty of money for our legitimate projects, and it is much better both for purchaser and seller, that our loans should be brought out here, than sent abroad. If they will not sell here, they are not safe to be taken by the foreign purchasers, who should trust to the wider and better means of information, and the keener instinct of our own people, than to the representation of interested parties.

There is no road that we should prefer seeing built to the New Orleans, Jackson and Great Nor

thern. We think it calculated to be of eminent service to the city of New Orleans. To secure the results predicated of it, and to make it productive of the greatest good to all parties, we desire to see the adoption of a wise policy both in its construction and management. We do not think the policy pursued thus far has been such a one. We think the present proposed sale of the company's bonds would be an injury instead of an advantage, to the project. There is a work to be done before selling the bonds, which cannot be done after.—The golden opportunity of placing the scheme upon a proper foundation will be lost. The bonds offered do not rest upon a proper basis to render them secure beyond a contingency. They could not be sold, neither in New Orleans nor in this market. If they are sold in the London market, it is only because greater ignorance prevails there as to their value. If Mr. Robb would render this company a real service and one within his power, he will come home, raise an individual stock subscription of \$3,000,000 or 4,000,000, collect and expend it in construction, and then he will be in shape to borrow money, not in the English market, but in our own, where his loan should have been brought out, and would have been had it possessed sufficient merit to command the attention and confidence of our people.

Ross and Rutter's Patent Railroad Track Sprinkler and Dust Layer.

This is an efficient and simple machine for laying the dust on railroads. It moistens the air surrounding the cars, reduces the friction between the wheels and rails, prevents the bearings from heating and wearing, and protects the paint and varnish of the cars, so as to save much labor in cleaning. Every experienced railroad man is aware that a train of cars is moved with less power on a *wet* than a *dry* rail.

The valve conducting the water to the track may be so attached to the throttle valve lever of the engine, as to open and close with it, thus letting on the water at starting, and giving a dry rail to stop on. The discharging apparatus can be connected with the tender, if the latter be of sufficient size.

The nuisance of dust is almost intolerable to passengers during the summer months, and in no way can it be so effectually checked as by the use of this track sprinkler.

The dust is laid so effectually with this machine as to give no annoyance whatever to passengers. It is in fact an indispensable article upon every railroad, and where one is used the passengers will not submit to its being taken from the train.

Many testimonials of its comfort may be had from the patrons of the Boston and Providence, Providence and Stonington, and other railroads where it has been satisfactorily used.

A committee of the New England Association of railroad superintendents, Messrs. Wm. Raymond Lee, Wm. A. Crocker, and Isaac Hinkley, reported upon this improvement, under date of July 12, 1848, as follows:

"Your committee are fully convinced of the utility of track-sprinklers connected with R. R. trains; their use promotes the comfort of passengers, keeps the cars clean, and the bearings more free from dust."

Further information may be procured by addressing Wm. E. Rutter, Elmira, N. Y.

Clark's Railway Machinery.

As we intend to present, from time to time, useful selections from this valuable work, we devote the present space to Mr. Clark's concluding remarks and recapitulation of his chapter upon the "behaviour of the steam during the exhaust." See *Railway Machinery*, page 118.

Concluding Remarks.—We have seen how much the mechanical efficiency of steam is opposed by atmospheric resistance, and impaired by clearance and back pressure. It is known, also, how severely steam suffers by condensation in the cylinder under certain circumstances. These are all impediments to the complete success of expansive gear. Another, but less obvious impediment is the adoption of a low standard of boiler-pressure; because the lower the head of pressure, the greater is the relative loss by the atmosphere, but principally because the expansive functions of the valve-gear are less available. On level railways this objection exists with greater force than even on railways with steep gradients, because, on the former, the pull is nearly uniform throughout, and therefore a constant high pressure in the boiler would be the more necessary for carrying out great expansion; whereas, on the latter class of lines, a lower boiler-pressure may suffice for purposes of great expansion, on descending gradients where but little steam is required. Moreover, the evil of low pressure is, as we have found in last chapter, greatly aggravated by the resistance of the passages to the flow of steam from the boiler, at high speed, which reduces the available pressure in the cylinder precisely at the time it is most wanted. It is clear that, in general practice, cutting off at half stroke is reckoned good work for expansion; and very rarely indeed is the admission reduced below 30 per cent. of the stroke.—There is no sufficient reason why the ultimate expansion of steam enforced in certain classes of stationary engines, should not be more thoroughly followed out in the practice of locomotives, seeing that by the link motion a maximum suppression of 10 to 20 per cent. of the stroke is available. We have already shown that, in exposed cylinders, the economical use of expansion gear is limited by the formidable condensation that attends great expansion.

In all locomotive engines, it is essential to the entire success of expansive working that the cylinders be well protected and well heated, that all the steam passages be wide and free, that the valve gear be maintained in first rate order, so that early suppressions may be effected, because the wear of the valve gear delays the movements of the valve, and lengthens the admission especially towards mid gear; that by improved arrangements, the clearance at each end of the cylinder should be reduced to the lowest possible fraction; and that a high pressure in the boiler, of 100 pounds to one hundred and fifty pounds should be constantly maintained.

Recapitulation.—1. Work is an exertion of pressure through space, and the unit of work is the labor necessary to raise one pound through the height of one foot. Horse-power expresses the rate of work done, and one horse-power is equivalent to work done at the rate of 33,000 lbs. raised through one foot in 1 minute.

2. The effective mean pressure on the piston under the action of steam is equal to the mean po-

sitive and back pressures, as indicated on the diagram, and the area of the diagram is a measure of the work done during one stroke of the piston.

3. The horse-power of a locomotive, developed in the cylinder, is estimated from the diagram in terms of the speed, the diameter and stroke of piston, the diameter of driving wheel, and the effective mean pressure on the piston.

4. The resistance of the atmosphere on the piston is virtually constant under all conditions, being about 15 pounds per square inch. The greater the steam pressure, therefore, the less is that resistance in proportion; and hence, partly, the advantage in point of efficiency, of employing steam of higher pressure in the cylinder.

5. The superior efficiency of steam worked expansively, is due to the work done by the steam during the period of expansion, and up to the end of the steam stroke; and also to the reduction of back exhaust pressure by an earlier release.

6. If steam be admitted to the cylinder at the same pressure, the work done during expansion is actually increased as the period of admission is reduced, notwithstanding there is a smaller body of steam to be expanded; and during the exhaust till the end of the steam-stroke, the work done is sensibly constant for all admissions. Thus, the whole useful work done by the steam subsequently to the period of its admission is absolutely increased as the admission is reduced.

7. The loss of useful expansive force by a "premature" release of the steam worked expansively by a link-motion, is a mere trifle, practically nothing; and is much more than compensated by the prevention of back pressure.

8. The results from the "Great Britain," with well protected cylinders, port about 1-10th, orifice 1-16th to 1-11th, and inside lead about 1-12th of the area of piston,—having been found upon the whole superior to those derived from the other locomotives subjected to experiment, they are assumed, for present purposes, to be standard practical results of the action of steam in locomotives, worked by link-motion; and they form the basis of the following observations.

9. The loss of efficiency by back exhaust pressure varies as the square of the speed, and inversely as the square of the area of blast-orifice. At 60 miles, or 840 feet of piston, the loss in full gear amounts to from 1-3 to 1-10 of the whole power, when the orifice is enlarged within the practical limits of 1-16th to 1-11th of the piston; in the 5th notch, suppressing at 30 to 40 per cent., the loss at the same speed, and within the same limits of orifice, is from 1-8th to 1-50th of the whole power. At 30 miles, the loss is from 1-11th to 1-40th in full gear.

10. The resistance by compression rises very slowly with the speed; it increases also with the degree of expansion, from about 8 per cent in full gear to 28 per cent. in the 5th notch—by which, in the latter case, above $\frac{1}{4}$ th of the power is neutralized by compression.

11. At the highest speeds the whole draw-back by back pressure is nearly the same for all degrees of expansion, as what is reduced in exhaust pressure is made up by compression.

12. At the higher speeds of 30 to 60 miles, and with heavy loads, the greatest work done by en-

gines generally, having ports about 1-14th, and blast-orifices 1-13th to 1-16th of the piston is effected with admissions not greater than 66 per cent.; showing that the greatest effective pressure is obtained with this admission.

13. In the "Great Britain," with the wider port and wider orifice, the greatest useful admission at the high speeds with heavy loads is at least 75 per cent. of the stroke.

14. The effective mean pressure in the cylinder varies with the period of admission. For an admission of three-fourths of the stroke, it is about 90 per cent. of the maximum pressure; for half stroke it is 67 per cent.; for one fourth stroke it is 40 per cent.

15. The consumption of water as steam under the same notch, per horse-power per hour, is practically constant for all the speeds observed.

16. The efficiency of steam worked expansively increases uniformly as the admission is shortened until for ten per cent. admission it is, just about double the efficiency of steam under ordinary full gear, or 75 per cent. admission. That is, the steam, when urged to the utmost degree of expansion by the link-motion, does about twice as much work per pound weight as when under full gear.

17. Accordingly, the steam consumed per horse power per hour, varies from about 30½ lbs. in the full gear to 16 lbs. with 10 per cent. admission. The consumption of coke, allowing 1 lb. for 8 lbs. of water, varies, in the same way, from 3-8 lbs. to 2 lbs. per horse-power per hour.

18. The clearance between the piston and the valve should be reduced to the smallest practicable amount, as the removal of clearance adds to the efficiency of the steam.

19. The preceding conclusions hold good, at speeds under 30 to 40 miles, or about 500 feet of piston per minute, for all cylinders, in good order, with ports at least 1-14th and (blast) orifice 1-12th to 1-15th of the piston, and having, if but partially protected 1-9th to 1-11th of inside lead. At the highest speeds, of 55 to 65 miles, for passenger engines, or about 800 feet of piston, engines of the above proportions consume by back pressure an excess of 33 to 12 per cent. of water above what is given by the rule, the excess being less as the admission is shortened.

In partially protected cylinders, additional allowance must be made for condensation, particularly when the maximum pressures are under 60 lbs. When the maximum pressures are 90 lbs. and upwards, and with above 60 per cent. admission, there is less condensation comparatively, and the exhaust is practically as good as in well protected cylinders. But, for highly expansive working, no pressure of steam, however great, can prevent the great evils of condensation.

20. Wire-drawing by the valve is really a partial "expansion," and is equivalent, in its action, to an earlier suppression than that with which the valve is ostensibly working.

21. In all locomotives, the thorough efficiency of steam by expansion can be developed only by well protecting and well heating the cylinders and steam-passages; by maintaining the valve gear in the best order; by reducing the clearance at each end of the cylinder to the lowest possible amount; and by the adoption of a sufficiently high pressure in the boiler.

Iron Manufacture in Great Britain.**THE METAL TRADES OF LIVERPOOL—IRON.**

"There are at the present moment, 178 different ironworks in the kingdom, with an aggregate capital approaching £4,000,000. The production of pig-iron during the last twelve months was estimated at 2,697,240 tons; and, if we take only 2,000,000 tons, at £3 per ton, it makes the annual value of £6,000,000."

The demand for iron of late years has greatly increased, owing to its adaptability for marine purposes, in the construction of ship-building and steamers, as well as in the formation of railroads; and, although there has been a great scarcity of coal generally in South Staffordshire and to some extent in Wales. The production of pig iron in the United Kingdom during the year 1852 was estimated as follows, the yield being calculated only upon those furnaces in blast:

	Furnaces.			Pig iron, Tons.
	In.	Out.	Total.	
Scotland	113	31	144	775,000
South Wales	135	27	162	635,000
Ditto Anthracite	12	23	35	31,000
South Staffordshire	127	32	159	725,000
North Staffordshire	17	4	21	90,000
North Wales	6	7	13	30,000
Shropshire	27	13	40	120,000
Durham	18	8	26	110,000
Northumberland	7	6	13	35,000
Yorkshire and Derbyshire	35	7	42	150,000
Total	497	158	655	2,701,000

There is little doubt but in the course of 15 years, and even sooner, this manufacture will be doubled in its quantity. At the present moment there are 118 furnaces in blast in Scotland, producing at the rate of 800,000 tons per annum.

The principal stocks of pig iron held in this country are kept on wharfs and in yards at Glasgow, and on premises belonging to the iron works in the neighborhood, as Gartsherrie, Dundyvan, &c.; but there are smaller depots for pig iron, intended for consumption or re-manufacture in England, formed at Poulton, Fleetwood, Preston, Lancaster, Runcorn, Ellesmere Port, and Saltney, near Chester; therefore we should first ascertain the amount of such stocks, the shipments, &c., during the last seven years, which we find recorded in the report of Mr. John Barclay, iron broker, Glasgow, and Messrs. Stitt Brothers, Liverpool, as below:

Stocks of pig iron held in Scotland on the 31st. December in each year.

	Tons.
1846.....	145,000
1847.....	90,000
1848.....	100,000
1849.....	200,000
1850.....	275,000
1851.....	350,000
1852.....	450,000

Shipments of pig iron from Scotland.

	Foreign.	Coastwise.	Total.
1846..... tons	119,100	257,851	376,951
1847..... "	143,460	227,005	370,465
1848..... "	162,151	227,833	389,984
1849..... "	153,183	221,943	375,126
1850..... "	134,576	190,083	324,659
1851..... "	192,676	260,080	452,756
1852..... "	224,070	199,950	424,020

The consumption of pig iron in Glasgow and that neighborhood is now 4,000 tons a week; equal to 200,000 tons a year; and the manufacture of malleable iron in Scotland has been calculated as follows:

	Tons.
1846.....	45,000
1847.....	60,000
1848.....	90,000
1849.....	80,000
1850.....	80,000
1851.....	90,000
1852.....	90,000

As the United States of America purchase ex-

tensively, we will record the exports of pig iron thence, direct from Scotland, during the last seven years, to show the marvellous increase:

	Tons.
1846.....	13,918
1847.....	44,993
1848.....	90,235
1849.....	94,212
1850.....	57,509
1851.....	80,019
1852.....	100,700

The entire exports of iron from Great Britain are now double what they were in 1825, having almost reached 1,500,000 tons in the past year, 1853, of which those of Liverpool exceed one fifth portion. The United States being our principal market, let us see what were the shipments of manufactured iron from Liverpool to the three chief ports, New York, Boston and Philadelphia, during the last seven years:

	Rails. Tons.	Bars, &c. Tons.	Hoops, &c. Tons.	Total. Tons.
1846.....	12,514	12,807	1,686	27,007
1847.....	12,635	37,543	7,195	57,373
1848.....	50,188	33,621	7,237	91,046
1849.....	33,849	57,135	13,203	104,187
1850.....	29,808	66,338	19,486	115,632
1851.....	78,199	64,301	19,293	161,793
1852.....	74,468	72,064	22,196	168,728

Of this extraordinary increase during the last year, 1852, New York received from us 135,299 tons; Boston, 24,414 tons; and Philadelphia, 12,024 tons.

The shipments to the East Indies are falling off. The total exports from Great Britain to Calcutta of all sorts of iron last year only amounted to 14,020 tons, of which 4,404 were sent from Liverpool.

The English Locomotive.

From that very interesting and instructive English work called "Our Iron Roads," we copy the following article:

"The history of the locomotive is full of interest, both in itself and in its results. Doubts were long entertained by scientific men as to the possibility of fully developing the powers of the engine, which greatly retarded its successful application. The conviction had firm hold upon the minds of those best informed upon the subject, that the adhesion of the wheels of a locomotive, technically termed *the bite*, would be insufficient for the maintenance of a heavy traffic; and that, though a light engine might be made to run even at a considerable speed, yet if heavy burdens had to be drawn the wheels would revolve without advancing.—Thus it is that

"Our doubts are traitors,
Which makes us lose the good we oft might win,
By fearing to attempt;"

for after much time, skill and money had been expended in devising various expedients to obviate the supposed evil, it was found to be quite imaginary, and that, for all practical purposes, no such difficulty as that apprehended would arise. To the connexion of the locomotive with the establishment of the Liverpool and Manchester railway, we have already referred. Despite the doubts of some and the denials of others, the locomotive was made capable of undertaking the great work of maintaining the interchange of people and of commodities; and as the demand upon its services increased, fresh energies were developed, till we behold it in the comparative perfection in which it now appears before us. But the improvement was gradual. Experience lent its aid to theory, and soon great alterations were found necessary in the form in which it first appeared.

It would be interesting to trace the several steps by which increased efficiency was given to the "steam horse," as this must be regarded as the most important element of success in the establishment of the railway system; but the briefest allusion must suffice. Though much more was performed by the early engines of the Liverpool and Manchester line than could have been anticipated, yet it was soon found that their strength was insufficient to sustain the shocks and strains to which they were exposed, and repeated and thorough repairs were indispensable. Thus the earliest railways must be regarded as schools for experiment in the construction of locomotives, as numberless projects had to be tried before the desired efficiency could be attained; and, as a natural result, there were engines of almost every diversity of shape and of power on the lines. For many years the locomotive departments of these early companies had to go through a course of elaborate and expensive improvement, to meet the requirements of a heavier traffic, and of higher velocities than it had entered into the imagination of the most sanguine friends of railways to anticipate. These trials, too, were not made with the calm deliberation which a salutary caution recommended, making good each step in the progress of discovery before advancing further, but amidst the bustle and responsibilities of every-day duties, that could scarcely be discharged within the period assigned. Engines, having known imperfections, but which it was impossible at the time to remedy, had to be employed, and repairs had to be made during the night, in order that the requisite number of engines might be prepared for the work of the coming day.

In this volume we cannot give other than a general account of these progressive improvements.—The outer and inner framings were stayed in various parts; iron wheels were substituted for wooden; crank axles were formed with almost double the amount of metal at first employed; and pistons, piston rods, connecting rods and brasses were strengthened; till, with the exception of the boiler and cylinders, there was about as much left of some of the original engines as there was of the sailor's knife, which, while declared to be "quite an antique," was currently reported to have recently had a new handle and several new blades! Alterations so extensive naturally involved a considerable augmentation of the weight of the engine; and thus, from the four tons and a half which the "Rocket" weighed, it before long increased to ten tons of the "Planet" class.

Other important alterations followed. The cylinders and the machinery by which the working wheels were driven, were originally placed outside the wheels, but they were soon removed to the space between the wheels under the boiler. This was regarded as a great improvement, inasmuch as the cylinders were enclosed in the smoke-box, and protected from cold, and the driving power was made to act nearer the center of inertia of the engine and load. There was, however, a serious draw-back; for it required that the axle of the driving wheels, on which the greater part of the weight of the engine rested, should be constructed with two cranks, so as in fact to be broken and discontinuous in two places. This was admitted to be an anomaly in engineering; but it was allowed on account of the countervailing advantages

attending the arrangement. More recently, it was found almost impracticable to compress machinery of sufficient power into the narrow space between the wheels; and the cylinders and working gear have, in some cases, been restored to their original position outside the wheels. This, however, has been objected to, as giving instability to the engine when in motion; and in many cases a return has been made to the former arrangement of the machinery.

Improvement has thus advanced in the structure of the engine; and though it cannot be said yet to have attained perfection, still the contrast which is presented between the locomotive as it was in its earlier history, and as it is now, is as great as that between the poorest hack that ever tottered under a burden, and the race horse that won the last "Derby."

The £550 early engine, on four wheels and of five or six tons weight, is now superseded by the six or eight wheel engine, of £2500, and of 20, 30, or 40 tons; and though cost and weight are not to be identified with efficiency, yet they are fairly indicative of the extent of the alterations, and, we may say, improvements which have been made. The successful competitor on the Liverpool and Manchester line was required to draw a load of only three times its own weight, or a total of less than twenty tons; an engine will now drag after it, without difficulty, thirty passenger carriages, each weighing five tons and a half, at thirty miles an hour; while the express train on the Great Western proceeds, when in motion, at from sixty-five to seventy-five miles an hour; and the goods engines are capable of propelling five hundred tons at twenty miles an hour.

The power of the engines now ordinarily employed on our railways is indeed enormous. On the broad gauge we may take the "Lord of the Isles," which was shown at the great Exhibition, as the type of the class of locomotives constructed on the Great Western line since 1847; it is capable of taking a passenger train of one hundred and twenty tons, at an average speed of sixty miles an hour, upon easy gradients. The evaporation of the boiler, when at full work, is equal to 1,000 horse power, of 33,000 lbs. per horse; the effective power, as measured by a dynamometer, is equal to 743 horse power. The weight of the engine in working order is thirty-five tons, besides the tender, which, when laden weighs nearly 18 tons.—The diameter of cylinder is eighteen inches, the length of stroke 24 inches, the diameter of the driving wheel 8 feet, and the maximum pressure of steam 120 lbs. The actual consumption of fuel in practice, with an average load of twenty tons, and an average speed of twenty-nine miles, including stoppages, is rather more than 20 lbs. of coke per mile. For the better distribution of the enormous weight of the "Lord of the Isles," it runs on eight wheels. The cylinders are laid horizontally under the front of the boiler, and can be easily examined together with the rest of the working parts, by going down into the ash-pit, over which the engines are often made to stand in the sheds.

Nor is the narrow gauge behind in the colossal power of its engines. One of the strongest of these is the "Liverpool," built on Crampton's patent which was also exhibited in the Crystal Palace. This engine contains 2285 feet of heating surface, being 270 feet more than the largest engine on the

broad gauge. The diameter of the cylinder is 18 inches, the length of stroke 24, and the diameter of the driving wheel 8 feet. The engine itself weighs thirty tons, and the evaporation of the tubes, when in full work, is equal to 1140 horsepower. The pressure of the steam is 120 lbs., on the square inch. The engine is built with a very low boiler, and the greatest weight is on the extreme wheels in order to insure steadiness. To realize the amounts thus given of the power and the speed is not easy, and in order to understand them more fully, one or two illustrative facts may be mentioned. When a speed of seventy miles an hour is obtained, a space has to be passed over of 105 feet per second, that is to say 35 yards must be traversed between the tickings of the clock. If two trains proceeding at this speed pass one another, the relative velocity will be doubled, so that if one of them be seventy yards long, it would flash past the other in a single second of time. Now, according to the experiments of Dr. Hutton, it appears that the flight of a cannon ball having a range of 6700 feet is a quarter of a minute, which is at the rate of five miles a minute, or 300 miles an hour; and hence it follows that a railway train moving at 75 miles an hour, has one-fourth of the velocity of a cannon ball.

In order to understand the processes by which one of these steam monsters is put together, a visit should be made to a locomotive factory; but as this may be difficult, the proceeding adopted in their construction may here be briefly sketched by a description of the establishment of the Great Western railway at Swindon.—

The factory here consists of two large squares, surrounded by workshops, with one or two smaller squares adjoining. In connexion with these is an engine-house, where spare locomotives are kept and a building resembling a veterinary college, where defects are remedied.

The smithy may be first noticed.—This is a long range of buildings, containing 176 forges, with all the "appliances and means to boot" for their effective working. Here all the parts of a locomotive which are of wrought iron,—as axles, piston rods, connecting rods, and other pieces too numerous to mention—are produced. Three furnaces are provided in this department, in one of which the scraps of iron which come from the lathes and fitting shops are melted. Near the furnaces are two of Nasmyth's steam-hammers, which are as potent in their work as they are easy to be directed. Before these hammers were introduced the forging of huge masses of metal was both a tedious and a doubtful process; now the requisite power can be obtained to insure security in the work. Yet this mighty engine may be directed by a boy, and is so fully under command that it can be made to crack a nut without injuring the kernel, or to drive a tin tack into a piece of wood by successive raps. One of the most important parts of the work which the steam hammers have to perform, is the forging of the crank axles of locomotives, and by its aid the huge masses of metal are welded and moulded without difficulty.

The wheel-working is a process of interest, and on the necessity of good workmanship here, it would be superfluous to dilate. The whole of the wheels are formed of wrought iron, the several parts being forged in pieces and then welded together. In the large eight feet driving wheels, there

are twenty-four spokes. A wheel consists altogether of more than a hundred pieces. The scenes which are presented in the various operations around the forges, are characterized by a wild magnificence, which must be witnessed to be appreciated.

The next part of the establishment is the boiler house. The materials of which the boiler is chiefly made consist of sheet iron, prepared for the purpose, the plates of which, when brought to their proper size and shape, are drilled round the edges so that they may be firmly held together by means of rivets. The noise which fills the building is most deafening. To speak so as to be heard is impossible, and if it be attempted, the motion of the lips of the speaker is the only evidence that he is talking. The impression produced upon the minds of almost all who enter a boiler house for the first time is, that the workmen commence a most tremendous clattering of hammers and plates for his special annoyance, as it seems almost impossible that any useful undertaking can be progressing as the result of such a din.

In the foundry which may next be visited, the cast iron works are carried on, and a variety of operations may be witnessed, while in an adjoining building the wood-work of the buffers and the models in wood for the castings are prepared.

The fitting-shops form one of the most interesting departments of the establishment. In order to supply the power necessary to put in motion the numerous machines in the factory, there are two powerful engines: one with twenty-one-inch cylinders, and another with thirty-inch-cylinders. In the lower turning-shops, the axles, crank-axles and other large parts of locomotives are finished. Here is a slotting machine, which is so complete in its operation, that all the manual attention it requires is to have the supply of soft-soap and water kept up to preserve the tool from becoming unduly heated. The value of the great machines employed in this establishment may be gathered from the fact, that the resources of manual labor would be quite insufficient to secure the accuracy of adjustment, and security of workmanship, which are essential. And when the recent demands of advancing mechanical science arose, the necessity for more powerful means became imperative; and a sudden call for machinery of superior accuracy was made. The steam-engine itself, which supplies us with such unbounded power, owes its present perfection to the admirable means thus obtained, of giving to metallic objects the most precise and perfect geometrical forms; and it is this alone which has provided the means of carrying into practice the accumulated results of scientific investigation in mechanical subjects.

The last department is the erecting-shed, in which all the parts of a locomotive numbering no fewer than 5416, are put together; and it will be readily conceived that nothing short of the utmost completeness and accuracy, in the finish of these parts, could enable the workmen to combine them in one harmonious and efficient unity. Yet the failure of one screw or bolt, or the bending of one rod, may hereafter involve, not only the costly fabric itself in ruin, but occasion the destruction of property and life to a terrible extent. So complete must be the details, so accurate the adjustment, that Mr. Robert Stephenson well remarked that a locomotive "must be put together

a carefully as a watch." The average cost of an engine on the narrow gauge having a cylinder of 16 inches in diameter is rather more than £2000; and of an 18 inch, £2500; while on the Great Western the larger class cost not less than £3000 each.

Traction and Adhesion.

It is sometimes stated that the power of a locomotive "is limited by its adhesion," but as this rule does not have a practical application, it is well to distinguish between the two expressions of locomotive power. Traction is the expression of the power of the locomotive which is derived from the pressure of the steam in its cylinders; that is, a dynamical measure of the revolving power of the drivers, applied at their peripheries. Adhesion on the contrary does not contribute one ounce to turning the drivers, but renders the traction available by its prevention of slipping and the consequent result of advancing the engine on the rails. Without traction, the whole engine with all its parts would stand still; with traction but without adhesion the machinery of the engine would operate, but without advancing the engine. The fact of the surplus of adhesion, with engines of ordinary proportions, is established in the prevalent use of the truck frame, and the trailing wheels. The English passenger engine employs but one-third of its adhesive weight. The American passenger engine employs two-thirds of its adhesive weight.

Traction, at the same steam pressure and same piston stroke, is increased directly with the square of the diameter of cylinder, and inversely as the diameter of driving wheels. Many of the Philadelphia and Baltimore built engines, have been fitted with small drivers, to adapt them for running slow and with large cylinders to admit of economical expansive working. Nineteen and twenty inches have become common diameters of cylinder, with 22 inch stroke, and 3 feet 7 inch wheels. These engines were designed to be worked to their full capacity, as they are with the heavy trains upon the Reading road, and with both heavy trains and heavy grades upon the Balt. & Ohio road. To use a high pressure of steam in these large cylinders, destroy the proportion of adhesion to traction, would making the latter in excess. Yet it has been found practicable with the system of working pursued upon these roads, to dispense with a large part of the adhesive weight of their engines, by retaining the truck frame under the forward ends. This has been done repeatedly with the heaviest engines, and where also the surfaces of the tires have been of chilled cast iron. This fact exhibits in a strong light the sufficiency of the amount of adhesion furnished by the chilled tire.

But where engines of this class which were designed for a special service, have been used over level roads, and where the engineers, to make time, would increase the steam pressure, it is found that the traction of these engines is in excess. On the Pennsylvania Central road, with engines having large cylinders, small wheels and a truck frame, the endeavors of the engineer to make pressure compensate for a small driving wheel, have resulted in a trouble with slipping the drivers. This, for want of any other excuse, has been attributed to the chilled wheel, with which Baldwin's engines were furnished. But any one conversant with engines or capable of estimating and comparing pressures, would perceive that the working of these engines could not harmonize with efficiency

of their proportions, and that the best thing which could be done would be to reduce the steam pressure, or which is more certain and satisfactory to the engineers, to increase the diameter of the drivers. The noble stock engines building by the Baltimore and Ohio railroad are models for freight engines for any road. Cylinders, 19 by 22 inches, 6 drivers of 50 inches diameter, and four trucks. Here we have the chilled cast iron tire in successful use under an adhesive weight of 7500 pounds to each tire.

There is no possible doubt after learning the experience of the great roads of Pennsylvania and Maryland, that the ten wheel engine is the great standard for a freight business. It secures, first, ample adhesion with chilled or with wrought tires. Second, a more favorable distribution of weight than any other; being both easy and steady upon the track. It admits also of reducing the jolting points of the engine by the use of the centre bearing for the truck. It allows of horizontal cylinders with a connection close to the side of the wheel.

By the happy concurrence of physical facts, of which we have heretofore spoken, the necessary machinery for any amount of traction involves, by its own weight, the necessary and corresponding adhesion, and so whenever an engine is worked to an unusual or disproportioned pressure, its traction may be said to be *exceptional*, which must be met by an exceptional adhesion, consisting of a constant and destructive use of the sand-box.

Illinois.

Peoria and Bureau Valley Railroad.—We learn from the Peoria Republican of the 27th ult., that a meeting of the stockholders in the above road was held in that city on Monday last, at which time the following board of directors were elected:—

T. D. Brewster, B. Lombard, John Frink, G. C. Bestor, J. L. Griswold, I. Underhill, and W. S. Moss.

A resolution to the effect that the route should be located as near as practicable to the towns of Henry and Chillicothe, and not more than half a mile distant from either was adopted.

After the adjournment of the stockholders meeting, the directors elect met and organized. The following officers were chosen:

President.....Isaac Underhill.
Vice president.....J. L. Griswold.
Secretary.....Washington Cockle.
Treasurer.....N. B. Curtiss.

We learn that a contract for the construction of the above road, has been completed with Farnham, Sheffield & Co.

Chicago and Mississippi Railroad.—The extension from this city to Bloomington—says the *Springfield Register*—is being prosecuted with great vigor. On Monday the Sangamon bridge was so far completed as to admit the passage of freight trains, and we learn that the bridge across Fancy creek is nearly finished. From half to three quarters of a mile of track are laid down daily, and it is supposed that some fifteen miles will be in running order by the fourth of July.

There is no road in the country which is more vigorously and efficiently prosecuted. It is in safe hands, and while Messrs. Lee, Lathrop and Hickox are concerned in its management, there is an ample guaranty that its affairs will be judiciously conducted.

Lexington and Big Sandy Railroad.

We have the first annual report of the president and directors to the stockholders of this company, from which we gather the following information relative to its condition and prospects. The report is dated May 25, 1852, or less than one year after the organization of the company. During this time the following counties and the city of Lexington have subscribed to the stock of this company as follows:

Fayette county.....	\$150,000
Clarke ".....	200,000
Montgomery do.....	200,000
Bath do.....	150,000
Carter do.....	75,000
Lexington city.....	150,000
	<hr/>
	\$925,000

There are assurances of an additional subscription of \$75,000 from Greenup county. The individual subscription amounts to near \$200,000.

The location of the road has been fixed as follows: Lexington to Ohio river through Winchester, Mount Sterling, Owingsville, McIntires' Ferry, Triplett Valley, Tygart Valley, Little Sinking, Barretts' Creek, Williams' Creek, Chadwick's Creek, and Big Sandy. Length 125 miles; maximum grade, forty-five feet per mile, and the estimated cost of preparing road bed ready for superstructure, \$13,000 per mile.

The position of the Lexington and Big Sandy railroad within the great current of travel through Kentucky may be comprehended when it is known to be one most important link in the great east and west thoroughfare, south of the Ohio river.

At Lexington a connection will be had through the whole west and southwest, through Louisville, and through Danville and Harrodsburg. The travel leaving the Mississippi river at Memphis, over the proposed line from that city to Bowling Green, Kentucky, will pass to the Atlantic seaboard over this line. From Memphis a road is proposed to be made to Little Rock in Arkansas, and thence south west to the interior of Texas, thereby to open a communication between the great south west and the Atlantic seaboard in the route of the Lexington and Big Sandy line.

At the mouth of Big Sandy the road will connect with the Virginia Central road to Richmond, Norfolk and Alexandria, and from the latter place to Baltimore and the Northern cities. This road lies also in the channel of much of the summer travel to the mineral springs of Virginia and Kentucky, a travel estimated at 100,000 annually.

The road passes through seven counties, whose total property valuation for 1852 was \$42,789,020, and whose yearly production as long ago as 1850 was full 90,000 head of cattle, 125,000 sheep, 200,000 swine, 32,000 horses, and 10,000 mules, which, with the products of the soil, must have been of a value of \$7,000,000.

Carter and Greenup counties are engaged in the manufacture of iron, and need only the means of access to market to increase their productions five fold. The have already thirteen blast furnaces.

Iron is also reached in Bath county, sixty miles from Lexington, and from hence to Big Sandy the route lies through inexhaustible beds of iron and coal; and contiguous to quarries of sand stone on Triplett creek, limestone on Tygart's creek, clear white sand, such as is used for the manufacture

of the most costly glass, and lumber of the finest quality.

It is estimated from the most reliable authority that the export tonnage of domestic productions from the counties on this line will amount to \$225,000 yearly; the import tonnage to \$112,500, and the amount of tonnage from counties off of the main line to \$112,500, or a total freight business of \$45,000 yearly. Adding 151,125 way passengers at \$1.25 each, as the number estimated from the business of the Baltimore and Ohio and Penn. Central roads, and 100,000 through passengers, at \$3, and allowing \$8,000 from mails and expresses, the total earnings will be \$846,906 yearly, of which one-half may be anticipated as clear profits, equal to \$473,453.

In conclusion, the report bestows some consideration upon the prospective connections with this road.

The New Orleans, Jackson and Great Northern railroad will necessarily connect with the great east and west central line, thus affording facility for travel and transport to and from New Orleans through the center of Mississippi.

The railroad from New Albany, opposite Louisville, crosses the Ohio and Mississippi railroad, and will thereby connect Louisville with St. Louis, and the Lexington and Big Sandy road will form one great link in this great "Central railway of the Union."

Knoxville and Charleston Railroad.

This company has been organized by the choice of the following gentlemen as directors.

Blount. Co. Wm. Wallace, Asa Watson, R. I. Wilson, J. E. Toole, James Porter, Sam'l Pride, Alex. Kennedy.

Knox. Co. C. H. Coffin, J. A. Mabry, J. G. M. Ramsey, C. Wallace, C. M. McGhee, Jas. C. Moses, D. H. Cummings, Wm. G. Swan.

Wm. G. Swain, Esq., was elected President of the company, Charles H. Coffin, Esq., Secretary, and Dr. Sam'l Pride, Treasurer.

Improved Railroad Car Seat.

John T. Hammit, of Philadelphia, has invented a car seat, so constructed that the person seated in it may, at pleasure, and without the slightest inconvenience, regulate its position either for sitting upright or reclining in it. The particular improvement that has been patented in this instance is the power of operating the leg-rest from the motion of the seat and back, by means of a lever and rod. The leg-rest is hinged to the front edge of the seat, and connected by a link to a lever, the fulcrum of which is joined to the under side of the seat, and the lever operated by the standing frame of the chair. By moving the person backward or forward, the chair may be reclined or brought up, and by means of a simply arranged latch, can be readily locked or fastened, so as to remain in the position desired.

As designed for use in railroad cars, two of these chairs are placed side by side, but are yet kept so essentially independent of each other that either of two passengers, sitting in adjoining seats may choose his position without in the least interfering with his neighbor. This is an important advantage, as one may be disposed to sleep or lie at length, when another may prefer to keep awake or sit up. The chairs are capable of being fitted in a car at the short distance of four feet apart, on a direct line running the length of the car, and

when extended horizontally, will lie at an angle of about 45 degrees. Each seat declines slightly from the front edge, so as to prevent one from slipping off with the jolting motion of the trains, and the back is furnished with a sliding head-rest, which may be adjusted to suit the convenience of the occupant.

Myer's Coal car.

Our friend, Mr. C. Tiers Myers, is at Cumberland, Md. on his way to George's Creek Valley, where he intends to apply the Patent Cylinder Coal car to the transportation of the Bituminous coal from the Parker Vein, Frostburg and other mines. The principle of the car has commended itself to all those engaged or interested in the transportation of coal in that section, who predict for it an entire success. We shall be prepared in a few days to lay before our readers the results of experiments made with a view of testing the efficiency and economy of this car, and in the mean time would invite the attention of persons in the coal trade to the merits of the car as exhibited in its construction and in its already successful application, in trains upon the Reading, Philadelphia, and Baltimore, and other roads.

Bellefontaine & Indiana Railroad.

This important work has within the past week been added to our list of "Railroads in operation." Independent of the completion of a road 120 miles in length, the event has an additional importance for the relation that this work bears to other lines, and to the trade and travel of the great State of Indiana. In connection with other roads, it forms a direct and continuous line of railroad from Terre Haute, upon the western boundary of this State, to Cleveland, a distance of 354 miles, and in the convenient route for the business and travel of the State. This line is made up of the following links, viz:—

Cleveland and Columbus to Galion.....	79
Bellefontaine & Indiana.....	118
Indianapolis & Bellefontaine.....	84
Indianapolis and Terre Haute.....	73
	354

All these roads have similar interests, and are, in fact, but parts of one line. They are so regarded by their owners, and there is unmistakable evidence that all will be speedily consolidated into one road. Such an event could not fail to increase the business and value of all, in the same manner as the consolidation of the roads between Albany and Buffalo has rendered that great line vastly more efficient and valuable. It is also proposed to embrace in the above line the road now in progress from Terre Haute to St. Louis. It will be seen, by reference to a map, that the last named road is but the complement of a great line extending from Cleveland to St. Louis. The obstacles to the construction of this road now appear to be entirely removed, and we know it to be the intention of parties having it in charge to push forward the work of construction with all possible vigor. Mr. Brough, the President of this road, has also just been elected President of the Indianapolis and Bellefontaine road, and will very likely occupy the same relation to the other companies that comprise this great line, as fast as their annual elections for change of officers shall come round.

The flattering business prospects of this road, together with the proposed consolidation, has had

a most favorable effect upon the stock, which is in a demand at \$110, with very little to be had at that price. The parties who have labored so very long and faithfully to secure the construction of this work, find at this early day their labors crowned with an abundant success.

Portland and Montreal Railroad.

The laying of the iron upon this great work was completed last week, and on Monday next, the regular passenger and freight trains will commence running from the Atlantic to the river St. Lawrence, a distance of 290 miles.

The completion of this great work will be celebrated at some future day by appropriate ceremonies. During the season of pleasure travel, the road will be devoted strictly to business. For this travel it cannot fail to become the leading route in this country. It possesses unsurpassed attractions, both at either terminus and upon its line, traversing as it does for nearly 100 miles the loftiest and most extensive mountain range in the eastern States. The road has every prospect of a lucrative business before it, and its success will be a good harbinger of that of the Grand Trunk line, of which it is to form an important part.

The completion of this road is one of the leading events in the railway history of the country. It is one of the few great lines projected with a view of reaching and commanding the trade of the interior. It connects the great basin of the St. Lawrence with tide water, by the shortest route practicable for a railroad, and opens a direct and easy outlet for the agricultural products of the west to the commercial and manufacturing districts of New England. Between those extremes of the country, widely separated but having the most intimate business relations, the above road must become one of the leading avenues of trade and travel. Its importance will be much increased by the construction of the Grand Trunk line, which will carry forward its track with an uniform grade to Lake Huron, on one hand, and Quebec on the other.

But we do not now intend to give a long account of this work, only to note the fact of its opening. A more detailed description will be reserved for a future occasion.

Stock and Money Market.

The aspect of Wall street for the past, has been very much like that of the preceding week. Money has been sufficiently plenty, with but little doing in stocks. For a day or two past, however, there has been greater activity, with a slight advance in some of the *fancies*. Erie has improved the most having recovered to 79½ from 76¾, its lowest point of depression on Monday last. The future of this stock is of course entirely uncertain. Its value can only be demonstrated by time. Its market price will depend upon the position of parties operating it. We think the changes that are taking place in its management will prove a decided benefit to the road. Under the old management, the company have found themselves unable to pay a dividend. There must be some cause for this. It may have been from incompetent management. If so a change may enable the company to resume its dividends. We are satisfied that the present treasurer has an unanimous consent to go. He has probably wisely anticipated the action of the directors. He has enjoyed the reputation of being

the leading speculator in the stock and securities of the company, and now that a heavy loss has been sustained by the public, it is seen that the position of treasurer gives him an unfair advantage in the arena of speculation, which the public are no longer disposed to tolerate. So long as everybody thought themselves making money, acts of officials were overlooked, which are now regarded as high misdemeanors. The disasters which have befallen the Erie road, will undoubtedly have the advantage of creating a higher standard of official service. We do not believe that, hereafter, public sentiment will tolerate speculation in the stock and securities of a company by a person who is a leading officer in its management.

We happen to know something about the internal management of the Erie railroad, the manner in which its accounts have been kept, and the mode of making up returns to the legislature, and we are as satisfied that the accounts and returns have been made up more with reference to certain objects to be effected for the benefit of interested parties, than to the real facts of the case; a result that might have been expected from the relations sustained to the company by such parties. However, a healthy process of reform is going on, which strikes at the very root of the evil by removing those who have been the authors of it.

The Panama railroad company have declared a dividend of 5 per cent from the earnings of the past 6 months, and what is better, have accompanied it with a balance sheet, showing the financial condition of the company, which is stated to be as follows:

Gross earnings six months.....	\$235,617
Surplus in January.....	24,987
Total.....	\$260,604
Paid for Land Transportation, Mails, etc.....	\$34,260
Running expenses.....	55,200
Net earnings.....	\$171,144
The stock issued is.....	\$2,194,062
Bonds not converted.....	808,000
Total present Capital.....	\$3,002,062

It will be recollected that the company in January last claimed to pay a dividend of 10 percent from the previous 6 months earnings, which, unaccompanied with any exhibit whatever, called forth some severe censures from us upon the impropriety of such a course. We are glad to see that our strictures have had the desired effect. No company can presume to declare a dividend without a balance sheet. All that we claimed of this company was that they should show their hands. Having done so, we are satisfied, however much we may disagree with the results to which they arrive.

The directors also report that the road is finished and in operation from the Atlantic to the crossing of the Chagres river at Barbacoas, a distance of 23 miles; and about 8 miles more will be in operation as soon as the superstructure of the bridge can be placed across the Chagres river on the stone piers which are now completed.

The Pacific railroad loan has been withdrawn. The security was a good one, but injudiciously, we think, brought before the market. The company should have commenced selling in small quantities, till the public were made acquainted with the security, the resources upon which it was

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Total cost of road and equipment.	Gross Earnings in 1882.	Net Earnings in 1882.	Dividend, 1882.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	none	95	
Androscoggin and Kennebec.. "	55	809,378	905,300	1,994,429	131,006	none	30	
Kennebec and Portland..... "	72	876,441	800,000	2,180,000	133,338	none	40	
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	6	99	
York and Cumberland..... "	20	227,981	291,200	In progress	15,694	none	40	
Boston, Concord and Montreal. N. H.	93	1,649,270	622,000	2,540,217	150,538	79,659	none	41
Concord..... "	35	1,485,000	none.	1,485,000	305,805	141,836	10	109
Cheshire..... "	51	2,078,625	720,900	3,002,094	287,768	55,266	5	....
Northern..... "	82	3,016,634	.....	.....	328,782	163,075	5	57
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6 1/2	99
Nashua and Lowell..... "	15	600,000	none.	651,214	132,515	51,513	8	109
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	.....	none
Sullivan..... "	26	.....	.....	673,500	.....	.....	.....	none
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	.....	45
Rutland..... "	120	2,435,328	1,964,588	.....	324,790	165,340	none	32
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	18
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	.....	101
Western Vermont..... "	51	392,000	700,000	.....	.....	.....	.....	none
Vermont Valley..... "	24	.....	.....	.....	.....	.....	.....	none
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7 1/2	97
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	104
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	429,484	212,625	6	86 1/2
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101 1/2
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2 1/2	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	57
Eastern..... "	75	3,850,000	503,000	3,120,391	488,793	241,017	7 1/2	93 1/2
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	104
Fitchburg..... "	66	3,540,000	100,000	3,633,673	574,574	232,787	6	99 1/2
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7 1/2	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	63
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	87 1/2
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,999	8	....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17 1/2
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4 1/2	59
Western..... "	155	5,150,000	5,319,520	9,953,759	1,339,873	682,195	6 1/2	98 1/2
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	50
Providence and Worcester.. "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,228	none	124
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progress	.....	.....	.....	none
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	....
New York and New Haven... "	61	2,992,450	1,641,000	4,825,937	814,714	443,993	7	108
Naugatuck..... "	62	926,000	440,000	.....	.....	.....	.....	....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	none	45	
Norwich and Worcester..... "	54	2,121,116	701,600	2,596,488	267,561	116,965	4 1/2	54 1/2
Albany and Schenectady..... N. Y.	17	1,000,000	685,301	1,774,584	296,112	164,448	8	135
Buffalo and New York City.. "	91	900,000	1,550,000	2,550,500	Recently opened.	none	85	
Buffalo, Corning and N. York. "	132	.....	.....	In progress	.....	.....	.....	none
Buffalo and Rochester..... "	76	1,825,000	184,903	2,415,014	619,976	415,323	10	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	....	130	
Canandaigua and Niagara F.. "	50	.....	.....	In progress	.....	.....	.....	....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	....
Erie, (New York and Erie)... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	79 1/2
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	73 1/2
Harlem..... "	130	4,725,250	977,463	6,102,935	681,445	324,494	5	64
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	36
Ogdensburg (Northern)..... "	118	1,578,311	2,780,760	4,933,029	435,845	176,123	none	42 1/2
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Rochester and Syracuse..... "	184	5,132,990	700,123	6,016,778	988,366	549,824	8	154
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	....	....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Syracuse and Utica..... "	53	2,400,000	126,000	2,661,477	616,918	376,025	10	182
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently opened.	....	33	
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently opened.	none	....	....
Utica and Schenectady..... "	78	1,124,000	none.	4,093,273	1,029,774	724,770	10	195
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,100	1,288,385	478,413	10	150
Morris and Essex..... "	45	1,022,426	128,000	1,220,325	140,154	80,351	4	....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3 1/2	....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,113	118,617	76,890	5	....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	....	125	
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,491	200,249	106,932	8	....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	92 1/2

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipment.	Gross Earnings in 1852.	Net earnings in 1852.	Dividend, 1852.	Price of shares.
Philad., Wilmington and Balt. Penn.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	71
Pennsylvania Central	250	9,768,153	5,000,000	15,600,000	1,943,827	617,625	...	100
Philadelphia and Trenton	"	30	...	...	...	...	...	...
Pennsylvania Coal Co.	"	47	...	...	...	...	...	...
Baltimore and Ohio	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	73
Washington branch	"	38	1,650,000	1,650,000	348,622	216,237	8	...
Baltimore and Susquehanna	"	57	...	...	413,673	152,536	...	42
Alexandria and Orange	Va.	65	...	In prog.	...	...	...	...
Manassas Gap	"	27	...	In prog.	...	...	...	...
Petersburgh	"	64	...	...	...	...	...	...
Richmond and Danville	"	73	1,372,324	200,000	In prog.	...	...	...
Richmond and Petersburg	"	22	...	...	...	...	...	...
Rich., Fred and Potomac	"	76	...	...	...	...	...	100
South Side	"	62	1,328,722	800,000	In prog.	...	...	...
Virginia Central	"	107	1,400,100	446,036	In prog.	176,485	74,902	none
Virginia and Tennessee	"	60	3,000,000	1,500,000	In prog.	...	...	none
Winchester and Potomac	"	32	180,000	120,000	416,532	89,776	12	...
Wilmington and Raleigh	N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6
Charlotte and South Carolina	S. C.	110	...	...	...	...	...	...
Greenville and Columbia	"	140	1,004,231	300,000	In prog.	...	...	...
South Carolina	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7
Wilmington and Manchester	"	...	...	In prog.	...	...	...	125
Georgia Central	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8
Georgia	"	211	4,000,000	1,214	...	934,424	456,468	7 1/2
Macon and Western	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9
Muscogee	"	71	...	In prog.	...	...	...	109
Southwestern	"	50	586,887	150,000	743,525	129,395	71,535	8
Alabama and Tennessee River	Ala.	55	...	In prog.	...	...	...	...
Memphis and Charleston	"	93	776,259	400,000	In prog.	...	...	...
Mobile and Ohio	"	33	879,868	...	In prog.	...	...	...
Montgomery and West Point	"	88	688,611	1,330,960	173,542	76,079	8	...
Southern	Miss.	60	...	...	...	...	...	...
East Tennessee and Georgia	Tenn.	80	835,000	541,000	In prog.	...	...	...
Nashville and Chattanooga	"	125	2,093,814	850,000	In prog.	...	...	...
Covington and Lexington	Ky.	...	1,430,000	900,000	In prog.	...	...	...
Frankfort and Lexington	"	29	357,218	...	534,902	87,421	44,250	80
Louisville and Frankfort	"	65	...	...	...	...	...	...
Maysville and Lexington	"	...	...	In prog.	...	...	...	...
Cleveland and Pittsburgh	Ohio.	100	1,239,454	1,371,000	2,963,756	194,429	123,306	6
Cleveland, Painesv. and Ash.	"	71	...	...	...	...	...	98 1/2
Cleveland and Columbus	"	135	3,027,000	408,200	3,655,000	777,793	483,483	12
Columbus, Piqua and Indiana	"	...	...	In prog.	...	...	...	132
Columbus and Lake Erie	"	61	...	...	...	...	...	...
Cincinnati, Hann. and Dayton	"	60	1,694,000	906,000	2,600,000	321,793	200,967	115
Cincinnati and Marietta	"	...	...	In prog.	...	...	...	...
Dayton and Western	"	40	310,000	550,000	925,000	Recently opened.	...	80
Dayton and Michigan	"	20	...	In prog.	...	...	...	...
Eaton and Hamilton	"	36	...	...	...	...	...	...
Greenville and Miami	"	31	...	...	...	...	...	...
Hillsboro	"	37	...	In prog.	...	...	...	...
Little Miami	"	84	2,370,784	...	2,634,157	526,746	314,670	10
Mansfield and Sandusky	"	...	900,000	1,000,000	1,855,000	...	...	119 1/2
Mad River	"	167	1,860,500	...	...	563,751	...	...
Ohio Cental	"	57	...	In prog.	...	...	...	...
Ohio and Mississippi	"	...	...	...	...	...	...	...
Ohio and Pennsylvania	"	187	1,750,700	2,450,000	...	Recently opened.	...	...
Ohio and Indiana	"	...	...	In prog.	...	...	...	...
Scioto and Hocking Valley	"	...	...	...	...	...	...	...
Toledo, Norwalk and Cleve'd	"	87	552,000	800,000	1,317,140	Recently opened.	...	150
Xenia and Columbus	"	54	1,092,137	119,500	1,257,714	237,506	135,363	15
Evansville and Illinois	Ind.	31	...	In prog.	...	...	...	...
Indiana Central	"	...	...	...	...	...	...	...
Indiana Northern	"	131	...	...	...	...	...	...
Indianapolis and Bellefontaine	"	83	...	...	...	...	...	...
Lawrenceburg and Ind.	"	...	...	In prog.	...	...	...	75
Lafayette and Indianapolis	"	62	...	...	...	...	...	...
Madison and Indianapolis	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10
Peru and Indianapolis	"	40	...	In prog.	...	...	...	97
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	106,593	71,446	4
Rock Island and Chicago	"	...	...	...	...	...	...	108
Chicago and Mississippi	"	...	...	...	...	...	...	...
Illinois Central	Ill.	92	1,932,361	500,000	In prog.	472,109	...	136
Galena and Chicago	"	...	...	...	...	...	...	125
Michigan Southern	Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	128
Michigan Central	"	282	4,000,000	4,067,396	8,614,193	...	...	116 1/2
Pacific	Mo.	...	...	...	...	...	...	...

based, the character and objects of the road, etc., etc. Confidence in new works is a thing of growth, and of very slow growth. It proceeds in a legitimate manner, from the smallest beginnings, and does not spring at once into full luxuriance, no more than does a plant into full bloom. The security offered is one better adapted to a foreign than a domestic market, and might easily be sent abroad by some of our leading foreign houses.

The company, however, are in no immediate want of money, and will suffer no loss from the delay occasioned. The present movement will have a tendency to direct public attention to the project, and in this way will not be without beneficial results.

The receipts of the Michigan Central railroad for June show about 20 per cent. gain over June, 1852. The figures are—

	1853.	1852.
Passengers	81,825 56	63,669 15
Freight	37,607 88	35,567 25

Total	\$119,433 44	\$99,236 40
Increase	\$20,197 04	

The increase is almost entirely in passenger traffic.

The revenue on the main stem of the Baltimore and Ohio Railroad for the month of June, amounted to about \$196,000, being an increase of 56,000 over the receipts of the same month last year. The revenue of the Washington Branch was \$30,600, being a decrease of \$6,182 as compared with the receipts of the preceding June. The following are the figures.

Main Stem.	Passengers.	Tonnage.	Total.
June 1853	\$48,000	\$142,000	\$190,000
June 1852	27,515	105,348	132,863

Increase	\$20,485	\$36,652	\$56,137
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Washington Branch.

Passengers.	Tonnage.	Total.
June 1853	23,500	7,100
June 1852	29,640	7,141

Decrease	\$6,140	\$41	\$6,181
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The receipts of the Harlem Railroad for June show an increase of over 20 per cent. on June of last year as follows:

	1852.	1853.
January	\$45,601	\$73,792
February	46,286	68,563
March	64,254	48,053
April	61,046	73,156
May	68,846	84,943

June	\$286,033	\$319,507
	66,649	80,951

Total	\$352,732	\$429,458
Increase		\$76,726

The earnings of the Macon and Western Railroad Company for June were:

Passenger	\$7,032 48
Mail	1,062 26
Freight	7,497 27

Total	\$15,592 01
Corresponding month last year	16,469 58

Decrease	\$877 57
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The receipts of the Little Miami Railroad for the month of June, 1853, are—

June, 1852	\$54,158 66
	43,945 57

Increase	\$10,213 09
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The earnings of the Cincinnati, Hamilton and Dayton Railway for June 1853, compared with June 1852, are:

June.....	1852.	1853.
For Passengers.....	\$16,315 16	\$20,528 08
For Freight.....	7,676 41	10,905 00
For Mail and Express....	104 55	869 85

Total..... \$25,096 15 \$32,302 93
Increase more than 33 per cent...

The following statement shows the condition and business of the Rutland and Burlington Railroad Company, for the year ending May 31, 1853.

The construction account amount to \$5,577,466 82

The resources for these expenditures are stated to be:

Capital stock.....	\$1,415,900 00
Six per cent stock..	571,000 00
Eight per cent stock.	500,000 00
Mortgage bonds.....	1,800,00 00
Other bonds, floating debt, &c.....	1,190,566 82

The entire earnings for the year are stated to be.....	\$5,577,466 82
The entire expenses, adding fuel and materials on hand.....	495,397 45
Leaving for net earnings.....	228,858 33
Exceeding those of the previous year by.....	266,539 12
Showing an increase of over 60 per cent.....	101,109 40

The receipts of the Milwaukee and Mississippi railroad in June, show a large gain over the same month last year. They are:

	June, 1852	June 1853.
Passengers.....	\$2,969 91	\$9,804 03
Freight.....	2,193 45	10,259 14

Total..... \$5,163 34 \$18,563 19

In June 1852, only thirty-six miles of the road were in operation; in June 1853 70 miles. The business has more than *trebled*, while the number of miles in operation has been doubled. It is thought that with the extension of the road to Stoughton and Madison, next fall the monthly receipts will run up to \$25,000 or \$30,000. The receipts in May were \$13,998 20.

At the annual meeting of the Hartford, Providence, and Fishkill railroad company, held at Stonington, on the 27th ult., the old directors were re-elected. The net earnings from operations on road were:

For the year ending, first June 1853..	\$69,629 52
Do do do do 1852..	60,119 04

The business of the United States Branch Mint at New Orleans, for the month of June, was as follows;

DEPOSITS.

California gold.....	\$56,904 54
Foreign gold.....	931 98
Silver parted from California gold....	302 01
Silver from other sources.....	206,830 95

Total value of deposits..... \$264,969 48

COINAGE.

Gold—gold dollars—85,000 pieces....	\$85,000 00
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The receipts of the Petersburg (Va.) railroad for the six months ending June 30 were \$117,262 91, against \$102,595 03 in the corresponding period last year. Increase \$14,667 88. Out of the net earnings the company have declared a dividend of 3½ per cent.

The receipts of the Norwich and Worcester railroad company for June show a very handsome gain over the same month last year:

June 1853.....	\$26,411 23
June 1852.....	21,919 53

Gain in 1853..... \$4,491 70

The directors have declared a dividend of 2 per

cent, for the six months ending May 31, 1853, payable on the 18th inst. The dividend might have been larger, but the directors wish to be certain of a 3 per cent dividend in January.

The stockholders of the Philadelphia, Wilmington and Baltimore railroad met at Wilmington on the 30th June, when they accepted unanimously the act of the legislature of Maryland ceding to them the right of building a bridge over the Susquehanna, for which purpose they resolved to issue new stock at \$40 per share.

The receipts of the Norwich and Worcester Railroad Company during the month of June, amounted to \$26,411 23, against \$21,919 53 for the corresponding period last year, showing an increase of \$4,491 70—equal to 21 per cent.

Motive Power of the Boston and Providence Railroad.

The efficient and economical character of the Locomotive power of this road has led us to present our readers with a detailed report of its extent and condition.

This road was opened in 1834, with small engines from Robert Stephenson & Co. Edward Bury, and George Forrester & Co. of Newcastle and Liverpool; and with engines from the Locks and Canals company and William Norris of the United States. Three of the old engines are yet kept in ordinary by the company. The others have been sold, and are now distributed over some of the upper railroads, where they are used for gravel and wood trains.

In 1844 Mr. George S. Griggs, master of machinery, and one of the first engineers upon the line, commenced the construction of a new class of engines, with inside cylinders, straight, riveted, frames, "wagon top" furnaces, and coupled drivers. In 1845 the "Norfolk" was completed. In 1846 the Bristol, "Suffolk," and "Massachusetts" were furnished; the "Blackstone" in 1847; the "Tagheonic," "Narragansett," "Iron Horse" and "Rhode Island," in 1848; the "Canton" and "Neponset" in 1849; the "Highlander" in 1850, the "Dedham" and "Roxbury" in 1851.

These were completed from time to time, as shown, to meet the increasing business of the road, and to provide for the deterioration of the old engines; so that by gradual progress the road is now stocked with a first class equipment of locomotives. Mr. Griggs is now engaged upon a new engine of larger size than upon any road running into Boston, and which is intended for the steam-boat trains.

The characteristic of Mr. Griggs, engines, all of which are the same now as exhibited in the "Norfolk," are the heavy, straight frame, the outside bearing truck, lap valves, full stroke pumps, and for the rest a substantial and simple arrangement of the usual machinery, plainly finished, but accurately and strongly put together.

The iron of the outer shell of fire-box is ¾ inch thick, the remaining parts of the boiler 5-16 inch. The boilers are generally stayed stronger than is usual among builders. Every engine on the road has a copper tube sheet at furnace end, and the "Iron Horse" "Rhode Island," "Canton," "Neponset," "Dedham" and "Roxbury" have whole furnaces constructed of copper. All the engines have tight fitting dampers, and have the common bonnet sparker. Every engine has a safety plug in the crown sheet of furnace. Every tube on

every engine on the road is tight. The wood used is of a very good quality, which may be inferred from the fact of a consumption of but ¾ cord in running 41 miles, with five eight-wheel cars. The time, including 12 stops is one hour and three quarters. Part of the distance is up a grade of 45 feet per mile, in either direction of the road.

Three of Mr. Griggs engines were at the Locomotive trial at Lowell, October, 1st 1851; viz: the "Neponset," "Highlander," and the "Dedham." The "Neponset" was of the ordinary class of Passenger engines, with coupled drivers and lap valves. Her dimensions are shown in the table accompanying. She was not built purposely for speed and was sent as being merely a fair example of the every-day class of engines in use. The "Highlander" was an inside connected freight engine, having all the weight on six coupled drivers. The wheels had chilled tires. The dimensions are to be found in the table, below. The length of rectangle on rails is 12 feet 4 in. The middle and back pairs of wheels are 5 feet 3 in. apart between centers, the middle and front pairs 7 feet 1 in. There are, as is a necessary consequence in all engines of this arrangement of wheels, three tons more upon the forward pair of drivers than upon either of the others.

The "Dedham" is a small tank engine having but one pair of driving wheels. When the engine is at rest but 7-25ths of its weight are upon the driving wheels, but when drawing its load a portion of the weight upon the trailing wheels is transferred to the drivers through an arrangement of the draw-rod of the engine. This is effected in the following manner. The draw spring behind the engine is attached at its ends to long rods which run under the engine frames to near the driving axle, where they are attached to the lower ends of two bent levers, (one on each side of the engine), which are extended or have their fulcrum in the frames, just back of the driving boxes. The ends of the horizontal arms of these levers lie directly upon the driving boxes so that the traction of the train is brought directly upon the boxes, to increase the adhesion with the resistance to be overcome.

The driving spring of the "Dedham" is laid across and is attached to the top of the boiler and rests at its ends upon pintals standing upon the driving boxes. There are one pair of driving, one pair of leading and one pair of trailing wheels. The Drivers being 4 feet, 6 in. in diameter; the leading and trailing wheels 33 inches in diameter. The length of rectangle on rails is 11½ feet, being 5½ feet from center of drivers to leaders and 6 feet to trailing wheels. The weight on drivers when the engine is at rest is 7150 pounds,—the whole weight of the engine being 25350 pounds. For the arrangement of the drawing apparatus of this engine Mr. Griggs was awarded a silver medal by the judges of the exhibition.

The "Neponset," after making the corrections in time due to her inferior weight and pressure of steam, when compared with the other engines tried, was the third in the order of speed out of six passenger engines tried, being 1½ tons lighter than any other, and having the smallest cylinders and lowest steam pressure of any tried. As a serviceable engine, running regularly with moderate repairs, and an economical consumption of fuel, the "Neponset" would compare with great credit

with any of the engines tried. The "Neponset" was then running with exhaust pipes of 2½ in. diameter, which are now worn or expanded to 2⅞ in., something like ⅝ inch more than is usually maintained on engines of that class. As to their speed, Mr. Griggs' engines show the attainment of 50 miles per hour with the steamboat trains over the level parts of the road.

As to the "Highlander," we can only say that in many respects it is a successful and economical freight engine. The freight business of the Providence road is not so heavy as to furnish a complete test for the power of an engine, and had it been so, the "Highlander" would have probably had a separate cut off valve, so that steam could be used through full stroke in starting. For the service in which it is employed it is efficient and economical.

The economy of the chilled tire is fully realized in this engine, in the cheapness and facility of maintaining it in constant working condition.

The whole equipment of engines of this road is

economically operated from the fact that the furnaces and tubes of every engine are in excellent order, and the proportions and adjustments of valves are good, thereby realizing the greatest efficiency of the fuel, while the expense of maintaining is very low from the strength of the frames, the strong staying and bracing of the boiler, the simplicity of the pumps, slides and valve motions, the excellent quality of the springs, the simple sparker, etc., etc. The machines are simple, durable and accessible.

It may be interesting to know something of the extent and position of the establishment from which this road has been equipped with engines. The passenger in the Providence and New York trains will observe a low range of brick buildings near to and upon the north side of the track, about a mile from the Boston station. These are the engine house and repair shops. The machinery of the latter consists of a small stationary engine of six horse power; one large lathe for turning drivers; one boring and splining lathe for trucks and car

wheels; seven small iron frame engine lathes; two wood frame lathes; two hand lathes; two drills; two small iron planers; one bolt cutter; one axle-key-way cutter, and fifteen iron vises. By comparing this machinery with that of other repair shops, it will be found not to exceed the amount required to keep the same number of locomotives in repair, but on the Providence road this machinery has sufficed to build nearly the whole equipment of engines, four having been built in one year. Thirty men are the most that have ever been employed in the entire establishment, including men engaged in repairing cars. The boiler smith's work is obtained, completed, from other shops, the Taunton Company having built most of the boilers and tender tanks.

Mr. Griggs is now building an engine with 16 inch cylinders, 18 inch stroke, 5½ feet drivers, 128 two inch solid brass tubes, 12 feet long; copper fire-box with copper stay bolts; separate cut off valve, etc. This will soon be completed and placed on the steamboat train.

SURVEY OF MOTIVE POWER. BOSTON AND PROVIDENCE RAILROAD.—BY ZERAH COLBURN.

Name of Engine.	Builder.	Reception on Road.	Cylinder Connection.	Diam. of Cylinder.	Length of Stroke.	Length of Ports.	Width of Steam Port.	Width of Exhaust.	Diam. of Drivers.	No. of Drivers.	No. of Trucks.	Diameter of Boiler.	Length of Tubes.	Number of Tubes.	Diameter of Tubes.	Diam. of Blast-pipe.	Length of Furnace.
Whistler.....	R. Stephenson & Co.	June, 1834	Inside.	12	16	8	1	2	5.0	Two.	Four.	34	9.9	76	13-16	19-16	25½
Boston.....	Edward Bury.	"	"	12	20	8	1	2	5.0	"	Two.	36	7.8	76	12¼	15½	23
Tiot.....	Locks & Canals Co.	"	"	12	16	8	1	2	5.0	"	Four.	34	9.9	66	12-16	15½	32
King Philip....	"	"	Outside.	16	20	8	1	2½	4.6	Four.	"	35	9.0	135	13¼	13-16	37
Norfolk.....	G. S. Griggs.....	May, 1845	Inside.	14-7-16	18	8½	1	2	4.7	"	"	38	9.6	116	"	13-16	31½
Bristol.....	"	May, 1846	"	14½	18	8½	1	2	5.0	"	"	38	9.6	121	"	17½	30½
Suffolk.....	"	June, " "	"	14-9-16	18	8½	1	2	5.0	"	"	38	9.6	121	"	17½	30½
Massachusetts..	"	Dec. " "	"	11-11-16	18	8½	1	2	5.0	"	"	41	9.9	131	"	17½	33¼
Blackstone....	"	April, 1847	"	14¾	20	8½	1	2	5.0	"	"	41	9.9	135	"	17½	33¼
Taghconic.....	"	Jan'y. 1848	"	14¾	18	9	1	2	5.6	"	"	40½	10.0	135	"	17-16	34½
Narragansett..	"	Feb'y. " "	"	16	20	9	1	2	4.6	"	"	40	10.0	135	"	17½	33
Iron Horse....	"	Sept. " "	"	14-13-16	18	9	1	2	5.0	"	"	42½	11.0	134	"	33½	35½
Rhode Island..	"	"	"	14-11-16	20	9	1	2	5.6	"	"	42½	11.0	134	"	33½	35½
Canton.....	"	May, 1849	"	14¾	20	9	1	2	5.6	"	"	42	11.0	135	"	21½	35
Neponset.....	"	June, " "	"	14¾	20	9	1	2	5.6	"	"	41×43	11.0	123	"	25½	35
Highlander....	"	June, 1850	"	14¾	18	9	1	2	4.0	Six.	None.	45	9.4	142	13¼	17-16	33
Dedham.....	"	May, 1851	"	9	16	7	¾	1¾	4.6	Two.	Four.	30¾	8.0	113	1½	11½	20½
Roxbury.....	"	"	"	9	16	7	¾	1¾	4.6	"	"	30¾	8.0	113	1½	11½	20½
Providence....	Taunton Company.	Feb. 1849	"	15	18	"	¾	1¾	5.0	Four.	"	43	10.0	129	1¾	17½	37

Width of Furnace.	Depth of Furnace.	Weight of Engine in running order.	Weight on Drivers.	Weight of Tender filled.	Area of Tubes.	Area of Furnace.	Area of Grate.	Steam used at 1 revolution of Drivers.	Revolutions of Drivers per mile.	Steam used pr. mile.	Relative amount of Steam used by each engine.	Traction of engine in tons load.	Adhesion equal to tons load.	Wood space in Tender.	Water room of Tender.	Cubic feet in both Cylinders.	Tube surface to each cubic ft. of both cyl.	Fire-box surface for Do.	Area of Grate for do.	Weight on drivers for Do.	Actual weight on each driving wheel.	Actual weight on each truck wheel.
in.	in.	lbs.	lbs.	lbs.	sq. ft.	sq. ft.	sq. ft.	cub. ft.		cub. ft.		tons.	tons.	cords.	galls.		sq. ft.	sq. ft.	sq. ft.	lbs.	lbs.	lbs.
45	38				406	42	8.0	4.2	336	1407	5814	288			800	2.09	194	20.0	3.8			
41½	42				343	40	7.1	5.1	336	1759	7268	360			780	2.62	131	15.3	2.9			
42	39½				368	39	6.7	4.13	336	1407	5814	288			908	2.09	176	18.7	3.2			
42	54				557	66	10.8	9.3	374	3481	14381	711			1893	4.65	120	14.2	2.3			
40	40	34460	20555		505	45	8.7	6.8	367	2503	10341	512	411	1	1253	3.41	148	13.1	2.6	6027	5139	3476
40	46¾	35705	21705		527	50	8.5	7.0	336	2352	9716	481	434	1	1355	3.50	150	14.4	2.4	6201	5426	3500
40	40	35805	21050		527	45	8.7	6.9	336	2332	9633	477	421	1	1354	3.47	152	12.9	2.5	6066	5262	3689
37¾	48				585	52	8.7	7.1	336	2372	9800	485			1253	3.53	166	14.7	2.5			
40	43				603	49	9.4	7.9	336	2658	10980	544			1269	3.95	153	12.5	2.4			
40	49½	41500	26480		618	56	9.6	7.1	306	2179	9000	445	530	1	1526	3.56	174	15.9	2.7	7438	6620	3755
40	44	40100	24000	28800	618	49	9.2	9.3	374	3481	14381	711	480	1	1526	4.65	133	10.6	2.0	5161	6000	4025
39½	45				675	51	9.2	7.2	336	2412	9966	494			1281	3.59	188	14.1	2.6			
39½	45	44507	28307		675	51	9.2	7.9	306	2421	10000	495	566	1	1286	3.95	171	12.9	2.3	7166	7077	4050
39	50				680	57	9.5	7.9	306	2421	10000	495			1471	3.95	172	14.3	2.4			
39	50	43050	28000		708	56	9.5	7.9	306	2421	10000	459	560	1	1471	3.95	179	14.2	2.4	7088	7000	3762
39	47¼	41200	41200		607	52	8.9	7.1	420	2990	12353	612	824	1	1430	3.56	171	14.5	2.5	11573	6059	3575
32	38	25350	7150		358	29	4.5	2.4	374	881	3640	180	143	1	300	1.18	303	24.8	3.8			
32	38				358	29	4.5	2.4	374	881	3640	180			300	1.18	303	24.8	3.8			
39	49	44400	28000	28400	591	54	10.0	7.4	336	2474	10220	506	560	1	1581	6.08	161	14.8	2.7	7600	7000	4100

The areas of tubes are estimated from their outside diameter. The area of fire-box includes so much of its internal surface as is in actual contact with the water. The area of grate is the area of horizontal section of furnace at the level of grate bars. The traction is estimated from a pressure of 75 lbs. per square inch on piston throughout stroke. Adhesion is taken as one-fifth the weight on drivers. Friction of train at 10 pounds per ton. Amount of steam used does not include what is lost in ports.

NOTES.

All tenders, excepting the "King Philip's" have rubber springs; none have draw springs; all but the tender of the "Providence" have safety chains to suspend the brake beams. The "Bristol," "Taghconic," "Iron Horse," "Rhode Island," "Providence," "Neponset," and "Highlander" have Miller's brakes, by which the strain upon the brakes is equalized.

Only the "Narragansett," "Providence," "Dedham" and "Roxbury" have sand-boxes.

"Rhode Island" and "Neponset" have steam brakes upon the driving wheels.

"King Philip," "Providence," "Narragansett" and "Rhode Island" have separate cut-off valves.

All have strong and secure cow-catchers.

Railway Axles.

The following communication on the manufacture of Railway axles was addressed to the Editor of the *Toledo Blade*. It contains important suggestions and deserves perusal.

MR EDITOR—Having witnessed the unfortunate accident to the cars of the Michigan Southern Rail Road, which occurred yesterday by the breaking of an axle; and having had a good deal of experience in making car axles myself, I thought I would, through the medium of your columns, lay before the public, my views on the whole subject of manufacturing axles.

The ordinary, and almost universal method of making axles, is, from what is technically called piles. These piles are bars of iron about 6 inches wide and one inch thick. Six of these laid together, forming a square mass of 6 inches are put into a furnace, and when brought to a high welding heat, so that they stick together, are rolled out into a bar, about 1-4 of an inch longer than the axle is to be when finished. This round bar is permitted to cool, and afterwards heated to a bright red, or mild white heat, when it is hammered in dies, and finished to the requisite size of the axle.

To this axle there are several serious objections.

1st. It is made of bars of iron welded together, and consequently, besides the risk of insufficient welding, it is tough only as it bends in two directions; either up or down the flatway of the bars. When it comes to be bent the edgeway of the bars, it is comparatively brittle. To see the force of this objection, it is only necessary to take an ordinary cut nail, and bend it with the grain of the iron and then across the grain, until it broke.

2. The bars of which it is made are not all of them through bars. Some of them, usually two or three in each mass, are pieces of various lengths; laid in, the ends butted against each other.—This of course, as bars of iron will not weld endways, weakens the axle from 1-4 to nearly 1-2, these short pieces contributing very little else besides bulk and weight to the axle.

3. The hammering of these axles, besides being one of the most shameless lunnings in the world, is a positive injury to the axle. Every one who ever worked in iron knows that the hammer is the best instrument yet discovered to purge iron, and hence the partiality so universally exhibited for hammered iron. But it is equally well known to all iron men, that in order to benefit iron in the

manner named the iron must be hammered when first taken out of knobling fires or puddling furnace, while it is in a loose, soft spongy state. To hammer iron at a later stage of the progress of manufacturing it, does but little good; and to hammer it in the way that axles are hammered does harm.—Every blow struck by the hammer after it falls in temperature below a bright red heat destroys, to some extent, its fibrous character, and if continued long enough, will change it entirely into granulous. It has been demonstrated that a heavy bar of the toughest iron in the world, by repeated blows in the same place from but a light hammer, will give way and fall assunder.—Such being the case, what must be the injury to a railroad axle which receives all its hammering while passing from a mild white to a dull red heat, cooled down, too, in the process, by water thrown almost constantly on it while being hammered, to give it a fine skin and beautiful finished. The hammering of railroad axles amounts to a planish and no more, and is a direct and positive injury to the axle. The writer can remember some thirty years ago, when the planished iron was first introduced in the west. From its beautiful appearance, it was popular for a while, but in less than two years nobody would have it. Planished axles are deserving of unspeakable less confidence, because the polish endangers the lives of thousands of men, women and children.

4th. So long as axles are made in the present manner, it is but reasonable to expect that a portion of the bad iron—larger or smaller, according to the cupidity of the manufacturer—will enter into their composition.

There would be but little risk in stating it as a fact that a majority of the railroad axles in use were made of all puddled iron, and but very few of them all of the best of iron. Those made of all puddled iron are wholly unfit for use. Our government will not use a pound of puddled iron, and yet our railroad companies consent to use it even for axles.

Those not made entirely of puddled iron, are, many of them, mixed—a streak of fat and a streak of lean—half and half, perhaps.

The four objections presented in the foregoing, are—

1st. The axles in question are made of piles.

2d. These piles are not all through.

3d. They are injured by hammering.

4th. The material of which they are made is not good enough.

Having stated the objections to the present method of making axles, the writer would suggest an objection to the present mode of putting wheels on axles. It is well known that almost every axle that breaks, breaks at the journal. Why is this? The reason is that the shoulder on the journal is made to act as a fulcrum, while the spring on the axle furnishes a lever.

The wheel is driven home against the shoulder, fitting it as closely and tightly as it is possible for the best mechanic to bring iron and iron together. As the axle springs in the middle, it must, of necessity, bear hard against the wheel on the one side, while it draws equally hard on the other.

There is, therefore, a constant and very heavy and continually varying strain on the neck or journal of the axle, which, in time, cannot fail to break it. Fasten a nail or other piece of iron as tightly as a wheel is fastened on a railroad axle, and then spring it backwards and forwards continually, and see if it will not give away by and by.

Now all these objections can easily be remedied. First, let railroad companies contract with responsible manufacturers of blooms of acknowledged and uniformly good quality, for blooms each of the requisite size to make an axle such as they want; and Secondly, let these blooms be delivered by the manufacturer at some rolling mill and rolled down to the size wanted. If a spring is requested, rolls can be turned so as to give the bar that shape.

By pursuing this course all danger from bad

iron bad welding, short piles and injurious hammering will be avoided. The axle although will be in fact and to all practical intents and purposes a hammered axle. The hammering will be given at the right end of the process.—Besides an axle will be equally tough whichever way it be strained. There will not be, to use a common phrase, any "crossway of the pile."

One axle of this sort will be worth more for service and reliability than a dozen of the ordinary kind.

The wheels should be fastened on without a shoulder and thus avoid the strain to which they are subjected by the present plan.

In presenting these views, the writer feels that he has nothing to gain except perhaps, increased safety to himself, family and friends in travelling.

SAMUEL CHURCH.

Pacific Railroad.

We have received the third annual report of the directors of this company, which presents the following exhibit of its affairs to March 21st, 1853.

The total amount subscribed to the capital stock to date is over \$2,800,000. This is exclusive of stock taken by contractors, the amount of which will appear upon the final settlement of their contracts. It is also exclusive of subscriptions for the South Western and Iron Mountain branches,—but a considerable part of it is conditional upon certain locations of the road west of Jefferson City.

The amount of instalments called in to the date of report was 50 per cent. of which \$609,965 have been paid.

The total expenditures to March 21st 1853 were \$1,378,487,85. Floating debt about \$75,000. Amount of state bonds received, \$650,000.

The following is an abstract of the Trial Balance presented in the report.

DEBITS.

Balance due on subscriptions.....	\$915,385 00
Interests, Exchange and Discounts.....	41,515 12
Lands, Damages and Grants.....	172,561 65
Surveys.....	61,112 19
Labor and materials for road construction.....	963,341 90
Building and Machinery.....	59,028 38
Cars and Engines.....	59,102 97
Water supply.....	1,957 24
Office expenses and Contingencies...	19,868 40
Balance in hand for unsettled accounts.....	9,606 16
	\$2,303,479 01

CREDITS.

Capital Stock subscription.....	\$1,502,350 00
Bills payable.....	11,128 69
Capital Stock paid up.....	23,000 00
Samuel Copp Jr., Treasurer.....	90,244 27
State of Missouri for Bonds.....	650,000 00
Premium on Bonds.....	26,756 05

\$2,303,479 01

The total estimates for the first division of 37 miles, based upon payments already made and to be made is \$1,461,971 08, or an excess of \$269,674 08 above the estimate made on location of June, 1851; and \$161,800 08m ore than the revised estimate of Feby. 1852. Of this excess, \$67,000 were for outlays not contemplated upon the original location. The excess has been owing to resistance upon the part of land-owners, to the prevalence of cholera, and the inefficiency of contractors. Difficulties have been encountered as severe as any of the eastern roads, and these facts account for the delay in opening the eastern division. But what has been done is of a permanent and first class character.

Most of the equipment has been purchased at the east and put together at St. Louis, but, contracts are now made for the construction of cars and locomotives in that city. It was expected to pass over the first division, with a train, on July first.

The second division will reach Jefferson City, 125 miles from St. Louis. It is now located through Grays Gap to the Valley of the Missouri in which it is continued to Jefferson City. The work to within 15 miles of Jefferson City will be principally in side hill, there being also one tunnel. The estimate for preparing the road bed for the track for this division, 88 miles, is \$1,500,000.

Early in 1852 the people of Washington County residing in the great mineral region of the State applied to this company to build a branch to the Iron Mountain and Pilot Knob, upon which the board deemed it proper to pledge the company to its construction when half of its cost should have been subscribed in stock. A route was surveyed to leave the main line near the end of the first division and passing by the way of Calve Creek along the ridge near Potosi, through Washington County to the Iron Mountain. Length of branch 60 miles, or making a distance from St. Louis to the Iron mountain of 100 miles.

The people of Washington County, subscribed \$110,000. Upon these facts the legislature granted a loan of the state credit for \$750,000, which, by subsequent act, may be transferred at any time by the Company to the Iron Mountain Co. That Company are now engaged in making surveys independently of those surveyed by the Pacific Company which prevents the latter company from taking any steps in the matter until the result of these surveys are known.

The national grant of land made June 10th 1852, to the state of Missouri, was transferred Dec. 25th, 1852, by the State to this company on condition that it should be applied to the construction of a branch road terminating on the western boundary south of the Osage river, and \$1,000,000 of state credit is added to the grant, provided \$500,000 applicable to the branch, in addition to the capital stock of the company, should be subscribed before any of those bonds should issue.

The same act defines the Pacific Railroad to be a railroad running from St. Louis, *via* Jefferson City, and thence on the most practicable inland route through the county of Johnson and terminating at any point in Jackson County which the Company may designate. But this location through Johnson County is upon the condition that the people and counties interested upon that line shall within twelve months, from the passage of the act, subscribe at least \$400,000 additional to the amounts then subscribed, and that the Company shall be able to secure the right of way on as good terms as upon any other route. If the conditions are not complied with within the twelve months, the Company are authorized to select any other route. The same act extends the credit of the State to the amount of another million of dollars, making the total loan to this Company *four millions of dollars*, and limits the period of completing the road to Jackson County to five years from the passage of the act. The company are also exempted from taxation on both their lines until the same are respectively completed, opened, and declare a dividend; but to

be subject to taxation two years after they are completed whether they declare a dividend or not. To the Pacific Railroad running to Jackson County is also applicable that portion of the land grant which shall be due to that portion of the road lying between St. Louis and the point where the South-Western Branch shall diverge.

Before the passage of this act preliminary surveys of the south-western route had been made by this Company, and also of a route through the cities of Boonville and Lexington, and were reported to the Legislature, with a memorial and map of the State showing all the moneys of this company, of all which 15,000 copies were printed and circulated by the General Assembly.

The estimates of the Engineer, based upon these preliminary surveys from the end of the First Division, to complete the road, are as follows:

PACIFIC RAILROAD TO JACKSON COUNTY.	
Length, <i>via</i> Boonville and Lexington to the boundary	254.81 miles.
Cost	\$6,576,000.
Length, <i>via</i> Johnson County, to the boundary	243.73 miles.
Cost	\$6,200,000.
SOUTH WESTERN BRANCH.	
Length from the end of First Division	310 miles.
Cost	\$7,800,000.

These estimates are exclusive of rolling stock and land damages.

The location of the South-western branch was commenced as soon as a practicable after the passage of the act of December 25th, with a view of securing the location and title of the lands. If the full quantity of vacant land granted shall be found within the limits prescribed by the law this Company will obtain 3,800 acres per mile, or about 1,300,000 acres for the whole line. The grant, properly managed, is a highly valuable gift to this Company, and it is hoped may be so used as to secure the early completion of the South-western branch throughout and be of no inconsiderable assistance to the construction of the line to the Kansas also. Negotiations, having this grand object in view, have been already started.

The following is the conclusion of the report. "Congress at its recent session appropriated \$150,000 to the survey of routes from a railroad across the continent, to connect the Atlantic States with the Pacific. This is in fact the beginning of the great Pacific railroad, and it now behoves us to push on both our lines with increased energy, so that we shall be in a position to reach that road whatever route for it may be adopted. Our line to the south-west looks to the direction of the Canadian and the southern route, while our line to the Kansas points to the central and also to the northern route. Our Legislature have granted this Company the right to extend their road to any point west of the boundary, even to the Pacific. Our position is therefore favorable for an inevitable connection with the National Pacific Road. If it should happen that a route should be adopted connected with either of our lines, the stock of this Company will certainly be a prize. Looking to the probabilities in our favor, and the munificent grant of lands made to this Company, as well as to the general position and relations of our road, the stock of this Company must be admitted to be of most excellent promise.

The gauge adopted by this Company (5 feet 6 inches) has been adopted as the gauge of the Missouri, and it has been adopted by the New

Orleans Great Western Railroad, which is looking to a connection with our road and with the road to California. It is highly important that this should be the gauge of the railroads west of the Mississippi."

The following is the organization for 1853.

Directors.—Hudson E. Bridge, James E. Yeatman, John C. Rust, Thomas Allen, Daniel D. Page, Henry L. Patterson, Edward Welsh, D. A. January, Josuah B. Brant, James Harrison, Alban H. Glasby, Luther M. Kennett, Richard S. Elliott.

President.—Thomas Allen.

Vice President.—L. M. Kennett.

Secretary and Treasurer.—Samuel Copp, Jr.

Engineer in Chief.—Thomas S. O'Sullivan.

Journal of Railroad Law.

FORWARDERS AND CARRIERS.

The receipts taken from the agents of transportation merchants should distinctly show with whom we are dealing, so that we can estimate how far we are secure, and if it prove necessary, obtain legal indemnity in case of loss. The litigation of which a brief sketch is subjoined, grew out of that loose mode of doing business which the hurry of modern travel so often occasions. It should be remembered that the *mere forwarder* is only bound to exercise ordinary care in fulfilling the duties entrusted to him. It is in dealing with the *common carriers* alone that we protect our goods from all casualties, except those occasioned by the act of God or the public enemies. If the forwarder is also a common carrier, he is, of course, subject to all the duties and liabilities of the common carrier.

The following case was lately tried before Judge Barculo, of our supreme court, at Brooklyn, *Thurman against Wells, Fargo, and others*.

The defendants formed "the California Express Company." The action was brought to recover 202 ounces of gold and 22 gold pieces lost from the steamer Georgia, at Kingston, Jamaica, on her passage from Aspinwall to New York, in October last.

The gold in question had been delivered by one A. Spencer—the original owner—to Backus, defendants agent, to be carried ashore at Panama, before the arrival of the said parties in that city, whither they had sailed from California. The parties crossed the Isthmus together, and meanwhile the gold remained in the trunk of Backus. On reaching Aspinwall they agreed that the gold should be carried to New York in the Georgia, in Backus' trunk. The latter deposited parcels belonging to other individuals in his trunk, and placed it in his state room. The trunk was robbed at Kingston, both parties being ashore. The following points were debated on the trial:

1st. Was the money delivered to Backus individually, or was it delivered to him as agent of the Express Company?

2d. Was the defendant a *mere forwarder*, and were the owners of the Georgia, therefore, the only parties liable for the value of the gold?

3d. Admitting the original claim against the defendants to be valid, could the claim be assigned so that the present plaintiff to whom it had been assigned, could recover?

The court was of opinion that the evidence was sufficient to show a delivery to Backus, as agent of defendants, and also decided the remaining

points against defendants. The jury accordingly rendered a verdict for plaintiff for the full value of the gold.

HOW FAR IS THE NEGLIGENCE OF AN INJURED PARTY A BAR TO HIS RECOVERING DAMAGES?

The rule governing this subject was thoroughly discussed by Judge Bosworth, of the Superior court in May last, in the case of *Carrol vs. the N. York and New Haven Railroad company*. Carrol was injured by a collision between two of the defendants' trains, and this collision was a very culpable one. The plaintiff at the time was in the post office department of the baggage car, which, as he knew, was a much more dangerous location than any passenger car; yet his riding in the baggage car, had not been objected to by the conductor. Had he staid in a passenger car he would have escaped injury. There was no evidence that any notice was posted in the baggage car excluding passengers therefrom nor any notice prescribed by the session laws of 1850.

Was the defendant's negligence of such a nature as falls within the rule that "whenever it appears that the plaintiff's negligence or wrongful act had a material effect in producing the injury, he is not entitled to recover?"

The court decided that the conduct of the plaintiff did not fairly come within this rule. And the following is a summary of Judge Bosworth's reasoning on the subject.

The defendants were bound to exercise the most scrupulous care to prevent collisions, and the plaintiff was under no obligation to select a seat in order to avoid the possible consequences of their neglect of that duty.

The defendants should so run their trains as to avoid collisions. Where an injury is inflicted on a passenger directly by means of a collision which might have been avoided, if the notices specified in the session laws of 1850 are not affixed as prescribed by that act, the injured party may recover even though he be in the baggage car, if there with the knowledge, and without objection from the conductor.

The only answer the defendants can make is "our gross negligence would not have injured you if you had been in a car set apart for passengers, which, as is well known was the safest place in the event of a collision." The injured party may properly reply, "I owed no duty to you requiring me to guard against the possibility of your running two trains together."

It is the doctrine of the case of *Munger vs. the Tonawanda railroad company*—4 Coms. 349—and of all the cases cited by defendants that one party cannot recover from another damages for an injury when his own wrong contributed to the occurrence which caused the injury, the party occasioning it is liable.

In *Blyth vs Topham*—Cro. Jac. 158—the plaintiff's mare was straying in a common in which she had no right to be, and fell into a pit which defendant had dug, and was killed. It was held that plaintiff could not recover. The plaintiff's wrong in suffering his mare to go upon the common contributed to the occurrence which caused the injury in her falling into the pit.

Similar to this was the case of *Bush vs. Brainard*, 1 Comer, 78, where plaintiff's cows straying unlawfully at large, killed themselves by drinking

defendants' maple syrup. The plaintiff was defeated.

In *Sarek vs. Blackburn*—1 C. & P.—brought to recover damages for being bitten by a dog, chained in defendants' yard.—Chief Justice Tindal told the jury,—"the case will turn on the question, whether the plaintiff had a right to be on the spot."

The same doctrine is sustained in the following cases: *Blackman vs. Simmons*, 3 Carr, and P. 138. *Howland vs. Vincent*, 10 Met. 371. *Cook vs. the Transportation Champ. Co.* 1 Denio 91.

Judgment for plaintiff was affirmed with costs.

It will be perceived that the principle of the foregoing is as follows:

If a passenger lawfully selects his seat in a train of cars, no indiscretion in selecting it will exonerate the company from liability for injuries resulting from a collision caused by the gross negligence of their servants.

Mississippi and Missouri Railroad.

On the 27th day of May last, the persons associated in the organization of this Company, met at Chicago, Ills., and the required amount of capital stock having been subscribed, the Company was duly organized by an election of the following board of directors, viz.—

John A. Dix, of New York, Pres't.; Wm. B. Ogden, of Chicago. Vice Pres't.; Wm. Walcott, of Utica, Jos. E. Sheffield, of New Haven, Henry Farnam, of Chicago, Thomas P. Durant, of New York, Ebenezer Cook of Davenport Directors. Azariah C. Flagg, of New York, Treasurer; Henry Farnam, Chief Engineer; John E. Henry, of Chicago, Secretary, and N. B. Judd, Solicitor.

After a complete organization of the Board, the Directors adjourned to meet at this place on the first Monday of the present month.

The news of this organization reached here in advance of the gentlemen belonged to the Company, and inspired us anew in this grand undertaking.

On the first Monday in June, an informal meeting was held by Messrs. Wolcott, Farnam, Ogden and Judd at this place, and after consulting with our citizens, they visited Muscatine and Iowa City, meeting in their route gentlemen from Cedar and Linn counties, returning here Wednesday evening to meet a mass meeting of our citizens at the Court House.

At this morning a proposition was made to build the main trunk of the Road via Iowa City, with a branch through Cedar county up the valley of Cedar river to Cedar Rapids, in Linn county.

This being a new proposition, our citizens appointed a committee of five to confer with the Directors and report the next evening to an adjourned meeting. This proceeding resulted in the adoption of the following arrangement:

The Stock holders met and amended the charter so as to allow the building of the three Roads by the same company, and increased the Directors from seven to nine. Thereupon the Directors met and unanimously elected George Green, of Cedar Rapids, and Thomas M. Isett, of Muscatine as the two additional Directors.

This organization was not completed when our paper went to press last week, neither had those interested been fully advised of the matter in detail, consequently we did little more than publish the action of the meeting at the Court House, and the propositions pending.

On Wednesday evening of last week the committee of five reported to a large and respectable meeting of citizens and strangers, that they had unanimously agreed upon the amended organization, herein before stated. After an interesting interchange of opinions and good feeling, in which Mr. Ogden, of Chicago, Mr. Woodward, of Muscatine, Mr. Byington, of Iowa City, and Judge Grant participated, the proposition was unanimously adopted.

Thus, after years of bitter local feelings between the towns in Central Iowa, cool heads, stout hearts and long purses have accomplished an object for which they deserve the lasting gratitude of the people of Central Iowa. By this arrangement this county and Johnson, with such assistance as they can get along the route hence to Iowa City, have to raise \$250,000; and just so soon as it is done, the contract for the first division of the Road will be let, and the work commenced in thirty days.

Our citizens have taken hold of this work with a will and an earnestness that augurs a triumphant success. The meeting last Saturday evening in front of the Le Claire building, went off right, and nothing is required to insure success but a determination on the part of every one to "help out," and see that our share of the stock is taken before they cease to act.

The news all along the three routes is cheering, and the whole of Central Iowa for the first time is actively at work in a common cause. Why should they not? What reason can any man give for refusing to take stock?

A little more than two years ago our citizens were called upon to take stock in the Rock Island and La Salle Road. It was something new, and we did not know who our Eastern friends were, nor how far we could confide in them, yet we tried them, and what has been the result? They have never made us a promise, nor held out an inducement with which they have not strictly complied. They are pushing that Road to completion in advance of their contract time; the stock is now par, although no part of the Road has as yet been turned over to the company.

The same gentlemen with others propose to build our Roads west, if we but comply with our part of the undertaking. Let us do it; let us act as a unit in extending heart and hand to men who have done so much for us, and propose still further to expend their millions among us, and for us.—*Davenport Gazette*.

Wood Gas.

The city of Wilmington, North Carolina, is now, for its size, the cheapest lighted city in the United States. The whole apparatus, including mains, gasometers, &c., cost but \$18,000. This includes their transportation, with, also, the pay and passage of workmen. By reference to Ure's Chemical Dictionary, a standard work, it will be found a ton of coal, or thereabouts, yields about 10,000 cubic feet of gas. This is after eight hour's distillation from the best selected coal. By actual experiments it has been found that a cord of wood will produce 93,000 cubic feet of gas. It will be perceived at once this renders wood gas much cheaper. Besides, it is a well ascertained fact that in the production of light the ligneous oils are as 7 to 8 superior to that of coal. One reason that they have been so little used is, that they require to be distilled from wood previous to use; but this difficulty, it is said, has been obviated by a simple and cheap apparatus, invented and patented by Dr. McConnell. This invention places the use of gas within the reach of all rural villages, and will render every one who chooses to be so, independent of the gas companies, for by its means they can manufacture their own gas, at a much cheaper rate than it can now be supplied by any company chartered within the United States.—This gas has not the offensive smell of that produced by coal, and can be passed directly from the retort through the washer or condenser to the gasometer without further purification.

This discovery promises to open a new field of commerce; the vast amount of pine in Lower Virginia and North Carolina, now considered of no value, will be brought into market for the purpose of manufacturing gas, and the charcoal left after destructive distillation, will pay the whole expense of manufacturing. Wood can be purchased in North Carolina, and delivered at Wilmington, or in Pamlico Sound, for one dollar per cord; the transportation, &c., would not bring the cost up beyond four dollars. Wood at five dollars per

cord, yields 93,000 cubic feet. An apparatus for manufacturing wood gas could be put up for one-seventh the cost of that for manufacturing coal gas. It is estimated that the city of New York might be lighted for one dollar per thousand feet, and yield a handsome profit to the manufacturers; whereas this city now pays three dollars per thousand.—*Evening Post.*

[That good gas can be made from wood is a fact, and one as long and well known as that it can be made from oil, bitumen and coal. It is also true that a ton of coal produces about 10,000 cubic feet of gas, but the amount which can be produced by a cord of wood we do not know, as one kind of wood will produce more gas than another. More gas can certainly be produced from resin than from wood, and yet gas can be made from coal at a less cost. We are positive that no 93,000 cubic feet of good gas can be made from a cord of wood; 1,000 cubic feet will be nearer the mark. We have no doubt but in some places where good resinous, pine wood is cheap, gas can be made economically, but if any of the other woods in our forests is used, we believe its gas will have to be washed with turpentine before it can be made suitable for illumination.]

We do not hesitate to pronounce the statement respecting "making gas from wood for one dollar a thousand cubic feet in this city," a grossly erroneous allegation. A cord of dry pine wood does not weigh 2,000 lbs. (pitch pine 1,904 lbs.) it contains 49.95 carbon, 6.41 hydrogen, and 43.64 oxygen. Good bituminous coal yields 74.823 carbon, 6.180 hydrogen, and only 5.085 of oxygen. As oxygen and hydrogen are very volatile, if they exist in a large proportion in any matter employed in making gas in wood, it is evident that they will quickly pass off when the wood is put into the retort and not take up the carbon in the wood, which is essential to the making of good gas; the product therefore will be a poor watery gas in comparison with that produced from coal, and besides there will be produced a great quantity of watery acid, and other matters not fit for illumination. Light carburetted hydrogen, the gas made from coal and used in cities, contains no oxygen, its composition is CH_2 , and it is the excess of hydrogen in the coal which takes up some carbon—the latter not being volatile in itself, but it is left in the retort—and makes the gas. The excess of oxygen in wood—it not being an element of the illuminated gas—renders it altogether inferior for making gas for cities. A cord of wood then cannot produce as much gas as a ton of bituminous coal, and therefore it would be more expensive to use it for that purpose excepting where it is very cheap and coal dear.

It has been found that $12\frac{1}{2}$ parts of hydrogen can combine with as much carbon as 100 parts of oxygen; in wood there are about 10 parts of oxygen to 1 of hydrogen, while in coal there is 1 of hydrogen to .80 of oxygen. We would therefore expect that one ton of good cannel coal would produce ten times more good illuminating gas than a cord of wood.—*Scientific American.*

Lexington and Frankfort Railroad.

The fifth annual report of this company, made up to May 1st, 1853, presents the following account of its operations for the 12 months preceding that date.

RECEIPTS.

From Passengers.....	\$38,773 01
" Freight.....	46,608 06
" Mail.....	2,040 62
	\$87,421 79
Deduct expenses for same period....	43,250 99
Leaving as profit.....	\$44,170 70
Number of miles run.....	61,944
Receipts per mile run.....	\$1,41 00
Expenses " " ".....	68 82
Ratio per cent. of expenses to receipts..	48 57

The total cost of the road and equipments up to

the present time exclusive of interest paid is \$581,901.07 or about \$20,000 per mile. The nett debt of the company is now \$137,112.77, which is a reduction of \$25,634.01 from the indebtedness at the time of the last report.

Railroad Iron.

623 Tons T Rails of good quality, 59 lbs. to the yard to arrive during July, for sale by JOHN H. RICKS, 90 Beaver st.

Notice to Contractors.

PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile railroad, will be received at the Railroad Journal Office, New York, on the 8th of August next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 225 miles; commencing at Girard, in Russell County, on the west bank of the Chattahoochee river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.
GEO. S. RONEY, Chief Engineer.
Girard Railroad Office, 6th July, 1853.

Lawrence Scientific School. Harvard University.

CAMBRIDGE, MASS.

THE next term of this Institution will open on the first day of September, 1853, and continue 20 weeks.

Instruction by recitations, lectures and practical exercises, according to the nature of the study, will be given in—

Astronomy.....	by Messrs. Bond.
Botany.....	" Prof. Gray.
Chemistry, Analytical and Practical.....	" " Horsford.
Comparative Anatomy and Physiology.....	" " Wyman.
Engineering.....	" " Eustis.
Mathematics.....	" " Pierce.
Mineralogy.....	" " Cooke.
Physics.....	" " Lovring.
Zoology and Geology.....	" " Agassiz.

For further information concerning the School, application may be made to Prof. E. N. Horsford, Dean of the Faculty.

Cambridge, July 15, 1853.

Notice to Contractors.

FREMONT AND INDIANA RAILROAD.

SEALED PROPOSALS will be received at the Engineer's Office, in Fremont, until the 20th day of July next, at noon, for the Grubbing Clearing, Grading, Masonry, Bridging and Cross Ties for said road, from Fremont to Lima; sixty-six miles.

The line will be divided into sections of about one mile each, and bids will be received for one or more, or the whole.

Propositions for completing the entire line ready for business, are also invited.

The Company reserve the right to reject any and all proposals that are not considered satisfactory.

This road, running through a populous and healthy country, where supplies are cheap and abundant, offers unusual inducements to Contractors.

Maps, Profiles, Plans and Specifications, will be ready for examination on and after the 15th day of July.

A. BROOKS, Chief Engineer.
Fremont, O., June 23rd, 1853.

Machine Shop for Rent.

FIXTURES AND VALUABLE TOOLS FOR SALE.

THE premises now occupied by Bancroft & Sellers, elegantly situated in Kensington, Philadelphia Co. fronting the Delaware, and adjoining the extensive Foundry of Messrs. Reany, Neafie & Co.) are offered for Rent. Possession given on or about 1st October, 1853.

The Machine shop is a three story substantial brick building, 40 by 80 feet, well lighted on all sides, and conveniently arranged, with office, store room and drawing room. There is an excellent direct action vertical Steam Engine of 10 Horse power in the building, occupying but little space, and supplied with steam from two 30 inch boilers, 30 feet long, situated outside. The building is heated throughout with wrought iron steam-pipe, so arranged as to use the exhaust steam from the Engine or live steam direct from the boilers.

The two principal rooms have each a complete line of shafting extending their whole length. In the lower room is a large Slide Lathe, capable of turning over 9 feet in diameter, also a first rate planing Machine, capable of planing an object 5 feet wide and 32 feet long. These machines are both placed on substantial mason work, and together with the shafting, steam pipe, and sundry other fixtures, will be sold at reasonable prices. The Smith Shop is a substantial, well lighted, one story brick building, 30 by 60 feet, containing 5 forges, and all the usual appliances. There is also on the premises one large frame setting up shop; one frame ware-room for castings; one frame store room for finished work, with room over for storing dry lumber. The yard room is ample and conveniently arranged for Coal, Iron &c. &c.,

For Terms apply to S. B. GRICE, 17 Walnut st. Philadelphia or.

JOSEPH GRICE 36 Water st.

1m New York.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's Office of the "Pittsburg, Maysville, and Cincinnati Railroad, in M'Connellsville, until the 20th July, for the Graduation and Masonry of the line of road (about 35 sections) between the Muskingum river and the Central Ohio Railroad.

Bids enclosing proper testimonials, will be received for the whole or any number of the above sections.

Plans and specifications will be ready for examination after the 10th of July.

The division between the Muskingum and Hocking rivers will be offered for contract, as soon as the location is completed. ROBT M'LEOD, Chief Engineer.

M'CONNELLSVILLE, June 4th, 1853.

Railroad Letting.

KENOSHA AND BELOIT RAILROAD.

ON and after the first day of August next, and until the 15th of August, inclusive, proposals will be received, under seal, at the Office of the Kenosha and Beloit Railroad company, in Kenosha, for the construction of the entire road from Kenosha to the Rock River Union Valley Railroad, a distance of about 50 miles.

The proposals may be made for the grading, masonry, ties, and entire construction in a single contract—or for the same and all items separately. and in independent contracts by different individuals. They will likewise be received for the above in parts. The work will besides be divided into sections of moderate length, and proposals, as above, for a single section or any number of sections will be received.

Profiles and specifications may be inspected at the Engineer's Office in Kenosha, on and between the days above specified, and forms of proposals will be supplied to all who desire to take contracts.

ALEX. C. TWINING, Engineer,
Engineer's Office, Kenosha, June 20th,

\$1,250,000 Bonds of the New Orleans, Opelousas and Great Western Railroad Co.

SEALED PROPOSALS will be received until the 15th of September next, at the office of HEWITT, LEES & Co., in the city of New York, for the purchase of 1250 Bonds of One Hundred Thousand Dollars each, all dated 1st August, 1853, and payable at the office of the company in the city of New Orleans, as follows, to wit:

250 Bonds of \$1000 each, on the 1st August, 1854.
250 do do do do 1st August, 1855.
250 do do do do 1st August, 1856.
250 do do do do 1st August, 1857.
250 do do do do 1st August, 1858.

Sealed Bonds bearing interest at the rate of seven per cent per annum from date, interest payable semi-annually, at the office of the company in New Orleans, with coupons for same attached. Said bonds are issued by order of the Board of Directors, the proceeds of which to be expended in the construction of the road.

The New Orleans, Opelousas and Great Western Railroad company was organized 1st May, 1852. Its present capital, by act of Incorporation, is \$6,000,000. Its charter provides for the construction of a trunk railway from the city of New Orleans, westwardly, to some point on the boundary between the States of Louisiana and Texas, favorable for its extension across the latter State to the Pacific ocean.

The entire line or first division of road to Washington, in the parish of St. Landry, 173 miles with a branch of 20 miles in addition, is now under contract with parties of the highest responsibility, and is to be entirely completed by the first day of January 1855.

The rails are already laid for 20 miles, and 66 miles will be finished and in operation on the first of January next.

The cost of the division to Washington, complete, with equipments, depots, etc., etc., will be \$3,300,000.

The tributaries to the division of the road under contract, and to the probable line of its extension to the limits of the State, are the Bayous Lafourche, Terrebonne, Black, Teche, Vermillion, Courtaubert, Beuf, Robert, Rapide, Cotile, Red and Sabine Rivers.

The Parishes traversed by it, embrace portions of the deltas of the Mississippi and Red Rivers, and the magnificent prairies of the Attakapas and Opelousas forming the finest planting and grazing region of the South. Besides other and abundant resources, both for travel and transportation, they produced last year 126,309 hhds of sugar, and about 7,580,000 gallons of molasses, being more than half of the entire crop of the State, export annually about 40,000 head of live stock, about 300,000 bales of cotton reach this terminus by the present channels of commerce tapped by this line of road, or grown in the country penetrated by it.

The subscriptions to the capital Stock of the Company now amount to the sum of \$4,243,600, as follows, viz:

Individual subscription.....	\$1,003,000
Municipal corporations, payable part in five and part in six annual payments, viz:	
City of New Orleans.....	\$1,500,000
Parish of Orleans.....	75,000
Do St. Mary.....	156,600
Do St. Martin.....	103,775
Do Lafayette.....	33,400
Do St. Landry.....	115,625
Do Natchitoches.....	250,000
Do DeSoto.....	100,000
	\$2,334,400
	\$3,697,400

At the last session of the Legislature the State of Louisiana subscribed one-fifth of the capital stock of the company, viz: \$1,200,000, payable, however, only in the same proportion as other subscribers; consequently the actual State subscription at this time is \$846,200, making our present available subscription amount to the sum of \$4,243,600.

The bonds now offered for sale are secured by special pledge, according to law, of the subscription to the capital stock made by the city of New Orleans, viz: \$1,250,000, due 1st June 1854 to 1858, inclusive, \$250,000 per annum; and the interest on said Bonds is secured by pledge of unmatured installments of the Parishes of Orleans, St. Mary, St. Martin and Lafayette amounting to \$300,210.

The Board of Directors in offering this loan to the public, do so with full confidence that the security offered is of the most undoubted character. No mortgage of any kind now exists upon the property of the company, and the Board do not contemplate to issue any Bonds secured by mortgage upon the Road until the line to Washington is complete and in working order, a distance of 173 miles, and then the amount of funds to be raised by mortgage will be but a very moderate amount compared with the actual cost and value of the Road, and will be employed in its further extension.

The subscription of the City of New Orleans is payable annually, by a tax levied on the whole landed estate of the city, authorized not only by an act of the Legislature, but approved by the tax-payers, and declared legal and constitutional by the supreme Court of the State. The security therefore, for the payment of said subscription, is the entire landed estate of the City of New Orleans, amounting to One Hundred Millions of Dollars. Payers of this tax receive an equal amount in the stock of the company.

For all further information in regard to this loan, apply to Messrs Hewitt, Lees & Co., New York, or at the office of the company, New Orleans.

By order of the Board.

J. H. OVERTON, Pres't.

New Orleans, June 1853.

"Gardner's Rock Drill."

DESIGNED for Tunnelling, Quarry use, and Rock Excavations of all descriptions, by the use of which a saving of 50 to 75 per cent is made.

Applications for Territorial Rights and Machines must be made to the Patentee.

G. ARTHUR GARDNER,
Trinity Buildings, Broadway,
New York.

June 9, 1853.

AMOSKEAG MANF'G CO.

MANUFACTURERS OF LOCOMOTIVE and STATIONARY STEAM ENGINES, Boilers, Cotton and Woolen Machinery, Tools, Turbine Wheels, Mill Work and Castings of every description.

MANCHESTER, N. H.

WM. AMORY, Treasurer,
65 State st., Boston, Mass.
O. W. BAYLEY, Agent,
Manchester, N. H.
1y 3y 6.

CENTRAL RAILROAD CO. OF NEW JERSEY.

\$950,000 of Stock.

BY ORDER of the Board of Directors, the Finance Committee of the Central Railroad Co. of New Jersey will open Books of Subscription for the Unissued Stock of the Company, amounting to \$950,000, at the BANK of AMERICA, in the City of New York, on the 27th June instant, and keep the same open one week, unless the whole amount shall be sooner subscribed. This Stock comprises all that the Company are entitled to issue, and the money received is to be applied to the construction of a second track, improvements at Elizabethport, and other preparations imperatively demanded by the connections to be opened in another year. This mode of distribution has been adopted, in preference to a pro rata allotment, to enlarge the number of stockholders, and facilitate the acquisition of stock by those now desirous but unable to procure it.

The Ferry, 12 miles, from New York to Elizabethport, and the Railroad, 63 miles, from Elizabethport to Easton, Pa., have been operated through the entire distance for nearly a year, and both are fully equipped for the present business. Passengers preferring the land route can go from New York by the way of Newark to Elizabethtown and there intersect the trains,

From the terminus at Easton, the Lehigh Valley Railroad is in active course of construction to Mauch Chunk, 46 miles, and will be opened in July, 1854, connecting New York, winter and summer, with the Lehigh coal fields, by a route of only 125 miles; the Lehigh road having only descending or level grades, and the Central Road no grade over 21 feet to the mile. At Tamaqua the Lehigh road connects with the Catawissa road, now constructing, and to be completed in May, 1854. This connects with the Sunbury and Erie road, now under contract and to be completed in two years. Thus the year 1855 will see a new route of favorable grades and curves only 462 miles in length, opening from New York to Erie on Lake Erie.

A direct and favorable connection with Pittsburgh and the Pennsylvania Central Railroad, can also be made through existing roads and charters.

From New Hampton, a point on the Central Railroad of New Jersey, 59 miles from New York, the Warren Branch road in connection with the Delaware, Lackawanna and Western road and the Oswego, Syracuse and Binghamton road, will bring the Lackawanna coal region within 133 miles of New York, with grades of only 21 feet to the mile (except for a few miles in leaving the coal basin at Scranton), and give an unbroken line of six feet gauge, 310 miles in length, from New York to Oswego on Lake Ontario. Of this distance, 156 miles are finished and in operation; 80 miles are under construction and to be opened this Fall; the remaining 74 miles are located, contracted, and to be completed in the Fall of 1854.

It may be interesting to state that the Central Railroad of New Jersey, from its local business, without any of the anticipated connections, has been enabled to pay seven per cent on the cost of the several sections as they have been opened, and that the entire road, with its present local business, is now paying dividends at that rate.

At the close of the fiscal year, April 1, 1853, the financial condition of the company was as follows:

Capital stock.....	\$1,034,700 00
Mortgage bonds, 7 per cent.....	1,500,000 00
Other bonds, 6 per cent.....	113,000 00
Bills payable and balance due.....	249,022 04
Balance of earnings over dividend..	1,006 85

\$2,897,728 89

This was represented by the following property:

Railroad, average \$37,800 per mile.....	\$2,379,886 64
Ferry interest and boats.....	140,900 00
Station houses, shops, etc.....	78,000 00
Land at Elizabethport.....	55,016 77
Equipment.....	218,504 64
Materials, wood, coal, cash, etc.....	25,420 84

\$2,897,728 89

Full statements of the condition of the company can be obtained at the office, 5 Wall street, where those desirous to examine the road with reference to investment can procure tickets for the trip.

The Finance Committee call the attention of capitalists with the greatest confidence to the present position and future prospects of the road, believing that no road in this vicinity presents greater inducements for investment. They reserve the right to reject or reduce subscriptions, if the whole amount subscribed should exceed the amount to be issued.

Ten per cent will be required to be paid on allotment of the stock, and the remainder in instalments of ten per cent every sixty days on notice, as required. Interest at the rate of seven per cent will be allowed till the instalments have all been called. If the dividends on the full stock are at a higher rate, the difference will be made good to the scrip Stockholders when their stock is filled up.

Dated New York, June 17, 1853.

JOHN T. JOHNSTON,
JOHN C. GREEN,
WILLIAM E. DODGE, } Finance
WILLIAM S. WETMORE, } Committee.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, July 23, 1853.

Mobile and Ohio Railroad.

This company having for several years past been quietly, but vigorously, pushing forward the construction of their great work, and having now reached a point in its progress, in which it becomes necessary for them to make contracts for superstructure and equipment, (the means for which they propose to raise by an issue of their securities,) we take this occasion to give a brief description of the route of the above road, and its connections, together with a statement of its financial condition and prospective income.

The main line of the Mobile and Ohio railroad extends from the city of Mobile to the Ohio river at its point of junction with the Mississippi, a distance of 494 miles. In addition the company propose to construct Branch roads as follows:

Columbus, Miss., Branch.....	12 miles.
Columbus, Ky., ".....	5 "
Tennessee River ".....	23 "
Add main line.....	494 "

Total length of road to be built.....534 miles.

In addition a branch is to be constructed from the main trunk to *Paducah*, an important town on the Ohio, near the outlet of the Tennessee river. This branch is to be built by an independent company and is already under contract,—with sufficient means provided for construction—to be graded by the first day of November 1854.

The line of this road enters the State of Mississippi some seventy miles after leaving Mobile, when it takes a pretty direct northerly course, following generally, the ridge or the tableland, dividing the waters flowing into the Mississippi on the one hand, and the Bigbee and Tennessee Rivers on the other. The route adopted is not only the most favorable for cheap construction but is furthest removed from the competition of navigable waters. At the same time it traverses what are acknowledged to be the most fertile portions of Mississippi, Tennessee and Kentucky.

The connections that this will form with other roads will be of the most favorable character.—About 150 miles from Mobile it will cross the line of the Southern railroad, now in operation to Brandon, and in progress to the east line of the State. Farther north it will intersect with the New Orleans, Jackson and Great Northern railroad. In the Northern part of the State of Mississippi it will cross the Memphis and Charleston road, which is now rapidly advancing toward completion, and near the State line, with a road to Nashville, the capital of Tennessee. At or near Jackson in Tennessee, it will intersect with the Memphis Branch of the Louisville and Nashville road now in progress, and near the north line of Tennessee with the Paducah Branch, already described. At the mouth of the Ohio, it will form a junction with the Illinois Central road, the construction of which is now making rapid progress. The Central and the Mobile and Ohio roads are, in fact, complements of one line connecting the Gulf and the great Lakes, and, commercially, constitute one line. The Paducah Branch will bring the Mobile and Ohio in connection with the Vincennes and

Paducah road, now in progress, and through the latter, with the railroad systems of Indiana and Ohio. By the time of the opening of the Mobile and Ohio road, it will intersect completed lines of road, reaching to the most remote portions of the country.

Although this company have never been before the public for money, they have for several years past been prosecuting their work with unremitting energy and zeal. The parties having it in charge felt at the outset that a work of such magnitude could be successfully accomplished only by receiving the hearty co-operation of the entire community immediately to be benefitted by it. It was seen, too, that a large sum would have to be raised by the use of the credits of the company, after taxing the ability of the stockholders to the utmost. The directors therefore felt the necessity of securing for their proposed loan all the guarantees of safety required by capitalists in similar cases, and upon coming before the public they determined to show that ample provision had been made for the graduation and masonry, by local contributions. Such is now the case upon the entire line from Mobile to Paducah, which is regarded as the more important terminus on the Ohio. The whole line is now under contract, and is being carried rapidly forward, entirely by the local contributions of the country. The amount of stock subscribed, embracing \$400,000 in the Paducah Branch, amounts to \$5,052,300. This is being rapidly paid in and expended, and will soon become a substantial basis for the proposed loan.

We have always insisted upon the necessity of a strong local stock subscription to every road coming before the market for money. The reasons for such a course are obvious. The ability of a community to make them, is the only proper test of their ability to furnish a sufficient amount of business to sustain the road when built. The purchasers of bonds should always look upon a large *bona fide* domestic stock subscription, as the best guaranty of safety they can have. It proves the existence of a numerous and wealthy population to support the road when constructed. It is an evidence that in the judgment of those having the best opportunities for forming a correct opinion that the road will *pay*. It shows that it has the favor and good will of those who are to support it;

and when the parties who have it in charge have embarked a large amount of their means in it, they will take good care that their own property be not wasted.

When, on the other hand, a road is built by the credit of a state or city, the purchasers of its securities, possess only in a slight degree, the guarantees enumerated. Neither cities nor states were organized for the purpose of engaging in, nor are they competent to conduct commercial enterprises. When they are undertaken by such bodies, the public feel but little interest in the result, and those who have them in charge, are more intent to make money out of their positions than to see that the works are economically built, and well managed. Railroads are commercial enterprises, and the securities of those companies only can be safely dealt in, that are managed strictly in conformity with the principles that govern commercial transactions. A correct banker may discount accommodation paper, but it is only when his good nature gets the better of his judgment. Such paper may be good, but the rule is against it. So a railroad built entirely upon accommodation paper furnished by corporations, may turn out well, but experience shows that such is seldom the result.

Our conviction is that the Mobile and Ohio Company are entitled to the credit that they ask. They show a domestic stock subscription of about \$5,000,000, which sum is being rapidly expended in construction. This sum will be lost to the stockholders, unless the work in which it is invested be judiciously managed. Upon this sum, and upon the additional security of about 1,200,000 acres of land, (to which subject we shall subsequently allude) the Company now propose to borrow the sum of \$6,000,000 to be expended in the items of iron and equipment; so that the Company will be able to offer nearly two dollars, as security for every one they wish to borrow, which exceeds in fact, the amount of security offered by the average of our Railroad Companies.

In addition to the security offered by the Stock subscriptions, are the lands recently granted to this road, in connection with the grant made to the Illinois Central.

The fee of these lands have been vested in the company, by the States of Alabama and Mississippi. They amount to 1,150,000 acres, have been selected by the company, and are within 15 miles of the road. As a considerable patron of these lands lie within six miles of the road, and as it is the intention of the company not to sell them till after its opening, it is certainly a low estimate to place their value at \$3 per acre at this rate they are worth \$3,450,000. Adding this sum to the value of stock subscription, and the security for the proposed loan will be raised to \$8,500,000. From this to the portion of the road lying in Tennessee. That sum however is to be deducted the stock subscribed. State has this appropriated \$8000 per mile to the portion of the line within her territory and will take a first mortgage upon it. But as additional subscriptions are to be made to the stock of the company particularly in Kentucky, it is estimated that the capital stock subscribed out of Tennessee, will at least equal \$1,500,000, which sum, with the lands, will give \$8,000,000 as security for a loan of \$6,000,000; and as the proceeds of the last sum are included in the mortgage, \$14,000,000, as security

for the loan, or nearly two and a half dollars for every one sought to be borrowed.

We understand that it is the intention of the company to set apart an amount of the proceeds of the first sale of lands as a sinking fund, which shall be sufficient, with the accruing interest to redeem the bonds now proposed to be issued, at maturity.

Having briefly described the route of the above road, and given in general terms its financial condition, we will devote a few words to its business capacities and prospects.

As before stated, the route of this road traverses the most fertile portions of Mississippi, Tennessee and Kentucky, and for the greater part of its length a country well filled with an active and thrifty population. The road, as a general thing, is so far removed from the competition of navigable rivers, and of rival roads, that it must become the carrier of the products of an extensive belt of country upon either side of its line. This belt is well known to be one of the largest cotton producing sections of the south, nearly the whole population being devoted to the cultivation of this staple. The production of this article upon the route of this road, is not only immense, but the whole of it is exported, and will be forwarded over the above road, when constructed. Owing to an absence of a variety of industrial pursuits in the southern states, nearly their entire product is exported. As a necessary consequence, an equal amount, either in bulk or value is imported, to supply the various wants of the population. The aggregate amount of transportation therefore, thrown upon southern railroads, very nearly equals twice the amount of the products of the country they traverse. This is one of the principal causes of the large revenues of southern roads. The article of cotton too, from its great comparative value, can afford to pay a high freight. In the northern states, railroad may bear a much less intimate relation to the internal commerce of the country than in the southern. In the former, from a greater division of labor, a given community produce nearly every article that enters into consumption, which are distributed to the consumers without the intervention of a railroad.

The Mobile and Ohio road will constitute the outlet of a very large extent of country from the absence of navigable rivers and rival roads, and by a much shorter route to tide water than any other proposed. By carrying the road some 15 miles down the bay, as is proposed to be done, a depth of water of 21 feet at low tide will be reached, sufficient to float the largest class of merchant vessels, entirely obviating the great drawback to the present prosperity both of Mobile and New Orleans,—the difficulty of reaching them by large ships.

The line of the road with its northern connections extending to the Lake, will coincide with what may be termed the natural routes of commerce, which are at right angles with the parallels of latitude. A road extending from the Gulf of Mexico to the Lakes traverses a belt of country in which is found every variety of product belonging to the tropics and high northern latitudes; the sugar, rice and cotton of the one, and the fruit and cereals of the other. Such is the range of human wants that all these articles are regarded as indispensable in the domestic economy of the

humblest citizen. Such a road as the Mobile and Ohio will serve as the direct medium of distribution of every variety of article that goes into consumption, and for this reason possesses a decided advantage over a road following a parallel of latitude, which traverses a country where all the products are identical.

We believe, for the reasons stated, the securities of the Mobile and Ohio railroad company to offer an attractive investment for capital. Its past management, which has been such as cannot fail to commend itself to the most fastidious purchaser of railroad bonds, is a good guarantee for the future. The basis offered for the proposed loan is ample. The route of the road is commercially strong. The road will be built at a cost not exceeding \$20,000 per mile. Nothing will be lost to the stockholders in the shape of large bonuses, to contractors. The securities offered have every practicable guarantee for their safety, and will, we have no doubt, meet with a ready sale when offered to the public.

Pennsylvania.

Pittsburg and Connellsville Railroad.—The Pittsburg Gazette states that at a meeting of the board of directors of this company held in that city on Wednesday, Oliver W. Barnes, Esq., was elected Chief engineer of the road. The Gazette adds—

Mr. Barnes has been a most efficient member of the able corps of engineers on the Pennsylvania railroad since its organization, and has for some years held the highly responsible position of resident engineer on the western division. He brings to the important position to which he has been chosen, a ripe experience, excellent abilities, and most popular and agreeable manners. His selection gives great satisfaction in this community.

Mr. Barnes will organize an efficient corps of engineers without delay who will take the field as soon as possible, and prepare the road for contractors at the earliest possible moment. Several parties will be sent into the field, to hasten the work as greatly as possible.

Virginia.

The new Board of Public Works of Virginia, composed of Edward J. Armstrong, from the northern, Archibald Graham, from the central, and Thomas J. Boyd, from the southern section of the State, organized at Richmond on the 4th inst. Archibald Graham was chosen President, and William R. Drinkard Secretary. The term of service prescribed by the constitution for the members is six years; but the members first elected are to serve respectively two, four, and six years, to be determined by lot, the drawing for these terms of service resulted as follows; Archibald Graham, two years, Edward J. Armstrong, four years, Thomas J. Boyd, six years.

Cleveland, Medina and Tuscarawas Railroad.

The Norwalk Experiment says: "At the stockholder's meeting of the Toledo, Norwalk and Cleveland Railroad company, held in this place on Thursday last, it was decided to lend their credit to the Cleveland, Medina and Tuscarawas Railroad, in the way of indemnifying the payment of interest upon \$100,000 of their first mortgage bonds, to enable said company to procure iron. This road; it will be recollected connects with the Cleveland, Norwalk and Toledo Road at Grafton, and cannot fail to prove an important auxiliary. The Cleveland and Columbus company endorses a similar amount of bonds."

Specification of New York and Erie Engines.

As an example of the best constructed engines upon the Erie road, we present the following specification of the standard passenger engines, Nos. 100 to 105, inclusive. Nos. 106 to 111 are also the same, with the exception of the diameter of driving wheels and trucks, and the depth of furnace.

The engines of this class have not received as liberal allowances of heating surface, flue opening and steam room, as some of the earlier engines, the deficiency being evident in their performance, but for excellence of materials, and thorough, accurate and durable construction, we question if they are surpassed by any other engines upon the road or by any large number in the country. They have cast iron pumps where brass is now much used, and have cast iron instead of wrought iron rocker shafts, but with these exceptions they are constructed with every reference to the highest standard of workmanship.

These engines were built in the season of 1851, by Rogers, Ketchum and Grosvenor, of Paterson, New Jersey.

GENERAL ARRANGEMENT.

Horizontal cylinders, and double cranks; four driving wheels and four trucks, shifting link motion for working valves; steam chests outside of smoke box, framing inside of driving wheels.

BOILER.

Waist of boiler is of one-fourth inch Bowling plates; is 44½ inches in diameter, outside of main course, next firebox, and 43 inches at smoke-box end. Outside firebox is square, and of the "wag-on-top" shape, and is of No. 3—or rather strong ¾ inch—iron. Furnace of one-fourth inch iron. Iron tube sheets at each end, three-eighths inch thick. The seams joining the firebox to the waist of boiler are double riveted.

Two round stay-ropes pass from each stay bar, on crown sheet to outer shell of firebox. Stay-bars and longitudinal stay-ropes, of usual number and strength. Grate 47 inches long, by 47½ inches wide, and for engines 100 to 105, inclusive, having 6 feet driving wheels, is 53 inches from crown sheet. Cast iron grates closed up for six inches of their length at their forward ends. 152, No. 13, copper tubes, 1 13-16 inches diameter outside of smoke-box ends, and 1 11-16 inches outside diameter, at fire-box ends of same. These are 11 feet 1 inch long between tube sheets, and are tightened at firebox ends by cast iron thimbles, of 1½ inch inside diameter.

Low wrought iron dome over fire-box, closed by a cast iron cap.

Lap welded iron steam pipe of six inches outside diameter, and one eighth inch thickness, (the pressure outside and inside of pipe being always equal) runs the entire length of boiler. Three longitudinal rows of slots or steam passages on upper side of pipe, commencing 24 inches from each end of pipe, being 3½ inches long each, and three eighths inch apart. One-third of their number towards fire-box are one-fourth inch wide, the middle portion are 5-16 inch, and those next the smoke-box are ⅜ inch wide. Throttle valve in a cast-iron chest within smoke-box. Joints of main steam-pipe, branch and blast pipes are ground turning joints, made with a composition ring on a cast-iron surface. Branch pipes 5½ inches diameter. Blast

pipes have three sets of spare composition nozzles, 1⅞, 2, and 2½ inches diameter.

Cast iron boiler front, and hinged cast iron door.

Two safety valves, of two and a half inches diameter.

Whistle of six inches diameter, and bell of 120 pounds.

Pine lagging of three fourths inch thickness covered with Russia iron. Gauge cocks, frost and blow-off cocks, mud hole plugs, and Ashcroft's fusible safety-plug, in all the boilers.

CYLINDERS.

Seventeen inch bore, long enough for 20 inch stroke, which is 28¾ inch between ground faces. Cylinders are 7-8th inch thick; covers 1½ inch thick. The two cylinders are 37¼ inches from center to center. From back cylinder face to center of crank-axle is 9 feet 4½ inches. Cylinders are secured by a stout flange resting on the upper side of frame, and by a wide curved flange to under side of smoke box. They are also secured firmly together, while a stout flat brace comes from each forward driving axle jaw, and passes through a lug cast on cylinder, having a nut and flat key on each side of same. Valve faces are inclined outwards at an angle of 45°. Steam ports 14 inches by 1½ inches. Exhaust port 14 inches, by two inches. Steam enters steam chest, through a port cast over induction port, and opening on face of cylinder. Composition main valve, with 11-16ths outside and no inside lap. Valve is encircled by a wrought iron loop into which the valve stem is tapped, and into which is also tapped a guide spindle coming through forward end of chest and working in a brass sheath. Bolts to secure cover of chest pass down inside of chest so as to show a plain surface outside. Bridge between ports is 1 inch thick. Valve 8½ inches long, and has cavity of 4 inches in width.

Steam chests have each a double cock oil cup and there is also an oil cup in center of forward cover of each cylinder.

Pistons have one outside composition ring with two circumferential grooves, filled with Babbitt metal, and one inside ring of wrought iron. Outside ring is cut open obliquely at one place, and has a small wrought iron flap on each edge to prevent leakage of steam at the point of division.

Glands of piston rod and valve steam stuffing boxes are of cast iron lined with a tight composition bushing.

The casting for the truck pintal is attached to both cylinders by bolts, and forms the connection between the cylinders.

FRAME.

Is flat, 4 by 2 inches. The portion back of offset in forward jaw is 4½ inches wide. At back end and as far forward as offset the frame is 55½ inches apart in the clear; forward of offset it is 56½ inches apart. Top of back division of frame is 12 inches above the horizontal axis of cylinders; immediately in front of the forward jaws it drops 7½ inches, or to 4½ inches above horizontal axis of cylinders, and continues at that level to forward end. Connection of back end of frame is made by a heavy foot plate of forged iron. At forward end by an oak bunter beam. Pedestals for crank axles are forged at the Bowling works in England, and are welded to the bars forming the frame. Back pedestals are of cast iron. Both

pedestals have keys on both sides of the bearings which they support, for the purpose of taking up the wear of the driving boxes against the pedestals. Cast iron thimbles and truss rods between back and forward pedestals. A brace of flat iron extends from forward jaw to cylinder, as already noticed. A diagonal brace extends from each back pedestal up to foot plate.

The boiler braces are riveted to boiler. The angle-iron braces, which connect the fire-box with the frame, are held to the frame by long straps reaching over them and bolted down at the ends, and also at the middle, having oblong holes in the angle-iron where the bolts pass through.—An allowance is made, lengthwise, between the angle-irons and the straps which confine them, of 3-16 inch. The screws which secure the expansion braces to fire-box pass through the water space and are riveted inside of furnace. Before being entered in the inside sheet they have concave-faced nuts started upon them, and a packing of canvas and red lead, which are screwed tightly against the inner side of outer sheet. These stay bolts have square heads where they pass through the angle-iron braces, and have finished nuts and washers on their outer ends.

There are diagonal braces of round iron at each end of boiler, and four flat braces connecting the waist of the boiler with the frame. These, with the expansion braces, equalizing levers and spring straps are all finished to a smooth surface.

There is a deep cross-girt of wrought iron, supporting slides and rocker-shafts. It is ⅞ inch thick and is secured at each end to the frame, and at the center to the under side of waist of boiler. It is cut out to allow the connecting rods to work through it.

Outside rail of 3 in. angle-iron curved over driving wheels and continued to forward end, at the same level as inside frame.

WHEELS, AXLES AND SPRINGS.

The driving wheels are six feet in diameter on tread. Four Bowling tires, all with flanges, and 1⅞ inches thick; shrunk ¾ inch in their inner circumference, and secured in addition by eight rivets passing through rim of wheel and tire.—Counterbalances for the driving wheels are bolted in, crank pins are forged in England from Bowling iron.

There are four truck wheels of 36 in. diameter. These are spoke wheels with chilled rims, and have their hubs banded with wrought iron. (These have since been changed for Bush and Lobdell's double plate wheels.) The trucks are secured each by one stout spline, and the drivers by two stout square keys.

Back and forward drivers are 6 ft. 9¾ inches between centers. Center of truck is 6 in. back of front face of cylinder, or 11 ft. 3¼ inches from center of crank, or eighteen feet one inch from center of back shaft. Truck wheels are 44 inches between centers, so that the entire length of rectangle covered by wheels of engine is 19 feet 11 inches.

Bowling crank axle, with bearings 6½ inches in diameter and 7 inches long. Crank wrist 7 inches diameter, and 4¼ inches long. 10 inches throw. Back shaft has same size of bearings as crank axle. Truck axle bearings 3⅞ inches diameter and 7 inches long. There is a collar on the truck axle, just inside of wheel, so that the box shall

not work loose. Driving axle bearings, or boxes, are made with a composition lining, without Bab-bitt metal, and fitted tight to casting of driving box.

Driving springs, 40 inches long, 12 plates of $\frac{3}{8}$ inch steel, $3\frac{1}{2}$ inches wide, and have 11 plates of $\frac{3}{8}$ inch iron in the center of spring between steel plates. Whole depth of spring in center $8\frac{5}{8}$ inch. Flat spring straps bent over ends of springs. Truck springs 46 inches long, have twenty-two plates of $\frac{3}{8}$ steel, $3\frac{1}{2}$ inches wide; $8\frac{1}{4}$ in. deep at center.

SLIDES, PUMPS AND CONNECTING RODS.

Slides are flat wrought iron bars, 3 inches by $1\frac{1}{4}$ inches, not case hardened. Cross head bearing of cast iron, without lined gibs, and is 9 inches long and 2 inches thick.

Pumps are of cast iron. Plungers $1\frac{7}{8}$ inch diameter and are worked at full stroke from a pin on under side of cross head. Spindle pump valves, ground with flat faces and are 3 inches in diameter outside. Air chambers on forcing and on suction side of pump. Lap welded iron supply pipes $2\frac{1}{4}$ inches in diameter. Ball check valves, which are situated towards forward end of boiler, and opposite the center of its vertical diameter.

The main connecting rods have their straps secured by gibs and key and one bolt. A portion of the flat face of the large end of the rod is cut out to reduce the weight. The boxes of the parallel rods are made to enclose the end of the crank pin to prevent the access of dirt to the bearing. The parallel rods are placed upon the crank pins when one axle stands at the same height in its jaw as the other, that is to say, when the engine stands on a level rail. Both halves of the box at forward end of the rod are made to fit close to the pin, as also does the inside box at back end, while the inner surface of outside box is 1-16th inch from that side of the pin. This allows of the vertical movement of one pair of wheels in its jaw independent of the other without straining the rods, but produces a slight slip at every revolution.

VALVE MOTION.

There are four eccentrics of $5\frac{1}{4}$ inches throw, each eccentric being halved and secured by bolts. Wrought iron dowels are inserted, half in each of the two separate portions of the eccentric to prevent any side motion. The eccentrics are secured to the axle each by two square ended set screws pressing hardened steel dies, which are cut with sharp grooves, against the axle. The eccentric straps are of cast iron with oil cups cast on, and being grooved out inside so as to shut over eccentric and exclude dust. The eccentric rods are held by three square bolts passing sideways through a flat palm cast on eccentric strap. The back and front eccentric rods for each cylinder are attached to a curved wrought iron link, the curve of whose center is described with the radius of the eccentric rod, or three inches less than the distance from center of eccentric to center of link. The link is 17 inches long inside of slot, 2 inches thick, and the slot is $2\frac{1}{4}$ inches wide with $1\frac{1}{2}$ inch thickness of iron around it. The link is raised and lowered upon a block on lower end of rocker arm. The studs to which the eccentric rods are attached are $1\frac{1}{4}$ inches in diameter outside of thimble which is $\frac{1}{8}$ inch thick. The rod works loose on the stud the stud being secured tight to the link.

The end of the rod has a bushing where it wears upon stud. The centers of studs are 3 inches from centers of links on some of the engines, as the No. 100. On others the distance is as little as $2\frac{3}{8}$ inches. The rocker shaft is of cast iron and its boxes are secured to frame and to the cross girt or yoke sustaining the slides. Rocker arms $9\frac{1}{8}$ inches long each way. The link motion is graduated to cut off at $17\frac{3}{4}$ inches, 15 inches, $12\frac{1}{2}$ inches, 10 inches and $7\frac{1}{2}$ inches respectively of each stroke. The lead under the greatest throw of the valve, (which is, $4\frac{3}{4}$ inches, or $\frac{1}{2}$ inch less than the full throw of eccentrics) is 1-16th inch, and as the admission is reduced the lead increases, until when cutting off at $7\frac{1}{2}$ inches of the stroke, it is 5-16 inch. The opening of the port with this admission is $\frac{3}{8}$ inch or $5\frac{1}{4}$ square inches: cutting off at half stroke the opening of port is 7-16th inch, or $6\frac{1}{8}$ square inches. The admissions for front and back strokes do not exceed $\frac{1}{4}$ inch for the difference between them.

The lifter shaft is 3 inches in diameter and carries a large counter weight to balance the weight of the eccentric rods and links. The arms of the lifter shaft are welded on. The links, blocks, studs, and the boxes of the valve stems are of wrought iron, case-hardened.

The reversing lever works in a graduated arc, and has a catch bolt to retain it in either one of the notches.

Radley & Hunter's, patent Spark Arrester, 16 feet high from rail.

Hand rail on boiler made of brass pipe.

Cow catcher of round rods, firmly braced.

Number plates have brass figures riveted upon a plate of Japanned iron, and enclosed within a plain brass border held by cup headed brass screws.

TENDER.

Tank of $\frac{1}{8}$ inch iron in sides, well stayed, bottom $\frac{1}{4}$ inch thick. contains 1600 gallons, mounted on two trucks of four 33 inch wheels each. Trucks have iron frames, and inside bearings $3\frac{3}{8}$ inch diameter, and 7 inch long. Tender frame of oak with center beam 20 inches by 5 inch; side sills 9 inches by 4 inches. Brakes for tender wheels are faced with wrought iron. Height of draw rod from rail 2 feet 8 inches.

Western Railroad Schemes.

A meeting was held in Memphis, Tennessee, a few days since, to consider the project of a railroad from New Orleans, to Cleveland, Ohio, via Jackson, Memphis, Henderson, Evansville and Indianapolis. Resolutions were adopted, warmly approving the scheme, and pledging the citizens of Memphis to co-operate with others interested in the construction of the road.

Louisville and Frankfort Railroad.

The amount of receipts for 1852, twelve months, were \$167,920 25, and for 11 months, to June 1853, \$187,229 14. Net profits for the 11 months \$80,847 25.

The expenses are 52 82-100 of the receipts; the profits 8 13-16 per cent per annum on \$1,000,000.

On the 11th inst. the stockholders of this road confirmed by their votes the selection of a board of directors, as made by the Louisville city council, as follows: B. Ballard, W. Watkins, J. F. Speed, W. F. Gamble, J. F. Bullitt, B. P. Scally.

Journal of Railroad Law.

NEGLIGENCE CONSIDERED AS REMOTE AND AS IMMEDIATE.

The case of *Trow, vs. Vermont Central Railroad Co.*, was last year decided in the Supreme court of Vermont, and it will be found in harmony with the case of *Carrol, vs. New York and New Haven Railroad company*, which was decided lately in our Superior Court.

The action first above mentioned, was trespass on the case for negligence of the defendants in not maintaining proper fences and cattle guards upon their railroad, whereby the plaintiff's horse came upon the track and was killed.

The defendants gave evidence tending to prove that the plaintiff's horse had been several times previously in the highway, and that it was with the knowledge and assent of the plaintiff, and requested the court to charge the jury, that if the plaintiff's horse at the time of the injury, was in the highway with the knowledge and consent of plaintiff, he was guilty of negligence, and could not recover in this action. The court, however, did not so charge the jury explicitly, and the jury gave a verdict for plaintiff.

Upon exception to the charge, the opinion of the court was delivered by Joham Justice.

The following abstract of a portion of the judge's opinion is well worthy of observation:

"Can an action be sustained, when the negligence of the plaintiff and the defendant has mutually co-operated in producing the injury for which the action is brought? On this question, the following rules will be found established by the authorities."

When there has been mutual negligence, and the negligence of each party was the proximate cause of the injury, no action whatever can be sustained. By the "proximate cause" is meant negligence occurring at the time the accident happened. There can in such case be no recovery, because there can be no apportionment of damages.

Where the negligence of the plaintiff is proximate, and that of the defendant remote, or consisting in some other matter than what occurred at the time of the injury, no action can be sustained for the reason that the immediate cause was the act of the plaintiff himself. These principles are sustained by *Hill, vs. Warren*, 2 Starkie's R. 377; 7 Met. 274; 12 Ibid. 415; 5 Hill, 282; 6 Ib. 592; 3 C. & P. 23.

On the other hand, when the negligence of the defendants is proximate, and that of the plaintiff remote, the action can then well be sustained, although the plaintiff is not entirely without fault. This seems now to be settled both in this country and in England. If there be negligence on the part of the plaintiff, yet, if at the time when the injury was committed, it might have been avoided by the defendant, in the exercise of reasonable care and prudence, an action will lie for the injury. So in this case if the plaintiff were guilty of negligence or even of positive wrong, in placing his horse in the road, the defendants were bound to the exercise of reasonable care and diligence in the use of their road and management of the engine and train; and if for want of that care the injury arose, they are liable.

So in this case, as there was testimony proving that the plaintiff's horse was in the highway with his knowledge and consent, and had previously so been, the defendants had a right to request, and it

was the duty of the court to charge the jury distinctly, that that fact, if true, was that degree of negligence on his part which rendered the case one of mutual negligence; and if from that mutual negligence the injury arose, that the action could not be sustained. The question of negligence is a mixed one of law and of facts. The jury should find whether or not facts in controversy are true; the court should instruct the jury as to the legal effect and bearing of such facts.

Judgment of county court reversed.

MUTUAL CONTRACTS BETWEEN RAILWAY COMPANIES.

These cannot be enforced if not consistent with the scope and spirit of their Charters.

The *Shrewsbury and Birmingham railway Company*, in England, has lately invoked the aid of Chancery in order to enforce the performance of certain agreements on the part of the *L. and N. Western railway company* and the *Shropshire Union railway and Canal company*. The Master of Rolls, before whom the case was heard in the first instance, decided adversely to the plaintiffs. The case was then carried up to the Lords Justices of Appeals.

The agreement which it was sought to enforce was made in 1847. In that year the North Western Company applied to Parliament for license to take a lease of the Shropshire Union Company. The plaintiffs opposed this application to Parliament. In consideration of the plaintiffs withdrawing their opposition, it was agreed that the defendants should half-yearly account to them for their traffic upon a certain portion of their proposed new route, which came in competition with the plaintiffs' road,—and also that the Western Company should abstain from coming into competition with the Shrewsbury and Birmingham Company in the business of transportation, in respect to a certain portion of the route.

It was urged in opposition to the enforcement of these stipulations, that they were contrary to public policy.

And the Court held that the stipulations did not fall within the scope of the charters of the companies, who were the contracting parties.—Charters are granted for the public not individual good, and a Court of Equity was bound in such a case to consider whether it could enforce an agreement like the one in question consistently with the rights of the stockholders of the companies chiefly interested. The effect of the contract under examination was to create a partnership,—and consequently to subject the parties concerned to the risks and hazards of a partnership. The following authorities cited at the hearing were recognized by the Court as valid, and claimed to be not inconsistent with their decision in the case before them. *Hawkes vs. the Eastern County railway company*, 1 De Gex. M. and N. 737. *Webb vs. the Direct London and Portsmouth railway company*, 1 De Gex. M. and G. 521. *Stuart vs. the London and N. W. railway company*, 1 De Gex. M. and G. 721.

The appeal was dismissed, and the plaintiff left to seek his remedy in a Court of Law.

A Long Train.

The engine "David Henshaw," upon the Boston and Worcester road, drew to Boston on Saturday evening 34 long cars, containing 960 passengers, who visited Boston to celebrate the Fourth.

California.

MARYSVILLE AND BENICIA RAILROAD.

The preliminary surveys of a proposed railroad from Marysville to Benicia, have been completed. The following is a description of the topography of the country intersected by their lines.

The town of Marysville is situated at the junction of Feather and Yuba rivers, twenty-five miles above the point where the former empties into Sacramento river. It lies twenty miles west of the foot of the low hills which separate the Sacramento valley from the lofty range of the Sierra Nevada.

The width of the valley at this point, is fifty-five miles. On the west, it is bounded by mountains irregularly disposed, but which may be regarded as spurs of the Coast Range.

Sacramento and San Joaquin rivers, having their sources, the former near the 41st, and the latter near the 35th parallel of north latitude, flow in opposite directions through this great plain, and unite their waters at the head of Suisun Bay.

The Straits of Carquines pierce the Coast range and connect Suisun with San Pablo Bay, the latter discharging its waters into the Bay of San Francisco.

On the South side of the Straits, the Coast Range terminates abruptly at Monte Diablo, but on the North, it subsides into low hills and projecting spurs.

On the Northern side of the Straits, and the Southern slope of one of these hills, stands the city of Benicia.

In the Western part of Suisun Bay along the whole front of the city, and in the lower Bays, there is sufficient depth of water to float vessels of the largest size. The upper portions of Suisun Bay are interspersed with numerous Islands, separated by narrow channels, and between the bay and high land, there intervene several miles of marsh, overflowed by the tide at high water.

At the site of Suisun City, the Montezuma hills extend to the western bank of the Sacramento, but from this point to Knight's Ferry, the land on the Western side of the river to a great width, is covered with water by the high freshets which not unfrequently occur in the rainy season.

At Knight's Ferry, a ridge of upland reaches to the bank of the river. No part of the travelled road from the western side of the valley to the river, which follows this ridge, was covered by water during the present season.

North-east of Knight's, in the line towards Marysville, there are several miles of low land, which were inundated by the overflow of Feather and Sacramento rivers, in December and January last, but the soil is generally of a firm character, and dry most of the year. There is, beyond doubt less difficulty in crossing the valley here, than at any point below, or any point above, South of the Buttes.

At the western angle of Suisun Bay, is the outlet of Green Valley Creek. Green valley lies to the West and South of this creek, between the bay and the Suscol mountains, which separate it from Suscol and Napa valleys.

Suisun valley is bounded on the west by Green Valley creek, on the East by the Montezuma hills, and on the South by the bay. It stretches many miles to the northward, and its limit in this direction, is marked by the base of long spurs of the coast mountains, which, projecting into the plains, subdivide it into a number of minor valleys. Numerous rolling hills also rise like islands above the general level, which with the broken character of the surrounding mountains, make it impossible, without examining every part to determine the extent of the valley.

The route of the proposed road will leave the margin of the bay at Benicia, and will be continued to Geren Valley, across which it will extend to the low hills branching out from the coast range. It then crosses Suisun creek and strikes

the Montezuma hills, and afterwards crosses the dividing ridge between Suisun and Sacramento valleys. It continues through the latter valley and crosses Puta and Cache creeks, crosses the Sacramento river, and curves towards Yuba city, crosses Feather River and enters Marysville.

Length of line, 85¼ miles. Steepest grade 13 2-10 feet per mile. Sharpest curve has 1508 feet radius.

Total estimated cost of road, buildings, fixtures and running equipment \$2,954,394.

Estimated yearly travel between termini, 160,000. The revenue at \$5 each will be.... \$800,000
120,000 tons of freight \$7 " 840,000
Mail..... 8,009

Estimate of expenses..... \$1,648,000
408,000

Balance net revenue..... 1,240,000
or 40 per cent. on the capital stock of three millions of dollars.

The officers are:—G. W. P. Bissell, President. Benj. W. Mudge, Secretary and Treasurer.

Directors.—Jno. C. Fall, S. C. Tompkins, R. B. Buchanan, Geo. W. Plume, J. H. Adams, Marysville; J. H. Achison, Foster's Bar; G. M. Hanson, Sutter County; J. M. Harbin, Nolo County; W. S. Sherwood, Butte County; Geo. W. P. Bissell, Thos. D. Larkin, J. H. Polhemus, B. W. Mudge, San Francisco.

Wm. J. Lewis, Chief Engineer. F. Catherwood, Consulting Engineer.

New and Important Railroad Line.

We take the following important proceedings, of a Railroad meeting contemplating a continuous Railroad line, between the North and the South, on the West side of the Alleghanies, from the Memphis, Tenn. Appeal. This must become one of the great through lines of the United States when constructed.

Great North and South Rail-road.

A meeting of our citizens was held at the Odd Fellow's Hall, on Wednesday night, to hear the Hon. Oliver H. Smith, of Indiana, on the subject of the contemplated through line of railway connecting the city of Cleveland and Lake Erie, through Indianapolis, Evansville, Henderson, Memphis, and Jackson, with the city of New Orleans.

James Penn, Esq., was called to the chair, and A. J. McLenore and J. R. McClanahan, appointed Secretaries. The Chairman introduced Mr. Smith in a few remarks, stating the object of the meeting, when Mr. Smith rose and addressed the audience in an able speech of some two hours, in which he presented the line as one of the greatest importance, as the great through connecting line between the North and the South upon the shortest practical route. He showed from maps, that the great concentrating points of the Rail-roads of the centre, and North-Eastern States, were Union, on the line between the State of Indiana and Ohio, and Indianapolis; that there were 9,650 miles of completed rail-roads, at a cost of \$289,500,000, connecting by continuous lines at Union, and 10,304 miles at a cost of \$309,220,000, at Indianapolis, without a direct Southern outlet. He pressed the importance of constructing this Southern connection, and maintained that it would be for all time the great thoroughfare of travel and business between the city of New Orleans and Memphis, and the entire North. He urged the necessity of immediate action, in obtaining a charter, and inviting the cities, and the people on the line to construct the work stating, as his opinion that it was decidedly the best unoccupied line in the United States. We do not pretend to give

even an abstract of the speech. Should it be furnished for publication as requested by the meeting, we will give it to the public.

After the address of Mr. Smith, the following resolutions on motion of Samuel Tate, Esq., were unanimously adopted.

Resolved, That this meeting feel fully impressed with the great importance of the contemplated continuous railway from the city of Cleveland on Lake Erie, by Indianapolis, and Evansville, Indiana, Henderson, Ky., and Memphis, Tenn., to the city of New Orleans, believing it to be one of the great leading direct lines of railway, connecting the North with the South, demanded by the traveling public, as well as by the immense commercial and extensive relations, of those sections of the Union, and that it must prove eminently successful.

Resolved, That we pledge ourselves to cooperate with such companies as may be engaged in this great work, and that we cordially invite Northern and other capitalists, railroad men and companies, citizens on the line, and at the termini, and the country through which the road will pass, to examine the importance, and aid in the completion of this great enterprise at an early day, terminating south of the city of New Orleans, and connecting at uninterrupted navigation with the Mississippi river at Memphis, among the most prominent in the great valley, as the starting point of the contemplated Pacific railway, at the radiating point of the several railroads, running to the commercial cities of the Gulf and through the States of Arkansas and Texas to Mexico.

Resolved, That a committee of three be appointed by the chair, to prepare and present to the Legislatures of Tennessee and Kentucky, at the next session, a charter incorporating a joint company to construct, own and maintain a railroad, commencing at the Ohio river, in the State of Kentucky, opposite, or near to the city of Evansville, running through the States of Kentucky and Tennessee, via Henderson and Memphis, to the line of the State of Mississippi, to connect with a direct line by Jackson, to New Orleans, through the State of Mississippi and Louisiana with power to construct branches to Paducah, and Smithland, should those points not be on the most direct line, and with power to consolidate with other direct connecting railroads, running in the same direction, so as to form a continuous Southern line with the Evansville, Indianapolis and Cleveland straight line railroad, and its connecting lines, from the city of Cleveland on Lake Erie, to Memphis and New Orleans.

Resolved that the citizens of the State of Mississippi and Louisiana be, and they are hereby cordially invited to extend this important Southern line of railway, by a direct and independent road, or by the consolidation of lines being constructed, from the above terminus, to the city of New Orleans, with a view to the ultimate consolidation of the whole line from the city of Cleveland to the city of New Orleans, as a continuous through line.

Resolved, That the thanks of this meeting be tendered to Hon. Oliver H. Smith, for his able address, and that the chairman request the same for publication.

The chair appointed Robertson Topp Miles Owen, and Oliver H. Smith, a committee of three, under the third resolution, to prepare and present the charter to the Legislatures of the States of Tennessee and Kentucky; and on motion, the meeting adjourned. JAMES PENN, Chairman.

A. J. McLEMORE,)
J. R. McLANAHAN,) Secretaries.

Boston and Maine Railroad.

At the last annual meeting of the stockholders of the Boston and Maine Railroad, held at Exeter it was voted that the next annual meeting be held in Boston, consequently the annual meeting the present year will be held in this city, and will take place on the 14th day of September next.—*Traveler.*

Hannibal and St. Joseph Railroad.

The line of this road commences at Hannibal, a considerable town lying upon the Mississippi river, nearly west of Springfield, the capital of Illinois, and extends in a very direct course, west, to the Missouri river, at St. Josephs, a distance of about 200 miles. Its relations to other roads, and its general importance are not well expressed by its title. It is in fact the appropriate prolongation, west, of the great lines of railroad traversing the central portions of Ohio, Indiana and Illinois, and is the shortest route by which the mouth of the Platte can be reached, which is the leading point of debarkation of emigrants for the Pacific coast. By recurring to a map its position in reference to the great east and west lines of road already referred to, will be readily seen and appreciated. Within a year from the present time these lines will reach the Mississippi river at Quincy, which is nearly opposite Hannibal, so that the Hannibal and St. Joseph railroad will have all the benefit of railroad connections, as soon as it can be completed.

Although this road is destined to become the great route of emigrant travel toward the Pacific, it was projected, and is constructed more with reference to local uses, than as a through route. It unquestionably traverses the best part of Missouri, a section of country equal in every variety of resources to any in the west, and already well filled with an active and thrifty population. The route is very favorable for construction, being sufficiently far removed from the Missouri, to avoid the broken country, generally found in the vicinity of this, and in fact of all the great western rivers. It crosses no stream of magnitude in its whole course. It is the absence of navigable rivers that renders this road so important to the country traversed, and which must secure to it a lucrative business. For the appropriate business of its route, it will be without a rival.

The above is one of the first roads that have been the recipients of lands granted by the general government in aid of their construction. It received the same number of acres per mile as the Illinois Central, or about 800,000 in the whole.—These lands are estimated of equal value as those granted to the Central road. It is not intended to sell any part of these lands till the road shall be completed, which will enable the company to profit by the additional value the construction of the road will impart. It is proposed to make these lands one of the elements of the security upon which an issue of bonds are to be made. It is not intended, however, to build the road exclusively with the proceeds of land bonds, but partly with stock subscriptions, which have been made to a considerable amount, and which are to be largely increased.

As there have been a number of instances in which grants of land have been made to railroads, it may be proper to enquire to what extent they furnish a sufficient security for the issue of bonds. In no cases, in our opinion, have the present or prospective value of these lands been equal to the cost of the proposed roads. They come in as cumulative security, but by no means dispense with the necessity of other. Where a road would be built without such aid, the addition of the lands adds largely to the strength and commercial value of the project.

But where to obtain the lands, is the inducement to the building of the road a speculative character, which implies uncertainty, and risk, is given to the project. The Hannibal & St. Joseph Road, as well as the Mobile and Ohio, would have been built without adventitious aid, from their own inherent strength. In this particular in which commercial considerations are sacrificed they are distinguished from the Illinois Central for the purpose of obtaining a large quantity of land. The Illinois Central may turn out well, as many other ventures, but sensible men will hardly touch any project like a railroad, which, being a commercial enterprise, is not surrounded with all the guarantees of safety. The Hannibal and St. Joseph possesses these, and has in addition an equal amount of land per mile with the Illinois Central, which cannot fail to make it a much more attractive project.

The whole line of this road is under contract, and the work will be carried vigorously forward to completion. Its total cost is estimated at \$4,655,200, at which it is contracted to be built and equipped. The contractors are well known to be efficient and capable men, and the public may rely upon seeing the road completed with the least possible delay, taking into consideration the magnitude of the work.

Richmond and Petersburg Railroad.

We find in the South Side Democrat an abstract of the recent report of this company which presents the following exhibit of its affairs.

"The company has recently obtained authority from the Legislature to issue \$175,000 of coupon bonds; with which to liquidate certain outstanding debts, and thus enable the company to appropriate its surplus earnings and resources in laying down a new track of heavy rails. They have already purchased a new sufficient quantity of iron to lay down three miles and a half of the route with the heavy superstructure. This will be done at once upon that part of the main road between the junctions of the branch road from the Coal Pits and the branch road from Port Waltham—a portion of the line which is subjected to the heavy freights of both branches, and the Great Northern and Southern travel besides. These new bonds are not only a preferred charge upon the earnings, and preferred lien upon the property of the company, but the holders of them will have the option of converting them at any time into stock at the rate of \$50, in bonds per share of stock, the par of which is \$1000.

"The company has not for some time declared dividends, for the reason that its original capital stock was entirely insufficient for construction, requiring the earnings to be appropriated to the cost of construction and of working stock, the cost of which was properly chargeable to capital stock.

"The earnings of the road during the fiscal year, ending the 30th April, 1853, were \$122,861; of which aggregate \$61,143 59 was derived from freight; \$35,955 97 from local travel; \$18 687 13 from through travel, and \$7,345 35 from transportation of the mail. Those who have thought the chief resource of this road to be its through travel, will see from these items the gross error under which they have been laboring. The road is but about twenty-three miles long, and its charges for freight are in proportion to its length; so that the freight item of \$61,143 59 represents as large an amount of freight transportation as is performed by any road of its length in the Union. The wear and tear of this heavy freight business upon thin rails has constantly kept the cost of repairs at a high figure, and greatly injured the interests of the road in the point of travel.

"The heavy rail which the directors are now taking steps to procure, will at once restore the

popularity and prosperity of the road, as a line of travel, and reduce the cost of conducting its heavy freight business.

"The cost of the road, its branch, and working stock, inclusive of those items which have been improperly charged as repairs, has been about \$1,100,000, although its present capital stock is but \$685,000.

"The earnings of the road during its last fiscal year, were, as before stated, \$122,861, while its expenses (exclusive of the cost of new stock purchased) were \$48,748, leaving the excess of earnings, over ordinary expenses and repairs, \$74,113, or \$8,113 more than six per cent, upon the cost of the road—about \$1,100,000.

"The company also derived from the steamer on James river the sum of \$3,156, which may be added to the \$8,113, contingent.

"The heavy rails will reduce the present heavy cost for repairs, while they will greatly augment the efficiency and profits of the road and its popularity in travel.

"If the newly authorized loan of \$175,000 should be all converted into stock, the capital stock of the company will then be \$1,035,000, which is less than the cost of the work up to this date, and less than the aggregate sum upon which we have shown the earnings of the road, (less ordinary expenses and repairs,) are sufficient to pay 6 per cent, besides a contingent balance of some \$11,000 or \$12,000.

If the cost of the heavy rails for the whole line should reach \$100,000, and thus swell the total cost of the company's works to some \$1,200,000, the results would be still more favorable, as the interest upon the additional \$100,000 will be but six thousand, while the saving in the annual expenses, by the heavy rail, will be at least 16 or 20 thousand dollars.

Richmond, Fredericksburg and Potomac Railroad.

The report of this company presented at their 20th annual meeting, on June 3d, presents the following statement of their affairs for the year ending March 31, 1853:

Revenue for the year.....	\$254,376 48
Expenses, including cost of two new locomotives, and two new cars, and new brick depot and engine house at Fredericksburg.....	141,120 20

Leaving a balance of.....	\$113,256 28
Out of which have been paid one-seventh per cent dividend, amounting to.....	\$67,324 57
And amount carried to contingent fund of.....	20,501 42
Whole present amount of contingent fund.....	172,684 14

CAPITAL ACCOUNT.

Cost of road from Richmond to Aquia creek.....	\$1,531,238 40
Debts due the company.....	167,051 92
Investments.....	67,116 13
Cash on hand, 31st March, 1853.....	26,840 48

\$1,792,246 93

Capital stock—\$275,200 owned by state.....	\$1,000,000 00
Bonds due in London in 1860.....	324,005 61
Other bonds and certificates of debt.....	179,000 00
Debts owed by bills and open accounts.....	16,557 18
Profit and loss.....	172,684 14

\$1,792,246 93

The present superstructure and machinery of the road are reported as in excellent order. The rail which was originally a light bar, is now a heavy flat rail throughout 2½ inches by three-fourths of an inch, adequate for the present business, but requiring renewal by a heavy edge rail upon any considerable increase of business.

At the meeting, an apportionment was author-

ized, of thirty per cent of the receipts from the passengers, mails and freight between Richmond and Washington, to the Washington and Fredericksburg steamboat company, of which establishment the railroad company owns three-sevenths of the stock.

The subject of a connection with the Orange and Alexandria railroad was referred to the directors.

The officers elected were Edwin Robinson, president.

Nicholas Mills, James Bosher, Gustavus A. Myers and George W. Munford, directors on the part of the individual stockholders. John S. Caskie was announced a director on the part of the commonwealth.

Erie Railroad.

The embarrassments of the Erie railroad should serve the purpose of effecting reforms in its past management. One of the greatest mistakes that have been committed has been the entire want of directors residing upon the line of the road. They have all been taken from the city for years past. It is fair to presume that a large majority of these directors know but little about the management of the road, and understand as little of the interests or wants of the country traversed by it. As they are supposed to be in favor of that kind of management, which will produce the greatest amount of revenue, neither they nor the company are regarded with any very favorable light by the community which is to pay this revenue. From these causes, it is notorious that the road has been lately becoming unpopular among those chiefly benefitted by it. If any accident happens or anything goes wrong, there is no suitable person on the spot to correct mistakes, or abuses, or propitiate the ill-feeling likely to be created.

The result is that nowhere is the company in worse odour than upon the line of their road. This state of things might have been prevented, we are confident, had competent persons, as directors, been stationed at Binghamton, Elmira, Hornellsville and Dunkirk. After a road has been completed, the directors, or a portion of them at least, should reside upon the line of the road, where they can daily inspect the operations of the company, not 500 miles distant. In no other manner than by watching its operations, can they become qualified to superintend them. By being distributed along the line of the road, their presence would serve not only as checks upon the various kinds of abuses, or misconduct that might exist, but they would soon become acquainted with the character of the numerous employees of the company, a matter of vital importance to such a vast concern as the Erie. How do men manage their own affairs? By never going near the scene of their business operations, but confiding the most arduous duties, and the most responsible trusts to persons of whose qualifications they are entirely ignorant, or who may have no qualifications at all? Would not any kind of business managed as has been the Erie, have gone to ruin long ago. The directors, with one or two exceptions, perhaps, are completely immersed in the care of their private affairs, and can neither bestow time nor attention to the discharge of their official duties. Such being the case with city directors, does it not become still more important that they should have associated with them persons who, from their position, are

able to see exactly how the affairs of the company are being administered.

Here, then, is one great field for improvement. It has been to pursue an opposite course, and to in the management of this company. The tendency to the road the character of a Wall st. project in a still greater degree. Instead of supplying the vacancies that may from time to time occur with veteran Wall street "operators" men of practical experience in railroad affairs should in all cases be selected who can have, under no contingency, any interest adverse to that of the stockholders.

We have, in previous numbers, of the Journal, urged the impropriety of the managers of a road making its stock and securities the subject of speculation. Such abuses are entirely subversive of integrity and subordination on the part of the employees of the company. Suppose, not to mince the matter, the Treasurer of the company to have the reputation of having made two or three hundred thousand dollars in lucky speculations in the stock and bonds of the company. Will not such a fact, or such a report even, have a strong tendency to create discontent among the whole class of subordinates, and render them dissatisfied with places which do not pay more than \$500 or \$1000 a year? If persons high in office use their position to make money, however honestly, will not those who have less pay and no honor, in the subordinate stations, learn to do the same thing, and will they not justify such conduct to themselves by the example of those above them, so as to feel in a measure justified in their delinquencies? We put it to every sensible man whether this is not so, and whether subordinates can be expected to work with an eye single to the good of the company, if their superiors do not. Does not, in fact, the tendency to demoralization, from those high to those low in authority, proceed in geometrical ratio, and is not a reputation for the sternest integrity, a necessary element in the character of every man placed at the head of, or in any responsible position in, a railroad company.

The Short Line Railway Company.

The Directors of this company (organized under the General Railroad Law of Indiana), met on Monday last at the Palmer House, in this city, and organized by the election of John H. Bradley for President; John Wooley, for Treasurer; and Dr. John M. Kitchen, for Secretary; and adopted resolutions, to make their line so to connect with other roads, as will make it of much importance to the city, and at the same time a very advantageous auxiliary to the roads which it will connect.

This road will commence at the track of the Lawrenceburg and Upper Mississippi railroad, at or near the town of Hunterville in Franklin county—and run directly towards Cincinnati, to the State Line at or near the town of Harrison, Ohio, so as to meet and there join with the proposed right line road from Cincinnati to Indianapolis—thus making an almost direct line from Greensburg to Cincinnati, and carrying Cincinnati travel from this point over sixty-five miles on the Lawrenceburg railway. The Directors of the Company are all Stockholders in the Lawrenceburg railroad, and desirous of course to make that road as advantageous as possible, and by this connection, when completed, will no doubt succeed in doing so.

The Board of Directors is, Abraham L. Voohers, Thomas A. Morris, William Sheets, Charles W. Parry, Lawrence M. Vance, John Woolly, John M. Kitchen, and John H. Bradley.

Col. Thomas A. Morris is the Chief Engineer.—
Indiana State Journal.

American Railroad Journal.

Saturday, July 23, 1853.

Crystal Palace.

The "Crystal Palace" was opened with "appropriate ceremonies" on the 14th inst. We were present at the *inauguration*, but as we have not visited it since, it would be useless as well as unfair to attempt to speak of the "*Exhibition*" as it then appeared. But few articles were in their places, and we presume it will be some six weeks or two months before the affair may be termed *completed*. The articles displayed did not, we are satisfied, give a fair idea of what the exhibition is to be. They were generally articles of luxury, evidences of the perfection to which useful arts may be carried, a result alike injurious, as society is at present constituted, both to the producer and consumer, oppressing the former and emasculating the latter. Still *perfection* is valuable as a *type*, no matter what it costs, and the symbols presented at the Crystal Palace cannot fail to exert a salutary influence in elevating the standard of ideas and taste. We should like to have seen a better display of aid to labor, *Compensations* of toil, than the mere results of toil, which the rich only can enjoy. But we cannot have every thing at once, and we must be content to wait in expectation.

From appearances we are satisfied that our artisans are backward about forwarding articles for exhibition. All that we saw were such as parties brought there for the purpose of advertising their wares. We are convinced that the appeal made to our domestic artisans, mechanics and manufacturers, has not been responded to by the great mass of them. There has been nothing in the mode in which the exhibition has been got up, to inspire their confidence and secure their co-operation. The very men to whom the chief management of the exhibition should have been entrusted have been entirely excluded from the direction.—The leading object of its getters up was a *commercial* speculation, and they expected that our various industrial interests would contribute articles enough to make the show an attractive one, while they could pocket the profits.

We think they have made a great mistake even in a pecuniary point of view. Their first aim should have been to have given to the exhibition the stamp of nationality, to have made it much, a Boston, a Philadelphia and a Baltimore as a New York exhibition. Instead of pursuing such a policy, no effort has been made to disarm the jealousy these cities naturally entertain toward the latter, and the great body of their mechanics are not at all disposed to contribute to an exhibition, the whole tendency of which, in the opinions, to glorify New York and fill the pockets of our capitalists. So deep is this feeling, we may say that with the great mass of our mechanics and artists, the exhibition is regarded with entire indifference. Whether this indifference can be removed remains to be seen, unless it is certain that the exhibition will be far from representing the highest achievements of the industrial interests of this Country.

The opening ceremonies were in keeping with the manner the concern has thus far been managed.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net Earnings in 1852.	Dividend, 1852.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	95
Androscoggin and Kennebec... "	55	809,878	905,300	1,994,429	131,006	.....	none	30
Kennebec and Portland... "	72	876,741	800,000	2,180,000	133,338	.....	none	40
Port., Saco and Portsmouth... "	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland... "	20	227,981	291,200	In progress	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	41½
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	108½
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	.....
Northern	82	3,016,634	.....	.....	328,782	163,075	5	58
Manchester and Lawrence... "	24	717,543	.....	.....	.....	.....	6½	96½
Nashua and Lowell... "	15	600,000	none.	651,214	132,645	51,513	8	109
Portsmouth and Concord... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,500	.....	.....	none	9
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	44
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	32½
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	none	17½
Vermont and Canada	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	ent.	102
Western Vermont	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	98
Boston and Maine... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	106
Boston and Providence... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	85½
Boston and Worcester... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101½
Cape Cod branch... "	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	57
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	94½
Fall River	42	1,050,000	none.	1,050,000	229,445	99,589	8	104
Fitchburg	66	3,540,000	112,305	3,623,073	574,574	232,787	6	99½
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County	26	547,015	819,743	1,245,927	67,251	23,415	none	63
Old Colony	45	1,964,070	282,300	2,293,534	322,213	101,510	none	90
Taunton Branch	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	18
Worcester and Nashua... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	98½
Stonington	50	.....	.....	.....	.....	.....	.....	57½
Providence and Worcester... R. I.	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven... Conn.	62	3,000,000	472,000	.....	600,408	332,223	none	126
Housatonic	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progress	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	105
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester... "	54	2,121,110	701,600	2,696,488	267,561	116,965	4½	55½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progress	.....	.....	none	65
Buffalo and State Line	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progress	.....	.....	.....	.....
Canandaigua and Elmira... "	47	425,509	582,400	987,827	76,760	39,360	none	68
Cayuga and Susquehanna... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie)... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	77½
Hudson River	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	73
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	64½
Long Island	95	1,875,148	516,246	2,446,391	205,068	44,070	none	35½
New York Central	504	22,858,600	2,111,824	.....	.....	.....	.....	119½
Ogdensburgh (Northern)... "	118	1,578,311	2,780,760	4,933,029	480,128	195,888	none	39½
Oswego and Syracuse... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston... "	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy... N. J.	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	150
Morris and Essex	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster... "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading... "	95	6,656,382	10,427,800	17,141,987	2,480,626	1,251,987	7	92
Philad., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,339	667,786	383,501	5	74

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipment.	Gross Earnings in 1862.	Net earnings in 1862.	Dividend, 1862.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	99 1/2
Philadelphia and Trenton..... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio..... Md.	381	9,188,800	9,827,123	19,542,307	1,325,563	615,384	7	72 1/2
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna..... "	57	.....	.....	.....	413,673	152,536	.....	42
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Raleigh..... "	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac..... "	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side..... "	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee..... "	60	3,000,000	1,600,000	In prog.	.....	.....	none	.....
Winchester and Potomac..... "	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh..... N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina..... S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia..... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	117
Georgia..... "	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western..... "	101	1,214,233	168,000	1,596,283	296,584	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	60	586,887	150,000	743,525	129,895	71,535	8	.....
Alabama and Tennessee River..... Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston..... "	93	776,253	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point..... "	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia..... Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga..... "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington..... Ky.	.....	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington..... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort..... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh..... Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	98 1/2
Cleveland, Painesv. and Ashl..... "	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus..... "	135	3,027,000	408,200	3,655,000	777,793	483,454	12	132
Columbus, Piqua and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Columbus and Lake Erie..... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton..... "	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	115
Cincinnati and Marietta..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Dayton and Western..... "	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	.....
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,370,784	.....	2,634,157	526,746	314,670	10	119 1/2
Mansfield and Sandusky..... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River..... "	167	1,860,500	.....	.....	565,751	.....	.....	.....
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley..... "	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd..... "	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	150
Xenia and Columbus..... "	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern..... "	131	.....	.....	.....	Recently opened.	.....	.....	.....
Indianapolis and Bellefontaine..... "	83	.....	.....	.....	.....	.....	.....	.....
Lawrenceburg and Ind..... "	.....	.....	.....	In prog.	.....	.....	.....	75
Lafayette and Indianapolis..... "	62	.....	.....	.....	Recently opened.	.....	.....	.....
Madison and Indianapolis..... "	88	1,650,000	750,000	2,400,000	516,414	268,075	10	97
Peru and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	.....
Terre Haute and Indianapolis..... "	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago..... "	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	.....
Illinois Central..... Ill.	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago..... "	92	1,932,361	500,000	In prog.	473,548	286,152	.....	125
Michigan Southern..... Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	128
Michigan Central..... "	282	4,000,000	4,067,396	8,614,193	.....	.....	8	115 1/2
Pacific..... Mo.	.....	.....	.....	.....	.....	.....	.....	.....

The great object seemed to be to glorify militia officers and politicians. Such a person as a mechanic or artisan, were curiosities not exhibited on that occasion. The existence of such persons were recognized neither in the proceedings nor speeches. Now all this was very bad taste to say the least. Why a grand military parade was considered as the appropriate and leading feature of the inauguration is more than we can divine. Instead of displaying emblems of war, which is the destroyer of all the beneficent arts of life, those only should have been seen, which are emblematic of a condition of things in the highest degree favorable to progress and perfection in science and art; and the person crowned with the highest honors, should have been the one most distinguished for his achievements in whatever is most useful to his fellow man. But we have not yet outgrown the sentiment which honors the destroyer when living, and canonizes him when dead. We think the ceremonies of inauguration should have been of a very different character, and would have been, had they been in the hands of parties who understood the true character and mission of art.

There is one thing that calls for unqualified praise—the building. In its design, in proportion, in arrangement and finish, it appears to us to display the highest skill and will well repay a visit from any part of the country.

The exhibition will in the main be attractive notwithstanding the errors that have been committed. It is not yet too late to correct many of them and should the directors learn wisdom from experience, they may be able to recover much of the ground they have lost. Let us wait and see.

Stock and Money Market.

The past has been a dull and inactive week in the stock market. The season is, of course, unfavorable to activity, but there is more than ever a disinclination to enter into new contracts till the future shall be more plainly indicated. The state of affairs in Europe attracts much attention, and is not without its influence. Although far removed from the scene of hostilities, and unentangled with any of the questions which are now disturbing Europe, there can be no doubt that our interests would be injuriously affected by a war. The prospect of one has already slightly depressed quotations, indicating the effect that actual existence of hostilities would have. Of the fancy stocks, the "Crystal Palace" has receded the most rapidly, having fallen some 10 or 15 per cent. since the inauguration. Erie is also very weak, with a downward tendency. Fancies, in fact, are not at all in vogue at the present time. The quotations for some securities do not materially differ from our ast.

The bond market is not active, but prices are well sustained. Of first class securities the supply does not exceed the demand. Money continues abundant, and an active business season is anticipated for the coming fall.

The negotiator of the New Orleans, Jackson and Great Northern soon goes to England. So does the Mobile and Ohio, for \$6,000,000. Should these be negotiated there, this will relieve our domestic market of so much.

The consolidation of the Toledo, Norwalk and Cleveland, the junction road have been effected, which have excited a most favorable influence upon the stocks, particularly of the former, which

has gone to a high figure. The great value of this stock, will undoubtedly have the effect to carry the bonds of the Company, which are 7 per cent. first mortgage, to a high figure. They have been selling as low as paid although there is no better Railroad security in the United States.

The earnings of the Michigan, Southern and Northern Indiana Railroad for June shows a very large gain over last year, and an excess of some \$30,000 on the estimate viz:

Passengers and Mails.....\$94,688 55
Freight and Miscellaneous..... 53,979 87

Total.....\$148,668 42
June, 1852.

Passengers and Mails.....\$46,609 17
Freight, &c..... 27,185 17 76,794 34

Increase over 95 per cent. \$71,874 08

The road was opened through to Chicago in May of last year.

The tolls collected on all the canals of this state in each of the following years, viz:

	1st week in July.	Total to July 7.
1846.....	\$62,559	\$1,011,234
1847.....	107,698	1,412,020
1848.....	68,168	1,071,705
1849.....	84,764	1,098,301
1850.....	66,179	988,660
1851.....	82,827	1,212,147
1852.....	81,266	1,031,262
1853.....	85,459	1,073,655

A comparison of receipts for two years to July 7, 1852, and 1853, showing the general course of trade is as follows:

	1852.	1853.	Dec'se.	Incr'se.
On upfre't and merchandise.....	\$268,894	\$322,899		\$54,005
On down do. from other states..	429,092	420,527	\$8,565	
On down do from this state....	333,276	330,229	3,047	
Total....	\$1,031,262	\$1,073,655	\$11,612	\$54,005
Increase.....				\$42,393

The receipts at tide-water of flour, wheat, corn and barley, for the 2d week of July in 1853 and 1852, have been as follows:

	Flour, bbls.	Wheat, bu.	Corn, bu.	Barley, bu.
1853....	76,346	169,118	143,286	...
1852....	109,822	212,506	204,087	20

Dec.... 33,476 43,388 60,801 20
The aggregates of the receipts of the above articles so far for the years 1853 and 1852, have been:

	Flour, bbls.	Wheat, bu.	Corn, bu.	Barley, bu.
1853....	970,346	1,743,864	796,062	152,478
1852....	1,249,691	1,575,542	2,268,289	75,297

Dec.... 272,345 Inc. 168,322 De. 1,502,227 In. 77,182

The amount received for the week and for the season to the 15th inst., during the following years was—

1853.....	97,928	1,171,583
1852.....	88,681	1,119,943
1851.....	85,819	1,297,966
1850.....	66,752	1,055,411
1849.....	76,843	1,175,146
1848.....	70,220	1,441,925
1847.....	111,462	1,523,483

The receipts of the Pennsylvania Railroad for

the months of June, and the total since the 1st of January, as compared with the corresponding period last year, are as annexed:

Receipts for the month ending June
30th, 1853.....\$156,978 59
Same month last year..... 122,152 83

Increase.....\$34,825 76

Receipts from January 1, 1853, to
June 30, 1853.....\$1,451,131 63
Same period last year..... 980,143 03

Increase.....\$470,988 65

The receipts of the Cleveland, Columbus and Cincinnati Railroad for June, and the year ending June 30th, were:

June, 1853.....\$91,366 58
June, 1852..... 73,593 61

Increase.....\$17,772 97

For six months ending

June 30th, 1853.....\$485,766 29

For six months ending

June 30th, 1852..... 295,535 95

Increase.....\$190,230 34

Total receipts for year ending June 30th 1853.....\$1,000,408 63

The June earnings of the Ogdensburg Railway

were as follows:

Freight.....\$39,046 53

Passengers..... 11,041 43

Miscellaneous..... 951 40

Total.....\$51,039 36

In the same month of 1852..... 48,167 94

Gain.....\$2,871 42

The receipts of the Ohio and Pennsylvania Railroad continue to show a gratifying increase as compared with last year. Annexed are the comparative figures for June and for the first six months of the year:

Receipts in June, 1853.....\$55,214 04

Receipts in June, 1855..... 21,716 00

Increase.....\$33,528 04

First six months in 1853.....\$242,178 28

First six months in 1852..... 78,700 37

Increase.....\$143,477 97

Number of passengers carried in the first six months of 1853 151,833.

Being equal to an average of nearly 1,000 passengers per day, the road not running on Sundays.

The Cheshire railroad receipts for 6 months ending May 31, were for 1853.....\$142,669 63

For 1852..... 118,890 25

Increase.....\$13,779 43

The increase in June was \$2,801 21.

The receipts of the Louisville and Frankfort railroad for the month of June were \$18,561 98. and for the corresponding month last year, \$13,418 72, showing a gain this year over the last of \$5,123 46.

The receipts for the year ending with the 30th June were \$205,791 12, against \$167,920 25 for the previous year—excess this year \$37,870 87. The expenses for the year have been about \$130,000.

Cleveland and Wheeling Railroad.

The contractors, on the 7th inst., broke ground on the Cleveland and Wheeling road, at Bridgeport, opposite Wheeling, and the work on that section, as well as all the others, will be vigorously pressed to completion.

The Southern Michigan Railroad

The earnings of the Michigan Southern and N. Indiana railroad companies for May were:

From passengers and mails.....\$93,557 50
From freight and miscellaneous..... 51,947 93

Total.....\$145,505 42

The gross earnings for five months ending 31st May were \$453,861 27.

The earning for 11 months, being from the time of opening the road to Chicago, have been \$968,532 75.

The fiscal year closes on the 30th June, instant, and from present indications, the total gross earnings for the year will exceed \$1,100,000.

South Carolina Railroad

The recent semi-annual report of this company gives the following statement of its affairs for the past six months:

The gross receipts of the road, as shown by the Auditor's statement have been.....\$618,501 60

Current expenses, including outlay for new Bridge at the Congaree.... 268,732 18

Net profit..... 349,769 42

Interest paid on foreign and other debt, damages, etc..... 109,790 34

Net income for last six months..... 246,979 08

Dividend, 4 per cent. declared for last half year..... 155,688 00

Surplus appropriated to property accounts..... \$91,291 08

The amount to the credit of the property account has been increased \$179,410 33. The increase has been in engines, cars, land, property on Cooper river, etc.

The amount of the debt has been increased \$74,579 25, a large portion of which is by bonds issued for double track.

The outfit, it appears, consists of 54 locomotives, 23 passenger, 15 second class passenger and baggage cars, and 610 freight cars, valued at \$642,814 90. In addition to the above 13 freight engines and 100 freight cars have been ordered, deliverable from first July 1853 to first January, 1854.

The road from Charleston to Hamburg was rebuilt and new-ironed, mostly in 1850 and 1851, and has been in a state of progressive improvement ever since, until it is now, says the president, inferior to no road in the United States.

In the course of his report president Conner says:

An agreement has also just been concluded with the Wilmington and Manchester road, for constructing a new road and bridge over the Wateree Swamp and River, at the joint expense of the two companies, and for running their trains to our junction of the Columbia and Camden roads, and establishing their joint depots for the common use of the two companies.

The Charlotte road is erecting their own platforms and depots at their junction with us, a mile and a half below Columbia, and to which the tracks and other regulations of the South Carolina railroad will be made to conform.

In addition to these arrangements by which the public interest will be so much subserved, it is to be hoped that the still greater facility will not be much longer delayed of running the trains of all connecting roads in connection together, so that passengers may proceed directly on from road to road without detention or delay.

With the Georgia railroad in Augusta, arrangements have been made, with a view to greater dispatch to through goods for building a plank road from our through depot to theirs, a distance of a-

bout 600 feet. and the work is nearly if not quite done.

Coke a Fuel for Locomotives.

We learn, from the Cumberland Miners' Journal, that the experiments with Coke, as a fuel for the passenger engines of the Baltimore and Ohio railroad, continue highly successful. A few nights since the train for Baltimore was run through from Cumberland with no other fuel, and notwithstanding the detentions by burthen trains, amounting in the aggregate to near an hour, yet the time required by the schedule was easily made. There was not only an abundance of steam, but almost more than the engineer could manage. In fact it is now demonstrated that Coke is not only far superior to wood as a fuel for locomotives, but that it can be used at one half the cost. Such, we understand, is the conclusion at which the railroad company have arrived, and accordingly have ordered the employment of Coke on all their passenger locomotives as soon as the necessary alterations in the grate bars, &c., can be effected. In the meantime Coke has been sent to many of the northern railroads from this region, with a view of its introduction also in that quarter.

It is evident that a great revolution is about to, take place in the fuel employed in the propulsion of locomotives. Coke made from the coal of the Cumberland region, will, in a short time, be substituted for wood on all railroads in the Atlantic States that can obtain the requisite supplies. This we consider as a matter that no longer admits of a doubt.

We would here remark that the experiments with Coke on the Baltimore and Ohio road have been made under the direction of Thos. Winans, Esq., one of the directors of the Company, and that to his intelligence and energy is in a great measure due their eminent success.

Railroad Items.

The Toledo, Norwalk and Cleveland railroad company have lent their credit to the Cleveland, Medina and Tuscarawas railroad, to indemnify the payment of interest on \$100,000 of the first mortgage bonds of the latter company, issued to procure iron for their road. The Cleveland and Columbus company endorse a similar amount.

The towns on the line of the Wabash and Mississippi railroad are subscribing handsomely to the construction of that work. Warsaw and Reobank have voted \$100,000 each. An individual subscription has been made in another town of \$75,000.

Ground has been broken on the line of the Louisville and Covington railroad. This road is located through the center of Boone county, passing within one and a half miles of Burlington, the county seat.

The Milwaukee and Fond du Lac, and the Fond du Lac and Green Bay railroad companies have consolidated their stock and elected the following officers of the new company.—J. A. Hoover, S. H. Alden, A. Finch, Jr., E. Townsend, Jas. H. Rogers, Jas. Kneeland, Moses Kneeland, W. P. Flanders, and M. J. Thomas, Directors. James H. Kneeland, President. J. A. Hoover, Vice President. James H. Rogers, Treasurer.

The construction of the Cincinnati and Fort Wayne railroad has been let to a company of contractors resident in Central Ohio, who take \$1,000,000 stock of the company on the contract.

The road is to be opened from Fort Wayne to Winchester in one year, and the entire work in two years and a half. The route of this road is from Cincinnati, via Hamilton, Oxford, Richmond, and Winchester to Fort Wayne.

The city of Davenport, Iowa, has voted \$75,000 subscription to the stock of the Mississippi and Missouri railroad.

The Logansport and Pacific railroad, in Illinois has been located through Middleport, Monticello and Iroquois.

Three hundred laborers are engaged upon the Chicago, St. Charles and Mississippi railroad, west of the Mississippi. There have been voted by Linn county, Iowa, \$200,000, and Jackson and Jones counties will vote on a proposition to subscribe \$150,000 each, on August first. No doubt is entertained of the successful result of this proposition.

Forty-six miles of the Illinois Central railroad, from Chicago to Kankakee, were ready on the 11th inst.

Laborers on the Great Western railway (Canada) are working 12 hours per day, wages, daily, five shillings currency.

Machinists Tools.

We would invite attention to the card of Mess. Bement, Colby, Dougherty & Co., which appears in our present number. These gentlemen have a fine shop, with an excellent stock of tools and patterns, adapted for the construction of every variety of tools suitable for Locomotive shops, and general Railroad work. Among these we notice their large lathes for turning engine drivers and other large objects. Their pattern, "No. 7," of 18 feet bed and 7 feet swing, is an improvement over any other lathe ever made, in as much as it will turn the largest object it will swing; the tool post stands in its proper position in front of the work, so that any part of the object can be turned and at the same time the tool post rests on a solid foundation, so that no jar or tremble is felt in the cutting of the tool. This lathe has three shears instead of two. Its whole weight is 32,000 lbs.

They have also another pattern combining the same improvements and of larger size. "No. 8" will swing 8 feet 4 inches, and weighs 40,000 pounds.

Their stock of patterns for small lathes, planers, drills, etc. is unusually full, and comprises tools of the most improved design and perfect construction.

Messrs. Bement, Colby and Marshall were formerly engaged with the Lowell Machine Shop; Mr. Bement having for many years made the drawings and superintended the construction of all the tools built by that establishment.

Mr. James Dougherty, the Junior partner and manager of the iron foundry department, is a gentleman of no ordinary abilities in his particular branch of the business. From his practical talent, experience and former connexion with some of the largest establishments in Philadelphia, he has earned a position among the best iron founders in the country.

All the members of this firm are practical men and superintend every department of their works in person. Their present business is very large, reaching full \$100,000 per year; embracing a large local trade and a very extensive and rapidly increasing business in the South and West. They are making improvements and enlargements on

their present premises to be enabled to receive orders which with their former room and pressing engagements they have been compelled to refuse.

Their manufactures have commanded and will continue to command a reputation for excellence of design, materials and workmanship, while their prices will be as reasonable as those of any other establishment devoted to the same business.

Tennessee.

Davidson County Court—Railroad Bonds.—In March last a proposition to subscribe to the stock of the Louisville and Nashville Railroad company \$300,000, to the Northwestern Railroad company \$300,000, to the Tennessee and Alabama Railroad company \$200,000, and to the Edgefield and Kentucky Railroad company \$200,000—all to be paid in county bonds—was submitted to the voters of Davidson county and carried. The vote was small; and it is contended that it was not a fair expression of the will of the majority. Under this impression, and with a view to test the constitutionality of the act authorizing the election, a number of active citizens have declared their determination to take the question into the circuit court, and ultimately to the supreme court for adjudication.

In the county court, which met in this city, last Monday, the following resolutions, brought before that body of some twenty-six of the magistrates of the county, were adopted:

Resolved. That the dissatisfaction and discontent which pervade four fifths of the civil districts of the county, on the subject of the issuance of the bonds of the county, to certain railroad companies, imperatively call for such action on the part of the county court as they may rightfully take on the subject.

Resolved. That as the act of the last Legislature on the subject of issuing the bonds of the county makes no provision as to how or where the money arising from the bonds of the county is to be expended—requires no security—attaches no penalty, whereby a faithful and proper application of the same may be secured—but without any conditions or safeguards whatever requires the bonds to be delivered up to the railroad companies—we do, therefore, disapprove of the issuance of the bonds of the county to any railroad company whatever—and do hereby advise and instruct the chairman of the county court not to issue them.

Resolved. That the provision contained in the 19th. section of the act in question which contemplates the forcing of the quarterly courts to levy taxes to meet the interest on the railroad bonds, is, in our opinion unwarranted by the constitution—and that the duties required of the county court by said 19th section will not be performed until a decision of the supreme court of the State shall have so instructed us.

Maine.

Androscoggin and Kennebec Railroad.—At the annual meeting held at Waterville, on the 5th inst., the following named gentlemen were chosen directors:

Wm. Willis, and Ira Crocker, Portland; A. P. Morrill, Readfield. Ashur Hinds, Benton; John M. Frye, Lewiston; Lysander Cutler, Dexter; Wm. M. Longley, Greene.

The report exhibit an increase of receipts over last year of \$14,910, or 18 per cent. The aggregate income for the year has been \$140,561, the expenses being stated at \$60,507. The floating debt is reduced to \$191,269, which is to be liquidated at once by an issue of bonds.

Toledo, Norwalk and Cleveland Railroad.**TERMS OF CONSOLIDATION.**

The Toledo, Norwalk and Cleveland railroad company and the Junction railroad company have perfected their consolidation, and their officers have executed the necessary instruments.

It was found on examination that the stock of the former company amounted only to about two-fifths of its cost, and that the remainder was represented by non-convertible bonds; and that the rise of iron since its purchase amounted to nearly \$3,000 per mile. These advantages being equivalent to 50 per cent. on the stock, fairly belong to its stockholders; and it is arranged that they receive it by a distribution of stock sufficient to equalize the cost of both roads. The cost of both, thus equalized, will be about \$21,000 per mile.

The arrangements for consolidation provides that on the 1st September next both companies shall become one, by the name of the Cleveland and Toledo railroad company. That the earnings of the Toledo, Norwalk and Cleveland railroad and the stock interest account of the Junction railroad are to be made up and closed on the 1st of September, and the amounts paid to the respective stockholders in 7 per cent coupon bonds of the consolidated company.

The consolidated Company agree to maintain the present line from Cleveland, by Norwalk and Fremont to Toledo, and to open and maintain the line from Cleveland by Sandusky and Port Clinton to Perrysburgh, Maumee and Swanton, with a connection to Toledo, and to survey and construct a railroad from Fremont toward Fort Wayne, as early as its resources will admit.

The obligations of each Company are assumed guaranteed by the consolidated Company. The first election of Directors for the consolidated Company is to be held at Norwalk on the 2d day of September next, and on and after that date the Transfer Office and the Treasurer's Office are to be opened and kept in New York.

The Junction Road will be built on the same gauge of the Michigan Southern upon the west and the Mahoning on the east, which, with lines now constructed, will soon make a continuous line of the 4-8½ gauge from the Mississippi River to New York.

To Toledo and Norwalk will remain of the 4-10 gauge, being the same of the Lake Shore to Buffalo. The two roads will thus be, under one organization, without competition and in a position to command the immense business of the Michigan Southern Road, as well as the Wabash Valley Road and Eel River Road, now being constructed.

Central Illinois and Indiana Road.

We have received the following information concerning this important road, in which the citizens of Springfield and of Sangamon County are deeply interested.

Two surveys have been made from Decatur to Indianapolis, by which the distance in an air line is ascertained to be 145 miles. The report of the Engineer will soon be ready for publication, containing estimates for the entire cost of construction, and equipment of the road. A few weeks since the two companies which were most particularly concerned in the enterprise, were consolidated and a Board of Directors appointed, consisting of six in this State and six in Indiana. Judge Roach has accepted the Presidency of the Board, having resigned his seat upon the bench of the Supreme Court of Indiana for that purpose. Governor Wright and other distinguished citizens of Indiana, are actively engaged in behalf of this road, and strong efforts will be made to complete it at an early period.

This road will be one of the great highways of the nation. It will be in direct line with Harrisburgh, Wheeling, Columbus, Indianapolis, Springfield, Hannibal and St. Joseph, and should meet, whenever opportunity is afforded, with the hearty co-operation and assistance of all the citizens in this section of our State.—*Springfield (Ill.) Journal.*

Maine.

Meeting of the Stockholders of the Eastern Railroad.—A meeting of the stockholders of the Eastern Railroad was held in Chapman Hall, Chapman place, at eleven o'clock yesterday morning, Hon. Albert Thorndike of Beverly, the President of the road in the chair.

The annual report of the directors of the road, for the year ending June 30, 1853, was submitted.

The directors, in the place begin by stating that several causes have combined to increase the charges on the current revenue of the year; among which are the repairs of structures, bridges and abutments on the road, heavy repairs on the equipment, and an increase of about \$1 per cord on the fuel, the quantity consumed being increased about three-fourths of a cord for each 100 miles run. The revenue has also increased, although not in proportion to the expenses. A sale of the company's interest in the East Boston ferry and lands has been made. The extension of the road into the city will, it is hoped be completed by the coming autumn.

The directors recommend the purchase of the franchise of the Saugus Branch Railroad, a majority of the shares of which is now owned by the Eastern Railroad, of which has been run for the past five months, paying its current expenses. If the purchase is made, the directors recommend that the terminus of the road at Malden be charged from the Boston and Maine to the Eastern railroad at South Malden. Adopted.

The receipts of the year ending June 30, 1853, have been \$544,461 85. Income from property \$76,349 05. Total \$620,810 90. The receipts from passengers on main line and branches was \$412,053 83; for freight (101,617 tons) \$97,320 23. The total expense for working the road has been \$245,691 27; interest and other expenses \$64,241 58. The net income for the year is therefore \$310,875 05, leaving a surplus, after paying two dividends and other expenses, of \$80,834 58.

The number of passengers carried during the year has been \$1,099,418, of which 179,963 were from Boston to Salem, 39,059 to Newburyport, 20,206 to Portsmouth. On the Marblehead Branch 78,053 passengers were carried; on the Gloucester Branch 76,028; on the Salisbury Branch 14,269. The number of passengers carried one mile was 14,710,581; number of tons of freight carried one mile 2,774,307; number of cords of wood used 12,513. There have been no accidents on the road within the year.

For directors, the whole number of votes was 6659.—Messrs. Albert Thorndike of Beverly, D. A. Neal of Salem, Josiah Breed of Lynn, B. T. Reed of Boston, Ichabod Goodwin of Portsmouth, Samuel Hooper of Boston, and Micajah Lunt of Newburyport, received 6659 votes each, and were unanimously re-elected. Adjourned.—*Traveller.*

The First Railroad in South America.

Copiapo is an inland city, some ten degrees to the north of Valparaiso, and 16 leagues (about 50 English miles) from the coast. It is the great center of the Silver mining operations, and is probably the wealthiest city in the world for its population. It is connected by its port, Caldera, by railroad. This road was projected and constructed at a cost of \$1,400,000, by W. Wheelright, Esq., an American gentleman of great worth and energy, who has done more for the advancement of this portion of South America in the past ten years, than all the presidents and generals they have had.

The first railroad built in South America was from the port of Callao to Lima, the capital of Peru, a distance of 6 miles.—*Cor. of the St. Louis Republican.*

A large Bonus.

The Detroit Democrat says the Michigan Central Railroad company have offered a bonus of \$200,000 to the Canada railroad company, on the condition that it shall be completed by the 15th of January, 1854. The Canadian management say they will win the money without fail.

Alexandria, Loudoun and Hampshire Railroad.

Charles P. Manning, Esq., long connected with the Baltimore and Ohio railroad, and an engineer of ability and experience, has been appointed Chief Engineer of this road, Robert T. Mason, Esq., of Va., Assistant Engineer, and Reuben Johnson, Esq., of Alexandria, Clerk of the company.

This road, as is well known, is to connect the city of Alexandria with the coal fields of George's Creek Valley. The State of Virginia has subscribed three fifths of the amount necessary to construct it about one half the way, to be expended on the eastern section, and private individuals have taken a sufficient amount of the balance of the stock to secure the immediate commencement of operations. The work has been entered upon with energy, and the President of the company, Lewis McKenzie, Esq., of Alexandria, is a gentleman who will push it forward with unceasing activity. The first thing to be done now, we suppose, will be to survey and fix upon the route. We notice that a number of different routes are advocated, all, however, looking to the eastern of the road. Among them may be enumerated the following—

The route from Alexandria to Paddytown, taking in its course Coe's Mill Gap, in the Catoctin mountains in Loudoun, Snicker's Gap, in the Blue Ridge;—Berryville, Winchester and Blooming Gap.

Alexandria via Leesburgh, Clark's Gap in the Catoctin, Hillsboro' in the Short Hill, Harper's Ferry and Winchester.

The same route to Hillsboro', thence through Keyes' Gap, crossing the Shenandoah about Little Falls, up Bullskin Mill Creek, through North Mountain, at Greenspring, to Blooming Gap.

Via Leesburgh, through the German settlement in Loudoun, striking the Potomac east of Short Hill, thence to Harper's Ferry.

Michigan Central Railroad.

This road is in a highly prosperous condition.—Its receipts and dividends have been satisfactory to its stockholders, and the future is full of promise. The following gentlemen were elected directors on the 27th. Among them are several of the most energetic men in the Union. Their connection with any enterprise is a sufficient guarantee of its success.

D. D. Williamson, Jno. C. Green, New York City; Erastus Corning, Albany; Elon Farnsworth, Detroit; John E. Thayer, R. B. Forbes, Jno. Forbes, Geo. B. Upon, Boston; J. W. Brooks, Detroit.

The Cincinnati Tunnel.

A correspondent of the Scioto Gazette, describes this work, under date of June 17:

"Speaking of railroad enterprises, the great tunnel now being constructed at the terminus of the Dayton Short Line road, in the outskirts of this city, claims attention. This excavation has progressed rapidly, and will be nearly two miles in length. There are three shafts, in each of which a steam engine operates to raise the earth to the surface and carry it away. Other shafts will hereafter be sunk. The three shafts finished are 200 feet deep to the floor of the tunnel; these will be walled with hard brick to eighteen feet above the surface, and as large as the excavations will permit. The excavation of this great tunnel, chiefly through blue clay, is a vast work, and is prepared for four railway tracks. It is to be the largest tunnel in the United States."

New Albany and Salem Railroad.

Mr. Brooks, the President of the New Albany and Michigan City railroad, has lately published his annual report. During the past year the stock subscriptions reached \$2,210,000, and the amount of work done exceeds that of any two years previous. About nine-tenths of all the gradings and bridgings is already completed, and the rails have been laid at the rate of five miles per week, four parties of track-layers being engaged on different parts of the work. There is already laid between New Albany and Bloomington 78 miles of track; between Crawfordsville and Lafayette, 28 miles; and between Lafayette and Michigan City, 67 miles; making in all 172 miles, and leaving 114 miles still to lay. It is computed that by the 1st of November next, the track will be completed from New Albany to Gosport, 113 miles, and from Michigan City to Greencastle, 149 miles, leaving but 25 miles to complete the connection through—which will be completed by the first of May next.

The company also have a branch road from Gosport to Indianapolis progressing rapidly, one half of which will be completed this fall.

The entire cost of the road with equipments, depots, &c., is put down at \$5,000,000. To finish which they have capital stock....\$2,210,000
Bonds issued in all.....3,000,000

Making.....\$5,210,000
Amount expended on the work, so far, \$4,005,687. Leaving a little less than \$1,000,000, as estimated, necessary to complete and equip the whole.
Of their unexpended means they have now cash on hand.....\$53,801
Balance due on stock.....765,012
Balance due on bonds.....385,500

Making altogether.....\$1,204,313

Fort Wayne and Southern Railroad

The location of the Southern terminus of this road has been fixed by a resolution of the Directors ordering a survey on the best route from Muncie through New-Castle, Rushville, Greensburg, Vernon, Paris, Lexington and Charleston to the Ohio river, at or below the Falls.

The resolution also authorizes the construction of that portion of the road between Muncie and Jeffersonville as soon as a sufficient amount of stock is subscribed and closed up to justify the letting.

This company have made this location with regard to the Nashville road, with which they desire to form a connection; believing that after the completion of that road that the Louisville market will be better for their trade than Cincinnati. The Louisville Journal in speaking of the construction of this road makes the following remarks.

To Louisville this road presents every inducement for favorable consideration and support. It would put her upon an equal footing with Cincinnati in all the eastern part of Indiana, the oldest and richest part of the State, a wide territory which Cincinnati has always considered exclusively her own. It will run neither parallel with nor alongside of any road, but will cross a multitude. It is already understood that no obstacles are to be thrown in the way of Louisville on the opposite side of the river, provided she is willing to come forward and take the lead in this matter. If she does not, then this company may be forced to look for support elsewhere, and upon conditions unfavorable to her. It is also understood that in

the course of a few weeks this project will be definitely presented to her and her citizens.

Ohio and Indiana Railroad.

The laying of the track of this road has been awarded to Messrs. CULVER, STIMPSON & FLETCHER, and they are pushing the work with the energy one would expect from the well known character of the gentlemen composing the firm. Several miles of iron are already laid west of Crestline, and if the grading is finished in time, the road will be opened to the line of the Mad River Railroad, some forty miles, by the first of October. This will be a very important connection for the Ohio and Pennsylvania Railroad, as it will give a separate and independent route to Cincinnati, and to Indianapolis—that is, separate and independent of the Cleveland and Columbus route, which is worked for the interest of the Northern route.

Messrs. Culver, Stimpson and Fletcher, have lately formed a co-partnership, to carry on the business of track-laying. They are experienced and practical men, having been for some years in the employ of those celebrated contractors, Messrs. Baily, Hayden & Co., in whose service they have filled responsible positions.—As the laying of the track is one of the most important parts of the work of building Railroads, both as to economy and safety, it is a matter of exceeding moment to those engaged in the construction of Railroads to secure experienced tracklayers, and we therefore take this opportunity of directing their attention to this excellent firm of young and experienced men.—*Pittsburg Gazette.*

Railroad Lettings.

Catawissa Railroad.—The work on the railroad from Catawissa to Milton has been allotted as follows:

Sec. No. 1, 2 and 3—A. Malcom & Co.
" " 4 and 5—J. Savidge & Co.
" " 6, 7 and 8—Fisher and Flannigan.
" " 9—Walter Scott.
" " 10—Wm. Colt & Co.
" " 11 and 12—McCrum & Orchard.
" " 13 and 14—Francis Gibson.
" " 15—McWilliams & Co.
" " 16 and 17—Brayton, Blair & Geise.
" " 18, 19 and 20—Jas. Malcom & W. B. Kipp.
" " 21—Josiah Morgan & Co.
" " 22, 23 and 24—David Marr & Co.

Major Colt & Co. have the section passing through Danville.

Alabama.

The railroad spirit has at length reached Tuscaloosa. The citizens of that beautiful city have had several meetings lately for to devise ways and means to get into the world again by means of the iron track. They intend to build a branch connecting them with the Mobile and Ohio road west, and another connecting them with the Alabama and Tennessee River railroad, east. Should she do this, she will then be in the line of travel, and we may expect a fresh impetus given to her manufactures, and all the elements of prosperity within her reach.

The Selma Reporter says: The directors of the Alabama and Mississippi Rivers Railroad have been in this place for some days past, endeavoring to raise an additional subscription to the road of fifty thousand dollars. A meeting of our citizens was held on Tuesday night. A liberal subscription was made, and, it was supposed, the balance will be obtained easily. This subscription will enable the directors to finish fifteen miles of the road in a little over twelve months, and the balance of the road to Union Town in twelve months more. The directors are determined to push forward the work rapidly.

Mobile and New Orleans Railroad.

An arrangement has been made between this company and the Pontchartrain railroad company, whereby the two companies, under charters granted by the States of Alabama, Mississippi and Louisiana, have agreed to build a continuous railroad from New Orleans to Mobile. The President of the Mobile company, C. J. McRae, Esq., and the President of the Pontchartrain company John Edgerton, Esq., have given official notice of the union of the two companies, and the work will be prosecuted with all possible despatch.

The surveys are entrusted to Col. A. A. Dexter, of Alabama. The route from Mobile will be run as near the coast as the nature of the ground will admit to the Rigolets; crossing that channel and a branch of Pearl river, it will follow a line on the main land to within 12 or 15 miles of the Bay of St. Louis.

This road will bring the cities within five hours reach of each other, and will shorten, by some 12 hours, the mail route from New Orleans to New York.

The books for subscription for the capital stock to the amount of \$500,000, will be open in Mobile until the 30th of the present month, at which time, if the amount shall not be subscribed, it will be offered in Mississippi and Louisiana.

Maysville and Big Sandy Railroad.

We learn from the Maysville Eagle, that the president of this road, Thos. B. Stevenson, has secured in Philadelphia subscriptions of stock to the amount of \$180,000—a handsome sum, and one that gives additional confidence in the completion of this important public work at a very early day. We have but little doubt that our Lexington and Paris friends will yet reach Philadelphia and the east by railroad through Maysville and over the Big Sandy road, before any other route in progress from those points will be completed.

In the meantime, while the president is working so efficiently for the company abroad, the contractors are pushing the work on the line with great energy and activity. A large number of hands are distributed over the line, quarries have been opened at a number of eligible points, rock is being prepared for the bridging and culverts, and altogether the road line has a very animated and business like appearance.

But little doubt exists that the road will be in operation by the time heretofore designated.

Improved Locomotive Water Tank.

A. W. Leland Rivers, of Charleston, S. C., has taken measures to secure a patent for an improvement in water tanks for locomotives, the nature of which improvement consists in constructing a tank in two halves, or with two separate chambers which are secured together by bolts. Each chamber has a manhole on the bottom, for the hose, and the water can be let out of the one and retained in the other, if desired. The object of the improvement is to allow of one part of the tank being taken off and repaired easily, if injured without disturbing the other, thus effecting a considerable saving in the course of a year on a railroad.—*Scientific American.*

Tanks of the above description have been in use for many years on the New York and Erie Railroad. They were attached only to some of the first engines bought for the road, and have never been applied to the later engines, as they were not found to possess any especial merits of convenience or economy.

Gravel Engines.

Upon all long lines there is wanted on their construction a distinctive class of engines for ballasting, and which, after completion of the earth work, may be used for depot engines for making up trains and "shifting out" cars. The service imposed upon these engines being severe, and the difficulty of executing repairs upon the spot where, and at the time when they are most exposed to failure, require that they should possess in an eminent degree the essentials of strength and simplicity. We have often seen instances where engines purchased purposely for graveling have been constructed with the refinements of an inside connection, separate expansion valves, half stroke pumps, copper furnaces, wrought iron shrunk tires, a truck frame and other scientific but extravagant and out-of-place arrangements, where they should have been constructed on the simplest plan and with the least attempt at display of workmanship. A gravel engine is exposed to the worst service, being run through the entire day on temporary and rough tracks; in the care of very ordinary operators; being also subjected to a constant succession of starts and stops; and exposed to flying sand from new excavations, all of which act severely on its parts.

It should therefore be adapted in the best manner for all these circumstances. For securing sufficient adhesion under all circumstances of bad and slippery rails, inclines, etc., it should be placed wholly on four, or at the most six driving wheels, and these for facility of passage through the curves always met with on temporary tracks, should be clustered as near together as possible. There should be flanges on all the wheels, if more than four, whereby the wear will be reduced on each, and the wheels will keep their equality of size much better. The wheels should, for every motive of economy in expense, and reduction of care and trouble in maintenance, be fitted with chilled tires. These are tantamount to indispensable upon engines of this class.

This service is an especially severe test for any tire, from the imperfect character of the tracks generally run upon, from the frequent slipping caused by starting and reversing on a slippery rail, and from the sand which falls upon the track by which a wrought tire is very soon *cut away*. The chilled tire, it is useless to deny, will fulfill every condition of safety in a gravel engine, while its great comparative economy makes wrought iron, at once, too expensive a material to be used. Again, after wearing out, the chilled tire may be renewed by the engineman and fireman in half a day, in the temporary shed where the engine is sheltered. The chilled tire will last two seasons in constant and severe use.

The engine should be outside connected, both on account of economy of construction, and of increased safety and convenience in operating. The weight, friction, expense and danger of a double crank should always be avoided, and the space saved over what is required for its motion be occupied by the lower part of the boiler. There should be but one valve to each cylinder, adjusted to work for nearly the whole stroke, as these engines are taxed generally to their full power and are also continually starting and stopping rendering expansive action impracticable and uncalled for.

The furnace should be made of thin iron of the soundest and best kind. Iron 1-4th inch thick, will, if originally good, be safe from any tendency towards blistering. The tubes should be short and of large diameter, whereby the heat will be quickly communicated to the water, the draught will be improved,—being very much dependent on the sectional area of tube opening—the tubes will be less likely to leak and the wheel base, or length of engine will be reduced, which is an important consideration on short curves.

The tubes may be kept equally tight, if made of iron, as if of copper or brass, while iron will tend to a great economy in the expense of keeping them good. The water level should be disposed by the position of the gauge cocks to be quite high in the boiler, as a gravel engine is standing much of the time, during which no water can be pumped into the boiler, (unless by an independent steam pump) and upon starting, especially with a long train upon a bad grade, the engineman will naturally wish to pump in as little water as possible. From the waste of water in standing, and the disposition to shut it off on starting, the engine is therefore exposed to the risk of burning or explosion, a risk to be avoided by placing the water level high up. There should be a tight fitting damper to stop the draught, and the consequent waste of fuel and water in standing, and its judicious and general use should be insisted on, as not only is the consumption of fuel increased, but the risk also of burning or explosion, where a strong fire is allowed to burn while standing.

The pumps should be of large capacity, for the reason assigned of the engine having to stand still much of the time, and from the fact that the speed in running is quite slow. It is necessary therefore that the pump may act quickly. For simplicity the pump should be worked directly from the cross head of the engine.

The sparker should be of the simplest description;—the common "bonnet sparker" is probably the best for any engine. With regular cleaning they will throw but little more sparks than any of the patented arrangements, while the freedom which they allow for the draught, and their simplicity of construction make them infinitely superior in other respects. The Erie road have changed many of the patent sparkers upon their engines for the bonnet sparker.

All parts of the running work should be particularly arranged with regard to keeping out dust from the rubbing surfaces. The slides should be either a single hexagonal bar for each piston rod, or no more than two square bars. The flat or double slide will lodge much dust. The link motion and link hooks are exposed to wear from this source. The eccentric straps must shut over the eccentrics; the parallel rod boxes should close tight over the pins.

The finish of all parts of a gravel engine should be as well fitted as for the first class of engines, but beyond this the work should be painted where such protection can be applied.

The writer of this built the first locomotive engine which was employed on the Great Western Railway of Canada. It was designed to haul the gravel removed by the steam excavator. As very small cars were used, and upon a very narrow track the engine was of small dimensions. Its simplicity of construction and its economical and

efficient operation may excuse a brief sketch of its arrangement and dimensions. It was outside connected; had 9 inches by 16 inch cylinders, and four chilled drivers of three feet diameter. The boiler was 30 inches in diameter, and contained 56 two inch iron tubes, 7½ feet long. The space between the frame was occupied by a tank of 200 gallons capacity, the valve motion being arranged outside of the crank pins. Space for wood was left on the foot board. The length of wheel base was but 4½ feet, which was shorter even than an easy passage through curves demanded, and might have been extended to secure additional stability.

The entire engine and tank loaded with wood and water weighed but seven tons, and was arranged to be divided in three loads for transportation around the country over common roads, and in such a manner as to be easily separated and easily and strongly re-attached, while the heaviest single division of the machine did not exceed 2¾ tons weight. Its power was adequate to a draught of 275 tons on a level.

Wrought Iron Wheels.

At the Hudson river railroad shop, a day or two since, we noticed three sets of wrought iron drivers, two sets of which were under the engines.—These wheels were imported, with the tires drawn on and ready turned from the works of the Haigh, Foundry Company, of England, whose agent in this city is George Woodward, No. 10 Ferry street. These wheels are very good examples of this kind of work, being quite evenly forged. They have 20 spokes each, and have very thick hubs and crank pin hubs.

Very few wrought iron drivers are used in this country. Edward S. Norris, while at Schenectady, made several sets of large wrought iron drivers. Mr. James Millholland has applied two sets of seven feet drivers to his two coal burning passenger engines, the "Illinois" and "Michigan."—These were of a very light but of a very elegant pattern. The spokes, rim and hub were all forged remarkably even and true, and were made wholly at Reading.

Norris & Son, of Philadelphia, have also applied wrought iron drivers of eight feet diameter to the engines lately furnished by them to the Camden and Amboy Railroad.

The Hudson River Railroad, have for a long time used wrought wheels under the cars of their express trains. These are made wholly of wrought iron, and cost \$90, per pair fitted. The tires which come with the wheels, 1½ inches thick on the tread, will last about two years, with a yearly service of 40,000 miles. In this period the tire requires truing, or tureing down, twice. The Converse and Washburn and the Whitney wheels will last but one year under passenger cars, at the end of which time they are transferred to freight cars where they run about six months, or until wholly unfit for use. Of the other chilled wheels used by this company none will last so long as this.

The spoke wheel involves inherent defects of construction, requiring the welding of twenty or thirty pieces where the same end should be accomplished with half a dozen welds. The strength of the spoke wheel is distributed on eight points instead of through the whole wheel. In other words the form is discontinuous.

The experience in the use of wrought iron spoke wheels has shown them to be subject to frequent failure. This is stated of the best forms of spoke wheels made. Where the wheel has been formed by casting a hub within it, the liability to failure has been correspondingly increased. The successful car wheel will be that which combines the strongest material with the strongest form, in other words, a wrought iron wheel of continuous structure, and manufactured wholly by welding into one fabric of homogeneous texture.

Air Line Road from Cleveland to Alton.

We see it stated that Erastus Hopkins, of Northampton, Mass., has been chosen President of a new railroad corporation, in Ohio and Indiana, organized for the purpose of constructing an air line railroad from Cleveland to Alton, Illinois, or rather to some point on the Terre Haute and Alton railroad. The length of the line to be built by the new company is estimated at three hundred and seventy-five miles.

The road proposed cannot cost less than \$10,000,000, and the parties interested must be bold men to put that amount of money into a rival road, and a parallel to one already in operation for the whole distance. The road already built took, we presume, the route that experience had marked out as the convenient one. It certainly passes through the most important business places in the country between its termini. The existing road may be said to be the result of the deliberate judgment of the community through which it runs. If the route now proposed had been the proper one, it would have been adopted in preference to the one selected. For a through route, one road is equal to all the wants of the public, and the fact that such road exists, naturally weakens the claims of any counter project. We think therefore, that the parties engaged in the new project will find that they have a hard job before them. They will find the capital of the country already interested in the existing lines, arrayed against them, and without the aid of such capital they cannot hope for success. "A rival project" is an odious word to capitalists, and the above is strictly a rival work. We think its projectors will do well to postpone their plan to a more "convenient season."

Curiosities of the Locomotive.

Our first class narrow gauge engines, weigh, empty, 44,000 lbs. and are worth 16 cents per pound. They will consume one cord of wood and 1200 gallons of water per hour, and will generate 275,000 cubic feet of steam per hour, of a pressure equal to that of the atmosphere. Their heating surface is of the extent of the bottom of a boiler 34 feet in diameter. The strain upon the iron of the shell of boiler, to burst it open lengthwise of the boiler is from 6500 to 11500 lbs. per square inch under ordinary pressures. There is also an additional strain of about 4000 lbs per square inch exerted lengthwise of the boiler to pull it apart crosswise. The whole pressures exerted against all the internal surfaces of the boiler amount to 20 millions of pounds or 10,000 tons! The crown sheet of furnace, alone, carries a load of 120 tons. The usual distance travelled by the locomotive being in motion but about one eighth of the time, is equal to once around the globe every year.

In going 60 miles an hour, 88 feet are traversed

per second. 5 revolutions of the driving wheels are made, requiring 20 strokes of the piston, and 20 intermediate periods of action of the valve, equal to the division of a second into 40 parts.

Ohio.

Fremont and Indiana Railroad.—This road which extends from Fremont (upper Sandusky) to Lima, in Allen county, has been advertised to be let to contractors for the grading, etc. At Lima this road connects with the road now in course of construction, from Dayton to Toledo, and forms by that connection the shortest route from Cincinnati to Lake Erie. It is also proposed to extend the road to Union, on the Bellefontaine and Indianapolis road, making important connections at that place with the west and south-west, and affording the most direct route from that to Cleveland and the Lake Shore railroad. At Fremont, the road connects directly by lines already finished, with Cleveland, Toledo and Sandusky. Subscriptions sufficient to ensure the completion of the road have, we are informed, already been secured.

Indiana.

Indiana Central Railway.—The work on this railway is progressing with great rapidity, and there is the best reason to believe that it will be completed by the first of October. The iron is down 1½ miles west of Centerville, and as far as the heavy work at Jackson's Hill. On the west of this hill the track is laid beyond Dublin, a distance of some ten miles. At Knightstown, a party is at work laying the rails east. From Indianapolis the track is down about 14 miles, and a party is at work laying the rails still farther east. Last week the three parties laid seven miles of track. There remains now some 36 miles of iron to be put down in order to finish the line to Indianapolis. The grading is all completed west of Jackson's Hill, except the bridge embankments. These will all be done and the track laid to Jackson's by the time the work there is finished. Indiana Central is in the hands of men who seem to know just what ought to be done in order to accomplish the work with the utmost diligence.—*Dayton Journal.*

Maine.

At the meeting of the stockholders of the Penobscot and Kennebec railroad, held in Bangor, the friends of the Newport route, by a very handsome majority, elected their Directors as follows: George W. Pickering, Moses L. Appleton, Samuel Farrar, Rufus Dwinel, Wm. Conner and Geo. W. Chamberlain.

Opening of the first Railroad in Africa.

Accounts from Alexandria, Egypt, of June 21st, state that the Cairo and Alexandria railway had been partially opened. A letter dated the 21st, says:

"The first railway ever constructed in Africa has been, for 25 miles from Alexandria, traversed this day by locomotives, and in the land of the pyramids one more monument has been added to the abiding splendor of the past. There is to be a more formal opening in a few months, when the first section to the Nile is completed."

Griffin and Decatur. Ala. Railroad.

A corps of Engineers are soon to be organized to make an experimental survey of the proposed route of the Griffin and Decatur Railroad, and an installment has been called for from subscribers to the stock to defray the expense. This is, says the *Macon Messenger*, the beginning of the end of one of the most important railroad enterprises which yet remain to be accomplished by our people

Canada.

Bytown and Prescott Railway.—John Kinnon-Esq., the President of this Company, has just returned from England, having been successful in the object of his mission.—We are happy to say, that Mr. M. has succeeded in disposing of £55,000 of debentures, for which he has the iron necessary for the road, one half of which is to be delivered in the course of a few weeks, and the balance early in the spring. Mr. Bell, the Secretary, has also been actively engaged in Boston, and has just completed arrangements for the purchase of eight locomotives and one hundred and thirteen cars. A large amount of stock, it is expected, will be taken in Boston; so that there now appears nothing to prevent the work being rapidly proceeded with. We understand that it is intended to have the cars running as far as Kemptville in the ensuing fall. The Company have had much to contend with from the beginning, but we imagine the greatest difficulties are now overcome, and there is every prospect of an early completion of the road.—*Prescott Telegraph.*

Double Track on the Baltimore and Ohio Railroad.

Joshua Vansant, Esq., on behalf of the directors of the Baltimore and Ohio railroad, has informed the city council in compliance with a resolution of that body, that the board of directors have authorized the construction of 100 miles of "second track" on the line of the main stem of the road, 60 miles of which are to be laid between Baltimore and Cumberland, and 40 miles west of Cumberland. Fifty miles, under said resolution are in process of construction, and will be completed in the shortest practicable period. For this character of road, the cost per mile varies from ten to eleven thousand dollars.—When the additional track shall have been completed according to the resolution of the board, there will be eighty-eight miles of double track between Baltimore and Cumberland.

New Orleans, Jackson and Gt. Northern Railroad.

There is already trouble in reference to the bonds recently issued by the company, as will be seen by the following article from the *New Orleans Bee*.—

"The recent sale of bonds by the Directors of the New Orleans, Jackson and Great Northern Railroad Company appears to have created an unusual amount of excitement. The terms of this transaction have not transpired, though it is currently rumored that the bonds were negotiated at a comparatively heavy sacrifice. The City Council have assumed the privilege of inquiring into the matter. A short time since it appointed a Committee to demand of the Directors full information in regard to the sale of these bonds, and at the sitting on Tuesday night, the Board of Aldermen adopted a resolution instructing the Treasurer to withhold from the Company all sums collected, until the affair can be properly investigated by a Committee of three members.

"It appears, however, that the Directors deny the power of the Common Council to institute this inquiry, which properly belongs to the stockholders. The Common council claim the right on the ground that a special tax has been levied on the owners of the real estate, for the benefit of the road, but just in proportion as each property holder pays that tax, he becomes pro rata a stockholder, and enjoy all the rights and privileges of other stockholders—and no more."

This is nothing more than what might have been expected, considering the manner in which the affairs of this company have been conducted, of that project in our last issue. If the city and is a result which we predicted in our article withholds its subscription what are the bonds worth? Unnatural alliances seldom turn out well.

New Albany and Alton Railroad.

This work is progressing, particularly between Mt. Carmel and Alton. The directors for this year are W. Pickering, President; William Runcie, Chs. Scholfeld, G. J. Johns, W. S. Mayo, W. Scholfeld, S. A. Buckmaster, John S. Davis, Joseph Devin.

\$160,000 has already been subscribed towards the construction of the North Missouri railroad, and the amount will probably reach two millions before the end of July.

Commissioners Agreed upon.

We understand that the Board of Directors of the Illinois Central Rail Road and the Northern Indiana and Chicago Railroad have agreed upon William H. Swift, of Boston, Gen. Wilkinson, of the State of New York, and William H. Broadhead, chief Engineer of the Milwaukee and Mississippi road, as Commissioners to settle the mode and manner of crossing, and other questions between the two companies, relative to the crossing of their roads near this city. This exciting question seems to be in a fair way to be speedily settled.—*Chicago Tribune.*

Notice to Contractors.**JEFFERSONVILLE RAILROAD.**

SEALED Proposals will be received at the office of the Company at Jeffersonville, Indiana, until 10 o'clock, A. M., on Wednesday, the 7th day September, 1853, for the clearing, grading and bridging the road between Edinburg and Indianapolis.

Proposals may be made for sections, divisions, or the entire line, about 30 miles, payable in the 7 per cent mortgage bonds of the Company or part bonds and part cash, and also for payments entirely in cash.

The company reserves the right to accept such proposals as in their judgement will best secure the prompt construction of the road, and to reject all, if none are satisfactory.

The route traverses a fertile country, furnishing abundant supplies of all kinds, and the line is easy of access at all points.

Bidders will please give their post office address.

WILLIAM G. ARMSTRONG, President.
Jeffersonville, July 9, 1853.

RICHARD NORRIS.

HENRY LATIMER NORRIS.

Richard Norris & Son,
NORRIS' LOCOMOTIVE WORKS, BUSH HILL,
PHILADELPHIA.

MANUFACTURE to order Locomotives, exclusively, on any plan, or of any size—of best materials and workmanship. Their Works having been this year greatly enlarged, and furnished with the most approved Tools, they are enabled now, having a large number of Workmen employed, to execute orders with despatch.

June 9, 1853.

Railroad Iron.

623 Tons T Rails of good quality, 50 lbs. to the yard to arrive during July, for sale by
JOHN H. HICKS, 90 Beaver st.

Railroad Iron.

2000 Tons of Rails, weighing from 58 to 60 lbs. per yard of Favorite Patterns, now on hand in New York,
For sale by
W. F. WELD & CO.,
June 21, 1852 42 Central Wharf, Boston.

INDUSTRIAL WORKS.

BEMENT, COLBY, DOUGHERTY & CO.,
IRON FOUNDERS AND MACHINISTS
Callowhill Street, between Schuylkill Second and Third,
PHILADELPHIA.

MACHINISTS TOOLS, particularly adapted for Railroad Work, MILL WORK, and Heavy Castings, for cupolas, buildings, etc.

E. D. MARSHALL, JAMES DOUGHERTY,
G. A. COLBY, WM. B. BEMENT.

AMOSKEAG MANF'G CO.

MANUFACTURERS of LOCOMOTIVE and STATIONARY STEAM ENGINES, Boilers, Cotton and Woolen Machinery, Tools, Turbine Wheels, Mill Work and Castings of every description.

MANCHESTER, N. H.

WM. AMORY, Treasurer, O. W. BAYLEY, Agent,
65 State st., Boston, Mass. Manchester, N. H.
1y jy 6.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.
Portland, April 9, 1853.

Railroad Letting.**KENOSHA AND BELOIT RAILROAD.**

ON and after the first day of August next, and until the 15th of August, inclusive, proposals will be received, under seal, at the Office of the Kenosha and Beloit Railroad company, in Kenosha, for the construction of the entire road from Kenosha to the Rock River Union Valley Railroad, a distance of about 50 miles.

The proposals may be made for the grading, masonry, ties, and entire construction in a single contract—or for the same and all items separately, and in independent contracts by different individuals. They will likewise be received for the above in parts. The work will besides be divided into sections of moderate length, and proposals, as above, for a single section or any number of sections will be received.

Profiles and specifications may be inspected at the Engineer's Office in Kenosha, on and between the days above specified, and forms of proposals will be supplied to all who desire to take contracts.

ALEX. C. TWINING, Engineer.
Engineer's Office, Kenosha, June 20th.

**CENTRAL RAILROAD CO.
OF NEW JERSEY.****\$950,000 of Stock.**

BY ORDER of the Board of Directors, the Finance Committee of the Central Railroad Co. of New Jersey will open Books of Subscription for the Unissued Stock of the Company, amounting to \$950,000, at the BANK of AMERICA, in the City of New York, on the 27th June instant, and keep the same open one week, unless the whole amount shall be sooner subscribed. This Stock comprises all that the Company are entitled to issue, and the money received is to be applied to the construction of a second track, improvements at Elizabethport, and other preparations imperatively demanded by the connections to be opened in another year. This mode of distribution has been adopted, in preference to a pro rata allotment, to enlarge the number of stockholders, and facilitate the acquisition of stock by those now desirous but unable to procure it.

The Ferry, 12 miles, from New York to Elizabethport, and the Railroad, 63 miles, from Elizabethport to Easton, Pa., have been operated thro' the entire distance for nearly a year, and both are fully equipped for the present business. Passengers preferring the land route can go from New York by the way of Newark to Elizabethtown and there intersect the trains.

From the terminus at Easton, the Lehigh Valley Railroad is in active course of construction to Mauch Chunk, 46 miles, and will be opened in July, 1854, connecting New York, winter and summer, with the Lehigh coal fields, by a route of only 125 miles; the Lehigh road having only descending or level grades, and the Central Road no grade over 21 feet to the mile. At Tamaqua the Lehigh road connects with the Catawissa road, now constructing, and to be completed in May, 1854. This connects with the Sunbury and Erie road, now under contract and to be completed in two years. Thus the year 1855 will see a new route of favorable grades and curves only 462 miles in length, opening from New York to Erie on Lake Erie.

A direct and favorable connection with Pittsburgh and the Pennsylvania Central Railroad, can also be made through existing roads and charters.

From New Hampton, a point on the Central Railroad of New Jersey, 59 miles from New York, the Warren Branch road in connection with the Delaware, Lackawanna and Western road and the Oswego, Syracuse and Binghamton road, will bring the Lackawanna coal region within 133 miles of New York, with grades of only 21 feet to the mile (except for a few miles in leaving the coal basis at Scranton), and give an unbroken line of six feet gauge, 310 miles in length, from New York to Oswego on Lake Ontario. Of this distance, 156 miles are finished and in operation; 80 miles are under construction and to be opened this Fall; the remaining 74 miles are located, contracted, and to be completed in the Fall of 1854.

It may be interesting to state that the Central Railroad of New Jersey, from its local business, without any of the anticipated connections, has been enabled to pay seven per cent on the cost of the several sections as they have been opened, and that the entire road, with its present local business, is now paying dividends at that rate.

At the close of the fiscal year, April 1, 1853, the financial condition of the company was as follows:

Capital stock.....	\$1,034,700 00
Mortgage bonds, 7 per cent.....	1,500,000 00
Other bonds, 6 per cent.....	113,000 00
Bills payable and balance due.....	249,022 04
Balance of earnings over dividend..	1,006 85

\$2,897,728 89

This was represented by the following property:

Railroad, average \$37,800 per mile.....	\$2,379,886 64
Ferry interest and boats.....	140,900 00
Station houses, shops, etc.....	78,000 00
Land at Elizabethport.....	55,016 77
Equipment.....	218,504 64
Materials, wood, coal, cash, etc.....	25,420 84

\$2,897,728 89

Full statements of the condition of the company can be obtained at the office, 5 Wall street, where those desirous to examine the road with reference to investment can procure tickets for the trip.

The Finance Committee call the attention of capitalists with the greatest confidence to the present position and future prospects of the road, believing that no road in this vicinity presents greater inducements for investment. They reserve the right to reject or reduce subscriptions, if the whole amount subscribed should exceed the amount to be issued.

Ten per cent will be required to be paid on allotment of the stock, and the remainder in instalments of ten per cent every sixty days on notice, as required. Interest at the rate of seven per cent will be allowed till the instalments have all been called. If the dividends on the full stock are at a higher rate, the difference will be made good to the scrip Stockholders when their stock is filled up.

Dated New York, June 17, 1853.

JOHN T. JOHNSTON,
JOHN C. GREEN,
WILLIAM E. DODGE,
WILLIAM S. WETMORE, } Finance
Committee.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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SECOND QUARTO SERIES, VOL. IX., No 31.]

SATURDAY, JULY 30, 1853.

[WHOLE No. 902, VOL. XXVI.

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, July 30, 1853.

Railroads and Railroad Negotiations.

The immense sums we are investing in railroads naturally suggest apprehensions on the part of the more timid of our capitalists, that we are overdoing the business. They can find no precedent for the safe expenditure of such vast sums in works of a permanent character, which will require a long course of years to replace by their earnings, their original cost. This class of persons, regularly, every year, figure out to a demonstration, that a crisis is before us, and that a disastrous revulsion must soon overtake the majority of our roads, involving a great loss by the depreciation in value of their stock, and in some cases of their credits.

The reasoning by which these conclusions are arrived at is as follows: "Excessive investments in every kind of business are certain to be followed,

in the end, by great losses, as all experience proves. Now we are investing an unprecedented amount in railroads, and these works cannot escape the application of an universal law in commercial affairs." This is the manner in which a class among us reason, and with a certain plausibility, too, because as applied to nearly all other transactions, their premises are mainly correct. The falacy lies in the fact that the premises assumed, are *not* correct in their application to railroads. Were it otherwise, our onward course would have been cut short long ago. For five years past have we been moving forward with a constantly accelerating pace, and with uninterrupted success. Never were our railroads, and every other interest in the community, in so prosperous a condition as at the present time. Every branch of business is in full activity. This is emphatically the case, with the most important of all, agriculture, upon which all others are based. There never was a period in which the aggregate production of the soil was so great, nor when an equal quantity was produced with the same amount of labor. The same may be said of all other departments of industry, and we are only saved from the inconveniences of an excessive surplus in all, by a regular and active foreign demand for our great staples.

The fact is that as far as the great mass of our roads are concerned, we passed the critical period long ago. This was when the great majority of them were *simultaneously* in progress; when they were calling for vast sums of money to carry them forward, and before they were able to make any return upon their cost, or to be of any general benefit to the community. This was the period when a crisis threatened. Having passed it, the dangers then, and at present anticipated, by certain parties, are left far behind. New ones may beset us, but not from what we have done, but from what we may do.

We have now in operation in all the states some 15,000 miles of railroad, which have cost say \$500,000,000. Now taking the net revenue of these roads, and the *incidental*, which are the main advantages flowing from them, and there is no doubt that these roads produce, annually, more than the entire expenditure in *new works*. Assum-

ing, too, which is not probably wide of the fact, that the whole investment in the United States has more than replaced itself, by the revenue it has yielded, and in the diminished cost of transportation, and we have not only our original capital in hand, for new works, but we have in addition the yearly income of our roads.

Here, then, is the great secret of our present prosperity. We shall only become the stronger as we advance, provided we confine ourselves to strictly legitimate and paying projects. Our roads have made our people rich and strong, because they have enabled them to avail themselves of their resources. They have given markets where none previously existed, and have often saved half the value of a crop, or an article of merchandize, by the diminished cost of transportation. Our markets are often distant a thousand miles from the producers, and from the great uniformity in the pursuits of the great mass of our people, a majority of articles entering into consumption have to be transported an equal distance. Railroads in the United States, therefore, are not only indispensable to the development of our vast resources, to the personal convenience of our people, but add immediately and in an extraordinary degree to their wealth.

Such we believe to be correct views of the financial condition of our country and of our railroads; views the soundness of which has been fully demonstrated by the history of these works, and the steady advance that we have been making for the past six or eight years in all the elements of prosperity. What we have done has, on the whole, been well done. The cost of our railroads has not been felt to be a burden, for the reason that they have so rapidly, in the manner we have stated, repaid their cost. If, when our present magnificent systems were only half completed, when the great majority of our roads were struggling to obtain the means for their construction, and those in operation were without those connections that have since added such an increase to their revenues, our people could stand under the load resting upon them, what can they not do now that these roads are all completed and in operation, and by their success calling to their support not only the capital of the United States, but the whole world; and still more, when the roads them-

selves are rapidly returning into the pockets of those constructing them their first cost?

So much for our relations to the past: Were we to take "an account of stock," at the present time, a satisfactory balance would be found on the right side. Mistakes have been committed, and losses sustained, but these have not affected the general result. Up to the present time the investments in railroads have been good ones, advantageous to our people in an eminent degree, and satisfactory to the capitalists who have invested in them. The latter have almost invariably fared better than they expected. They are receiving for their money a high rate of interest, and in most instances, at a handsome advance over first cost. As far as they have aided in the construction of our works, all parties to the transactions have been mutually benefitted.

The past therefore is well. It is in the *present* and *future* that our danger lies; and there can be no doubt that we are now much more liable to run to excesses and commit serious mistakes than we were two or three years back. Five years ago railways were comparatively unpopular. They attracted little attention, and their success, as investments of capital, was regarded as problematical. The means for their construction was consequently furnished sparingly, and to such projects only that seemed to present all the guarantees of safety. Under such circumstances, the first investments in them could hardly fail to turn out well. The unparalleled success which has attended their construction has completely changed the tone of public opinion in reference to them. Distrust and doubt has given place to a policy of unlimited confidence. Railroads are believed to be very practicable, and those immediately interested in their construction easily work themselves into the belief that they are sure to *pay* under *all* circumstances. This feeling is shared to a very considerable extent by capitalists themselves. It is easy to see, therefore, that we are now much more likely to embark in visionary, unprofitable or uncalled for enterprises, than at any other period in our history. We have everything to urge us forward; confidence arising from past success, an easy money market, the hope of making money by the construction of roads, and an earnest desire on the part of every community without them, to secure the social advantages which they confer. If, with all these impulses to urge us forward, we should steer clear of mistakes, even to the degree that we have for the time past, it would certainly be marvellous. We cannot expect to, unless our caution keeps pace with the increased temptations, and with the greater danger we are under of being deceived and mistaken. There is no doubt that in certain localities at least, it would be useful to follow the popular sentiment in reference to railroads, and we know how hard it is to resist the general sentiment of a community, or for individuals not to be affected by its contagion. Hence the great duty of those who, from being far removed from the immediate excitement attendant upon the construction or the agitation of these projects, and from having little immediate interest at stake, of pointing out the danger into which we are liable to fall, and of enforcing the observance of a policy which will preserve our whole system in a sound and healthy condition.

We would by no means convey the idea, that

because we are building a great number of railroads, we are building more in the aggregate than the wants of the country require. The state of Ohio will soon have 3000 miles in operation. The state of Tennessee only about 150 miles. The roads of Ohio, on the average, will pay well, and will all be required to meet the wants of the people. Now there is no reason why at least 2000 miles would not meet with equally profitable employment in Tennessee, and why they should not prove a safe investment for capital. The same may be said of Kentucky, Alabama, Missouri, Mississippi, and in fact of nearly all the southern and western states. But railroads are wanted in the east as well as in the south and west. *Four thousand* miles of railroad would this day find profitable employment in the state of Pennsylvania, (where there are not over 1250 in actual operation,) and as many in Virginia. We have only commenced the construction of these works. We shall go on with regular and uniform pace till we have 50,000 miles of road! They will penetrate every section of country, and will in the end become the common highway of our people. It is not the number of miles that we may build that should create alarm, but their *over* construction in districts already sufficiently supplied with these works.

This tendency has already manifested itself in Ohio, and in western New York. There is no doubt that railroads have been pushed to an unwise extent in Massachusetts. But the railroads in this state were built entirely with *domestic* capital, and when the parties interested in a road furnish the means of construction, the propriety of their course concerns them alone. If they commit a mistake it will not be apt to be repeated. When men pay as they go, they will not blunder twice. They cannot extend themselves so as to create any serious injury to the public. When, on the other hand, those interested in a road expect foreigners to build it, the expediency of the project becomes at once a proper object for criticism, otherwise the community may be led to undertake the construction of works not needed, and which may require an amount of capital for their completion, far beyond the ability of the public to supply. So long as we confine ourselves to legitimate projects, we have nothing to fear. But the moment we take up those of a different class, we start on a course which can only end in a financial crisis, disastrous alike to railroads, and to every interest in the community.

We state these general principles, partly for the benefit of parties investing in our roads, and partly for the purpose of indicating the course we shall pursue in reference to every project that may come before the market.

The highest good of our roads is best promoted by maintaining the whole system in a sound condition. If a company does not present all the guarantees of safety, it is much better for them to postpone their project, than to embark in a hazardous one, with the imminent risk of losing all they put into it. If a weak one is attempted to be foisted upon the public, we owe it as a duty to a large class of persons, who rely upon us for information, to expose it. Now, we do not presume to say that every security must pass the ordeal of our opinion to be negotiated. We may be mistaken as to facts, and come to a wrong conclusion in a given case; but we do say that if a manifestly unsafe

project be presented, and its unsoundness exposed, capitalists will not touch it; or if any suggestion of wrong be made, upon good grounds, they will be very apt to take the matter into their own hands, and probe it to the bottom. We therefore urge upon all companies in presenting their claims the importance of making out a good case beyond all cavil, assuring them in such case that the opinion of an individual, or the press, can have but little influence in opposition to real merit.

When parties engaged in the construction of a road, build it with their own means, their conduct is no concern of ours. So, too, where they furnish a sufficient sum to render entirely secure all they may seek to borrow, they may act very unwisely in our opinion, but we are not the judge of the propriety of their conduct. It is only when the public have an interest at stake, when the basis offered for a loan is of doubtful sufficiency, that we claim the right to interpose. When a company may be engaged upon what we consider a *purely* rival work, we may express our opinions freely, and do what we can in this manner to defeat it; but as we go for entire freedom in the construction of railroads, those who persist in quixotic schemes, using *their own means* alone have a perfect right to do. A merchant may commit a very foolish act in building a ship, but it would be a still greater folly to attempt any restraint upon his freedom.

If our railroad companies will furnish by individual subscription (not by credits of municipal corporations), *one-half* the cost of their roads, we shall be in no danger of overdoing the business for some time to come at least; neither will securities be offered that are not, as a general rule, entirely sound. Such subscriptions cannot be made up by *rival* lines, nor weak projects. Our people have too much sense to put their *own* means at hazard. If they keep aloof, strangers should do no less.— If such a stock subscription cannot be made up on the line of a proposed road, then the project is premature. These rules meet the case exactly. They are easily understood and applied; and if obedience to them is enforced by capitalists, they may invest in railroad securities with entire safety, and at the same time they will impose a proper restraint upon their excessive construction, and preserve this great interest in a sound and healthy condition.

Railway Trains from Boston.

Snow's Railway Guide for July shows that 132 railroad trains leave Boston daily, viz: by Old Colony, 17; Providence, 18, Worcester 25; Fitchburg, 26; Lowell, 15; Boston and Maine 30; and Eastern 11. This, of course, includes all the branches. The same number returns daily, likewise, and makes a heavy aggregate of business.

The Chilled Slip Tire.

Mr. L. B. Tyng the proprietor of this valuable improvement has recently returned from Ohio, where he has introduced and now has in operation a large number of his tires. The Ohio and Pennsylvania Railroad have twenty of these in successful use. Mr. Roberts the Superintendent, and Mr. Glass the Master machinist of the road, express entire confidence in their value. The Little Miami, Cleveland and Pittsburgh, Hamilton and Dayton, Mad River, and other roads in Ohio have a large number (between one and two

hundred) of these tires in use, and their officers express the same opinion of their merits. We learn that Mr. Tyng will soon establish a permanent agency for the sale of his tires in New York and Cincinnati, and will offer an article which shall possess all the excellence of iron and evenness of chill which can be secured by the experience of the oldest manufacturers. Mr. Tyng's address is, at present at Lowell Mass.

Balancing Locomotive Drivers.

The absorption by "counterbalancing" of the disturbing forces, generated in the locomotive, is an important object with the locomotive builder and operator. The irregularities arising from the unbalanced momentum of the reciprocating parts of the locomotive is a source of very destructive wear, both to the engine and to the road. It manifests itself especially in outside connected engines between the axes of the reciprocating motions;—These motions, if occurring upon a common axis, being partly neutralized in each, and lessened as the axes approach a common line. It has been the want of proper and accurate balancing that has kept the outside connection in disfavor with a large number of railroad men, but as this imperfection is estimated and corrected, the simplest, safest, lightest and most mechanical arrangement will secure its position in the construction of locomotives. There are simple and perfect rules for obtaining the weight and position of counterbalances, and machinists and masters of engine repairs will find their application to form a very interesting problem in the construction of locomotives.

Mr. Daniel Kinnear Clark, in his elaborate and valuable treatise on Railway Machinery, has presented the entire subject of balancing drivers in a brief and intelligible manner, which, for the aid of many of our readers who are interested in this subject, but who may not, perhaps, procure Mr. Clark's work, we will transcribe here.

"Historical Summary.—Since 1810, Mr. George Heaton, of Birmingham, has paid great attention to the balancing of machines in motion, with a view both to their stability and their durability. In 1838 he experimented with a model of a railway carriage wheels and axle, and showed that by loading the wheels on one side, to represent full-size wheels with tires $\frac{1}{8}$ inch unequally thick, instability of various kinds would be developed, when they were rolled along the table. He classed the driving wheels and axles of locomotives, with their revolving appendages, as unbalanced wheels; and proposed to apply counterweights to the wheels, between the spokes, to balance the revolving masses, an idea which was carried out by Mr. M'Connell, in 1842, on the Birmingham and Gloucester railway. On the Eastern Counties railway, Mr. E. A. Cowper states, Messrs. Braithwaite and Milner had balanced wheels in the same way, in 1837. About the same time Messrs. Sharp and Roberts, of Manchester, applied balance weights in their driving wheels for the revolving masses, and they were, we believe, the first among English makers who did so.

To meet not only the revolving unbalanced weights, but also the reciprocating masses of the piston and appendages, as well as for other objects, Mr. J. G. Bodmer patented in 1841 the application of two pistons, of the same stroke, to work in each cylinder, operating upon a double

crank on the axle, in opposite directions. Thus the disturbing action of one piston, with its crank and connecting rod, neutralized that of the other, and perfect equilibrium was gained.

It is needless to add that Mr. Bodmer's plan was too complicated for general use. Mr. Heaton simplified the idea by applying duplicate reciprocating masses, of equal weight with the piston and appendages, placed along side the fire-box, and worked by a reverse crank from the axle,—a plan which he patented in 1847. Still too complicated.

Mr. W. Fernihough, in October, 1845, conceived that if a revolving balance weight be applied to the wheel sufficiently heavy to balance not only the crank, but also the connecting rod, piston and appendages, the objects of Mr. Heaton's apparatus would be gained, while the irregularities of vertical pressure on the rail due to the excess of centrifugal force of the balance-weight, would not materially affect the stability of the engine.—This conception was well borne out in practice, as he found that outside cylinder engines so balanced were made "infinitely steadier," and the truth is that centrifugal disturbance vertically, however potently it may affect the motion of carriages and other lighter vehicles, is by far the least important element of instability in locomotives. But, though the means of obtaining the material objects of a complete balance were thus early pointed out by Mr. Fernihough, English engineers generally have not appreciated the importance of extending the balance beyond the revolving parts; and they have endeavored to increase the stability rather by such means as extending the wheel-base, lowering the center of gravity, and coupling taut to the tender.

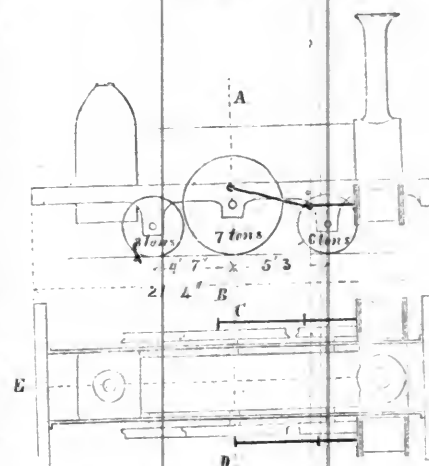
Three years after Fernihough, in 1848, M. Nollau, of the Holstein railway, published his researches on the balancing of locomotives.* He analysed the causes of instability, and recognized the advantage of balancing, by counter weights applied to the wheels, the alternate action of the piston, as well as the centrifugal force of the revolving parts.

In 1849, M. Le Chatelier published his important investigations on the stability of locomotives,† in which he works out the whole theory of the subject, embracing all that had been done by previous engineers, and supplies rules for practice, confirmed by actual experiment. To this work we are indebted for much of what follows, on the balancing of the engine.

Nature of the internal disturbing forces caused by the inertia of the mechanism.—A locomotive in motion may be affected by angular or perpendicular movements horizontally and vertically, and by a longitudinal fore-and-aft movement, coinciding in their oscillations with, and arising from the internal reciprocations of the mechanism. The pendulous movements are of three kinds, and take place round the horizontal and vertical axes of the machine, passing through its center of gravity, or nearly so:—1st, horizontal vibration round the imaginary axis of motion, A B, fig. 1, giving rise to a *sinuous*, or serpentine motion, right and left, which would be visible in plan and end elevation; 2d, vertical vibration on the axis C D, or a *pitching*

or plunging motion, visible in side elevation; 3rd vertical vibration on the axis E F, or a rocking or rolling motion laterally, visible in end elevation;

Fig. 1.



LONG BOILER LOCOMOTIVE.

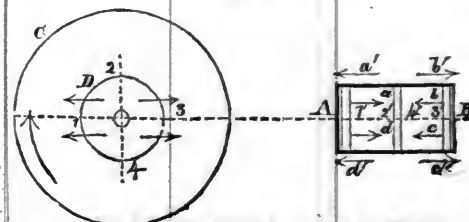
To illustrate the action of internal disturbing forces.

Cylinder, 15 × 22 in. Wheel, $5\frac{1}{2}$ ft.

there is, 4th, a longitudinal reciprocating, or fore-and-aft movement, rectilinear and parallel to the rails, causing a jolting movement, visible in side elevation and plan. These erratic movements, though originating in the mechanism, are materially affected by the general arrangements of the machine, as to disposition of weight, placing of axles, design of springs, and so forth.

The operation of the reciprocating parts of the Mechanism as disturbing causes is readily explained: they are, during each stroke, moved from a state of rest and accelerated in motion throughout the first half of each stroke, and retarded in motion and finally reduced to a state of rest throughout the last half of the stroke. The steam pressure required to move them is exerted also upon the cylinder-end, and, ultimately upon the body of the machine,—the steam operating as a screw jack between the cylinder cover and piston,—and the whole Machine in consequence sways to one side. During the last half stroke, the momentum acquired by the moving parts is delivered to the crank pin and axle, and thence to the engine causing it to swerve to the opposite side. This process is repeated during the return stroke; and thus, during one revolution of the crank, or one double stroke of the piston, four changes of disturbing force are called into action. The operation of these forces may be illustrated by diagram fig. 2: A B. represents the cylinder

Fig. 2.



CYLINDER AND DRIVING WHEEL.

Illustration of internal disturbing forces due to the reciprocating parts.

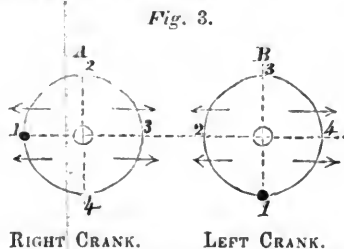
* German Railroad Journal of 1848.

† Studies upon the stability of locomotives in motion. Paris, 1849.

with the piston inside, shown at the two ends and at the middle of the stroke, in the positions 1, 2, 3, 4; C is the driving wheel with the axle, and the circle D the path of the crank-pin, in which the pin is supposed to arrive at the positions 1, 2, 3, 4, simultaneously with the positions 1, 2, 3, 4, of the piston. The piston in moving from 1' to 2' is impelled by the force of the steam in the same direction, as shown by the arrow *a*, to produce which an equal and opposite force is exerted on the end A of the cylinder, shown by the arrow *a'* and transmitted to the whole machine: moving from 2' to 3', the piston is retarded by a force *b* resulting from an equal and opposite strain *b'*, on the machine; from 3' to 4', in the return stroke, the piston is moved by the force *c*, derived from the force *c'* on the cylinder end; and from 4' to 1', it is opposed by the force *d*, due to the force *d'*.

The horizontal forces *a'*, *b'*, *c'*, *d'*, spent upon the machine during each double stroke, act each of them simultaneously at the axle, through the framing and the connections of the piston, as shown by arrows inscribed on each quarter of the circle D, from which it is plain that while the crank passes from the upper to the lower center of its throw, from 2 to 4, the disturbing forces successively act ahead; and from 4 to 2, they act aback. The circumstances under which the accelerated motion of the piston is acquired, are altered when the engine runs without steam. In this case, the labor of directly moving the piston, discharged when the steam is on by the steam itself in the cylinder, necessarily devolves upon the crank on the driving axle; that is, the immediate strain this incurred is transferred from the end of the machine, where the cylinder is placed, to the middle. This circumstance, though it does not affect the longitudinal reciprocating movement, increases the lateral oscillation, because the disturbing force has, in the latter case, a greater control over the mass of the machine. This distinction is verified in practice, for engines are known to run steadier with steam on.

The four disturbing forces described for one cylinder, exist likewise for the other; and for the two cylinders there are eight forces brought into operation during one turn of the wheel, which may be further represented as follows:—Let the circles A, B; Fig. 3, be the paths of the two crank pins of the engine, of which A is that of the leading or right-hand crank.



HORIZONTAL DISTURBING FORCES.

The four quarters of a revolution simultaneously described by them, are figured 1, 2, 3, 4. By arranging them in pairs described consecutively, as in the annexed table, the nature of the disturbance is at once apparent.

In the first and the third quarters, the forces pull together backward and forward alternately, and give rise to the horizontal reciprocating movement; in the second and 4th quarter, they

are opposed, but at different points of the axle, in the center-lines of the cylinders, and pull the machine alternately to the left and the right for one revolution of the driving wheel, giving rise to the sinuous motion on the rails. The centrifugal force of the revolving parts affects the stability of the machine, only as it gives rise to the horizontal disturbances which have just been pointed out. Its vertical action is insignificant in practice considering that it has to contend, upwardly, with the whole weight of the machine, and without any sensible advantage, seeing that the center of gravity is commonly so nearly over the driving axle; and downwardly, it is met and balanced by the rigidity of the rails.

Table showing the horizontal disturbance of a locomotive in motion, due to the inertia of the machinery.

		Direction of the disturbing forces, that of the progressive motion of the engine being R. or Right, during the successive parts of a revolution.			
		1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
Crank A.	Left.	Right.	Right.	Left.	Left.
Crank B.	L.	L.	R.	R.	R.
A. & B.					
Combined.	L. L.	L. R.	R. R.	R. L.	R. L.
		Direct backward impulse of the connecting rod.	Horizontal oscillation of the engine.	Direct forward impulse of the connecting rod.	Horizontal oscillation of the engine.
Nature of the disturbance.		Direct backward impulse of the connecting rod.	Horizontal oscillation of the engine.	Direct forward impulse of the connecting rod.	Horizontal oscillation of the engine.

Disturbances caused by the action of the steam on the pistons.—When the cylinder is horizontal, the steam pressure on either end of the cylinder would be transmitted through the piston to the axle in a direction at right angles to the guides of the axle box, and would be fairly and fully received by these guides, if the connecting rods were so long, as not, at any part of the stroke, to form any sensible angle with the center line of the cylinder. An indefinitely long rod is of course impracticable, and as the pressure of the steam is conveyed through the connecting rod, and may be conceived to act in its center line, the obliquity of the rod, or the angle which it forms with the center-line of the cylinder, everywhere but at the end of the stroke, operates to produce irregularities by the upward strain which it throws upon the cross head, which it is the function of the guide bars to receive as the angularity varies; this irregular pressure varies also, from being nothing at the end of the stroke, to the maximum at half stroke, when the angle of the rod is also greater, and when the pressure is received upon the middle of the guide bar. The tendency of this variable pressure, which is constantly exerted on the upper guide bar, when the engine is going ahead, is to lift the machine off its leading (or truck) springs at half stroke, and to ease it down at the dead points. The alternate heaving and sinking so caused, gives rise to the pitching of the machine; and further, as the variations of upward pressure are not simultaneous for the two cylinders, inasmuch as the half stroke of one cylinder is arrived at simultaneously with the dead point of the other, the heaving of the engine must take place alternately on the two sides, and will cause a rocking or lateral rolling motion on the springs. Pitching and rocking are at least the tendencies of the oblique action of the

connecting rod; and they become more sensible, the shorter the rod and the more susceptible the springs.

If, instead of being horizontal, the cylinders be placed vertically over the driving axle it is clear that the alternate thrust and pull on the axle caused directly by the steam pressure, would give rise to some vertical play on the springs; this would work alternately on the two sides of the machine, and would create the rocking motion in all its simplicity, as has actually been found in practice with the earlier engines with upright cylinders; and, further, if the driving axle be placed either before or behind the centre of gravity of the machine, the vertical action of the strain would superinduce a pitching of the engines which in conjunction with the rocking, produces an *elbowing* or *shouldering* motion.

The compound motion takes place, in a modified degree, in all inclined cylinder locomotives. The incline of the cylinder, in fact, aggravates the irregularities due to the angle of the connecting rod, and becomes more formidable in its effects, not only by increasing the incline, but also by increasing the pressure on the piston with the same angle of cylinder. These disturbances are quite obvious in outside cylinder engines working under full pressure, when the angle of the cylinder amounts to 1 in 10.

There is another source of unsteadiness in the unequal periods of admission which attend the use of certain arrangements of valve-gear, by which a greater quantity of steam is admitted to the cylinder, and a greater mean pressure is reached during the front stroke of the piston than during the back stroke. As the two front strokes for the two cylinders occur consecutively, and in due rotation with the two back strokes, it follows that the machine cannot be uniformly impelled and that while the mean speed must be that due to the average mean pressure on both sides of the piston, the machine will advance and recede during each turn of the driving-wheel, alternately straining and relaxing the connection with the tender; and that, in short, a longitudinal reciprocating movement results, combining with and complicating the movements already described as due to the inertia of the mechanism.

There are, then, three principle internal disturbing causes which affect the stability of the locomotive. 1st, The inertia of the reciprocating masses of machinery which tend to produce a lateral sinuous movement, and a longitudinal reciprocating movement. 2d, The oblique action of the steam through the connecting rod, and in inclined cylinders, which tends to produce vertical pitching and rolling movements. 3d, The unequal propelling action of the steam when unequally admitted to the two ends of the cylinder, inducing a longitudinal reciprocating movement, of the same kind as that caused by the inertia of the mechanism.

The unbalanced inertia of the valve-gear has not required notice as its influence on the stability of the machine is insignificant."

To be continued.

J. W. Brooks Esqr. of Detroit, Supt. of the Michigan Central Railroad, and President of the Military tract railroad has been elected President also of the Burlington and Missouri River Railroad.

[From the Hamilton Spectator.]

Great Western Railway.

HAMILTON, June 13, 1853.

SIR: The unprovoked attack made upon me by some of the directors of the Great Western railroad company, at the late annual meeting of shareholders, and the statements contained in the report of the directors and chief engineer, make it imperative to lay before the public the facts connected with my resignation as chief engineer of that company, in November last, and such other matters bearing upon the same, and the statements made in the report, as will, I trust, not only justify me with my friends, but show the report to be malicious and untrue, and furnish the cause of such an extraordinary proceeding. If in the course of the discussion the private affairs of the company are brought before the public, and men occupying high positions before the community are exposed, I can only say that it was through no seeking of mine own. A "plain unvarnished tale" shall be told, as briefly as the subject will warrant.

As stated in the director's report, Mr. Stuart was the chief engineer of the road until September, 1851, at which time, in consequence of his being required so much in Washington and elsewhere, in the discharge of his official duties, the directors gave me the appointment. Up to that time, the work had been carried on according to his plans with few slight exceptions. Immediately after my appointment such alterations were made in the manner of building the road, and in the mechanical plans as the experience already obtained satisfied me was necessary to make the road first class, and such an one as its friends earnestly desired it to be. The nature of these alterations were stated in my report to the board of May 10th, and Sept. 30th, 1852, and were as follows:

1st.—In substituting arch culverts, laid in cement, for box culverts laid dry under all the heavy embankments.

2nd.—In substituting heavy walls laid in mortar and cement for highway bridges, abutments, and farm passages, instead of light walls laid dry according to the original plan.

3rd.—In substituting stone culverts laid in cement, from Copetown to Woodstock instead of wooden ones.

4th.—In making the bridges on the whole line of a different character from those contemplated by the original plans,—which are now in the office.

5th.—In altering the plans of docking at Hamilton and Windsor, making them as permanent as wooden structures can be, instead of the temporary character of the plans on file.

6th.—In substituting arch culverts and embankments at the Twelve Mile Creek, Dundas Creek, Fairchild's Creek, and Woodhull's Creek, instead of temporary trestle bridges.

My aim and object was to make the road as permanent as possible at the commencement, and in this the directors sustained me, thinking with myself that it was better to make the expenditure required, at once, than to have an unsafe road that would require rebuilding within a few years. This policy had been a matter of frequent conversation between myself and the directors, so much in fact that they directed me to build all of the important structures for a double track, as it was thought it could be done at less expense now, than after the road was completed, and the improvement would therefore be good policy.

In my annual report of June, 1852, these alterations were referred to when speaking of the work and without furnishing any estimate of the amount of the extra cost of these items it was stated that, "After making allowances for the increase of cost in consequence of building bridges and culverts for a double track—by the substitution of culverts and embankments in many cases for temporary trestle work, and stone instead of brick work, etc., the cost of the road will not exceed the original estimate." This last paragraph was written under the following circumstances. The report was originally completed without it, and the manuscript

had been given to Mr. Harris, the president of the road for his perusal, and for him to suggest any alteration that he might think advisable after having done so. On the next day when I met him he observed that the shareholders in England would expect something said about the cost of the work. I remarked to him that the less that was said about that, the better, unless in a general way, and expressed an opinion that it would at that time be better to say nothing about it. He however urged me to say something in relation to it, after which I wrote the last paragraph and carried it to him for examination. He read it, and said it would do very well, and it was accordingly incorporated into the report. I must confess that after this conversation, and what had taken place, it was with much astonishment that I read the report of a speech made by Mr. Harris, in London, some weeks afterwards, at a public meeting of shareholders, where he stated on the strength of my report that the cost of the road *including all the alterations*, would not exceed the original estimate of Mr. Stuart. I do not believe that there was an active member of the board, and by this I mean any director who interested himself in the work, and noticed the plans and manner of constructing the road, that was at all surprised when my report, of the 30th Sept., 1852, appeared, increasing the cost of the work 286,000 pounds currency, although it was seized hold of by the American directors as a pretext to carry on their long cherished and heretofore-defeated object, *i. e.* to have me removed from the road and get a more pliant person in my place. It is not an unusual thing, or one that should create so much surprise, that a railway 240 miles in length, should exceed the preliminary estimate, no matter with how much care they may have been made, but in this instance, and accompanying my report, the cause of the increase was fully stated and shown to be for works not contemplated in the original estimate, and for which the engineer could not properly be held responsible—to wit: making mechanical structures for double track; buildings and machinery for manufacturing cars in Hamilton; increased costs by re-letting section One in the city of Hamilton; slides on mountain near Dundas; increase in cost of grading on Western Division, caused by unusual high water in Lake St. Clair; excavating the hill in rear of workshops in Hamilton, never before contemplated; grading Stuart and Queen streets; making excavation through Hamilton and Burlington Heights for double track; allowance beyond contract price to Farwell and Co., for quick sand and rock; alteration in the character of culverts and bridges; additional embankment on Sec. 11 to fill subterranean lake; pile road for 14 miles west of Chatham, in consequence of continuous high water; protection piling at Copetown, machinery for work shops; alterations in plans of docks at Hamilton and Windsor; substituting culverts and embankments, for trestle bridges at Twelve mile creek, Dundas creek, Fairchild's creek, and Woodhull's creek; substituting stone culverts for wooden ones from Copetown to Woodstock.

Many of these additional items were well known to the President, and by the directors, at the time of the writing of the annual report; and the passage quoted above, was written to let the shareholders know that an additional amount would be required beyond the original estimated cost to meet them. What the object was in torturing this sentence to read entirely different from its intention, and what was *known* to be its meaning, I leave for others to decide—contenting myself with stating the facts, and taking this opportunity of again saying, that in consequence of reductions made in the cost of the line, by alterations on the Central Division, which were enough to counterbalance other items estimated too low, the road could have been built at the original estimates of Mr. Stuart, in the plans and in the manner contemplated by him, after providing for works not originally intended.

As stated before, it is not an unusual thing for railways and public works to exceed their original cost, and there is hardly a person in Canada who

has had occasion to build that has not learned this fact in a greater or less degree, no matter with what pains he made his original estimates. There are contingencies in construction that the most skillful Engineer cannot foresee, but when the works are built for a double track instead of single, and such other important alterations are made as in the case of the Great Western, how idle it is to attempt to cast blame on the Engineer.

There are perhaps no persons in America who know that the cost of all public works exceeds the estimates better than the American Directors.—The Michigan Central, in which road they are all Directors, and among them the Engineer and Superintendent, has cost nearly double the amount first estimated by Mr. Brooks—yet it was never urged upon him as a ground for his dismissal.—The Hudson River railroad has already cost more than double the original estimate, and is yet unfinished. The Directors of that road did not attempt to brand the Engineer for it, to shield themselves, and they now both rank at the head of their profession, and have the confidence of the public in an eminent degree. I refer to Messrs. Young and Jervis. The Mammoth Erie railroad, the largest road at present constructed in America, has cost four times the original estimate. The Northern (Ogdensburg) road has cost double the original estimate, and the same Engineer remains upon it. It would be an easy task to fill pages with similar cases, but the thing is too well known to require comment.

The report goes on to say: "This state of matters necessarily led the Directors to make the most careful investigations into the Engineering department, which resulted in the resignation of Mr. Benedict," &c. This sentence is intended to convey the impression that some *discovery* was made during a careful investigation, which forced me to resign—than which nothing can be more untrue. I challenge and court investigation, and have always done so; and it is only at the request of the Directors themselves that this communication has been kept to this time, to my injury. If the most minute and searching enquiry can discover aught against my character, either professionally or otherwise, I will never attempt to defend myself again, and the Directors of the Great Western railway may freely make me shoulder their acts of omission and commission as well as misrepresentation. It is well known to every person connected with the Great Western railway that, from the earliest commencement of the work, and throughout the whole progress of the negotiation with the Americans in relation to stock, up to the final consummation of the subscription at Albany in 1852, there has been a feeling of bitterness and hostility towards myself on their part, that has shown itself on every occasion, and which is perfectly unaccountable. Attacks have been made upon me in meetings held in the United States, and to such an extent that I declined to remain any longer upon the road, unless with the assured support of the Canadian Directors, knowing full well that no efforts would be spared, no means left untried to effect my removal. This support was promised by the President of the road, if I would consent to remain; and he assured me that the Board had the most entire confidence in my integrity, skill and ability. In fact, this sentiment was endorsed in their annual report of 1852, by the whole of the Directors. Shortly after the appearance of my report and detailed estimates, in September last, the agents of the Company were engaged in negotiating a large amount of stock and bonds in London, which fact was well known to the American Directors, and was made the lever for removing me from the road. On the 3rd of November, (Wednesday) a delegation of seven of these high-minded gentlemen made their appearance in Hamilton, and worked until Saturday to accomplish my dismissal, on the grounds of the largely increased estimates, want of confidence, and a series of charges that I was not permitted to see or answer. On Saturday afternoon a resolution for my dismissal was offered by one of them,

accompanied by a threat that unless it carried they would send an agent to England to make such representations to the Bond and Shareholders, that *true or false* would effectually put a stop to raising any more funds in that quarter. This resolution was lost, notwithstanding the threat, only one of the Canadian Directors voting for it, which does not look very much as if the "careful investigation into the Engineering department led to my resignation." On the following Monday, Mr. Buchanan called upon me and stated the difficult position the Directors were in; and added that if the Americans carried out their threat, it would inevitably retard the progress of the road a year or more, and cause great losses to its friends who had embarked largely on the strength of the Americans having taken an interest in it; and that notwithstanding the resolution had been voted down on Saturday, my friends in the Board thought it best, under the circumstances, that I should tender my resignation. After a conversation with Messrs. Juson and McLaren, who repeated and corroborated the statement of Mr. Buchanan, and upon consultation with some friends, my resignation was tendered, with the avowed understanding that it was done to relieve the Canadian Directors of the responsibility that was sought to be put upon them by the American Delegates.—So far as relates to any charges made against me by the Americans, I have only to say that I tried faithfully to get them to make them specific, and give me an opportunity of answering, which was, and ever has been, denied me, the Americans being satisfied of success as soon as they found the fears of the Board were aroused in relation to their stock and bonds; and I do not hesitate to say, without fear of contradiction, that if the negotiation then in progress in London had been effected, the Americans never could have succeeded in their object. In order to show conclusively that the feeling of the Board was with me, it is only necessary to state that at the first meeting of the Board afterward, they appointed me to take charge of the Sarina and the Hamilton and Toronto lines, on the former of which I have been drawing a salary as Chief Engineer from the Western Company until the first day of June, or within a few days of the Directors' report; and in the latter I was *unanimously* appointed Chief Engineer, on its organization, by almost the same Board of Directors. It was a most singular way of *expressing dissatisfaction*, if any existed. But every circumstance goes to show that such was not the case, and that the Directors feared to take a bold stand in my favor, preferring the easier mode of prevailing upon me to resign, by representing the vast injury the Americans could do the road in England. My mistake was in not allowing myself to be dismissed, instead of sealing my lips by a resignation. In the former case I could at least have had the satisfaction of exposing the transactions that have taken place, and that are daily taking place on the Great Western railroad, whereby the cost has been rolled up, according to the estimates of the Chief Engineer, some £236,000 above my liberal and careful estimates of September, which was so much complained of in the Directors' report, and which large and increased expenditure would, in the language of report, "sound startling to those acquainted with European railways," on account of its being *so much less* than they are accustomed to pay. This increase is no doubt, a large portion of it, caused by the very "amicable arrangements" made with the contractors to avoid vexatious litigation, as mentioned in the report of the Engineer, whereby eight dollars per yard is paid for all classes of masonry, instead of three and six dollars, and whereby a very largely increased price is paid for grading on almost every section where a contractor has expressed any dissatisfaction. Such a result is not singular when an engineer has nothing to govern or check him in his expenditures.

If the Chief Engineer had occupied less of his reports with strictures upon his predecessor, and given a little more information to the Stockholders, they would then have been able to judge how much truth there is in that portion which states

"that up to the close of the year 1853, but *very small and detached portions* of the grading in any part of the line had been completed." This information will be news for many of them, and accordingly the work at the present time can hardly have been commenced, as in another part of the report he says "that the late period in 1852 in which I assumed the duties of Chief Engineer, left but little time hitherto, except during those seasons of the year unfavorable to press forward the work, &c." According to the statement of the Accountant, up to the present time, there has been expended for grading, masonry, and bridging and superstructure £1,002,270, on these "very small and detached portions of the work." The whole estimated cost of these items, according to Mr. Clark's report, is £1,606,481, leaving a balance to be expended of £604,211, to complete this wonderful balance of work, that he would carry the idea is yet to be done. The "glowing anticipations of the late Chief Engineer have not been realized," it is true, in the completion of the work at the promised time, for the reason that he encountered the same "difficult obstacles, inveterate and extended in their character," that the present Chief Engineer has to deal with.—There is not a doubt, however, that an examination of the estimate books would show a wonderful falling off in the amount of work done per month since the resignation of the late Chief Engineer—a fact that it would have been as well to have mentioned. The light grading on the Eastern Division, that was to have been done by the 1st October, according to the last annual report of the late Chief Engineer, and which is a matter of so much regret to Mr. Clark, *would have been done in time, had it been authorized by the Directors*, as likewise the 100 miles on the Western Division. It would have been well, perhaps, for the Chief Engineer to have informed the Stockholders, that although he objected, while Commissioner, to the classification and masonry prices paid by Mr. Benedict, one of his first acts, after his appointment as Chief Engineer, was to increase largely the prices of both; so much so that on one contract it left £19,900 due to the contractor on account of advanced prices, plainly showing that he made use of his office to harass and impede the works, or was in conclusion in some way with the contractors. It might have been well, likewise, to have informed the Stockholders how much it cost the company to get rid of the classification clause, instead of occupying space in the report, by reflecting upon the mismanagement of the New York and Erie Railroad company. Perhaps, likewise, the Stockholders would have preferred to have been told the reasons for changing the stone cattle guards on the Eastern Division (where stone is in abundance) to wooden ones that will decay in a few years. This piece of information would be particularly acceptable in England. Perhaps it would have been of more interest to the Stockholders than the half column, more or less, devoted to annihilating the late Chief Engineer, to have given some information as to the change of the line at Windsor against the decided report of the Government Engineer, and the cost of the same; to have given some detail of the amount of yards moved and to be moved on the road; to have given some reason for changing the grade at Cope-town to 56 feet per mile without the consent of government; to have given some reason for changing the grade through the city of Hamilton; to have given some reason for trailing down the abutment at the Desjardines Canal, and sundry other matters that are of particular interest to them; but probably these matters are reserved for the next annual report.

In the very full account of the proceedings published in the *Canadian* of the 11th inst., in reply to a question of Dr. Hamilton, Mr. Forbes is made to say, that they (the American Directors) had never sanctioned anything with regard to Mr. Benedict except his resignation. and that he thought the Board dealt very leniently with him, that there were other things of greater importance than the charge of exceeding his estimates.

He (Mr. B.) states in that report that one hundred miles to the west were in such a state of forwardness that they would be ready to open that length of road by the 8th November, &c.—I have carefully read over the report, and do not find such a promise; but on the contrary it says, "The extreme and long continued high water in Lake St. Clair and its tributaries, during the present season, has retarded our operations on the Western Division materially; but I hope to be able to complete one hundred miles of the road from Detroit River east by the 1st day of January, 1853." I did hope to do so, and it rested with the Directors entirely whether it should be done, as likewise the grading from Hamilton to the Twenty Mile Creek. In a report made to them 17th May, 1852, I called their attention to it in this way: "As it is apparently the intention to complete and operate that portion of the Railroad from Detroit River east one hundred miles, and from Hamilton to the Twenty Mile Creek the ensuing winter, I would request the Board to pass a resolution authorising me to notify the Contractors to that effect, as, by their contracts, they have from fifteen to twenty-four months from the commencement of the work to complete the same, which, if taken advantage of, will retard the opening of the line until the spring of 1854. The new contracts that have been made on the Western Division specify that the Grading shall be completed by the 1st day of November, 1852; but as they comprise only a small portion of the line, the benefit to be derived would be inconsiderable." This reports was not acted upon, and the resolution was delayed from day to day until it was too late by any effort to complete the work. Mr. Forbes and Mr. Clarke, who put so much stress upon these points, would have done well had they made some enquiry, before making quite so large a mountain of them. The Directors did not choose to take the responsibility of the increased cost to finish the work within a shorter time than that specified in the contracts; under the circumstances, therefore, having brought it to their notice, and urged the necessity of it upon them, it was not my province to proceed with the work in any other manner than that specified in the contract.

Mr. Forbes also stated, that according to the rate of progress the work could not be completed in three years. Sickness, scarcity of men, and the high water of the Lake, retarded our operations very much, but successful efforts were making to increase the force, and it would be just as competent to say that because a section had not been commenced it never could be completed, as to say that because the sickness, &c., had thinned the force it could not be increased sufficient to do the work in time. Mr. Forbes said that they (the American Directors) never sanctioned anything done by me. I know their bitter hostility too well to expect them to do such a thing; but unfortunately for Mr. Forbes, Mr. Corning, and I think Mr. Brooks, have done me the justice to say that the Great Western would be one of the best built and most substantial roads in America, which I think is endorsement enough. But even had they not, I have it from the Chief Engineer who is so highly eulogised by them.

Had I fallen into their views, and allowed the Great Western Co. to be chiselled out of 30, or 40,000 pounds at Detroit without raising my voice against it, to accommodate the Michigan Central Road—in which they are all Directors—there would have been no hue or cry about increased estimates, and they would as cheerfully join in a report in my favor now as in 1852.

I find that the subject will carry me too far if an attempt is made to do one-half of it justice; but I trust enough has been said to give the public a little insight into the way things are managed. Professional engagements will not allow me time, in this communication, to say more; but on my return, the Great Western Railway, as connected with its management both in Canada and England, may possibly receive attention. Another communication of the length of this would open the

eyes of the Shareholders, who meet yearly to hear the annual reports, and vote the thanks of the meeting to the President and Directors for the manner in which they have conducted the operations of the company. I have the facts, and surely the people who have taken advantage of my forbearance, cannot expect me always to suffer for their benefit. Apologising for occupying so much of your valuable space.

I remain, dear Sir,
Yours truly,

R. G. BENEDICT.

Delivery of Locomotives in the Western Market.

The eastern builders of locomotives have always from position and reputation, commanded the market for locomotives in the western states. The east being the source of capital for the new works in construction at the west, secures the contracts also for equipment of those works, and as it possesses the elements of industrial skill, and a cheap supply of labor, it is enabled to complete such contracts with profit and reputation. It is the higher price of labor in the west and the influence of a greater consequent attention to agriculture and trade, and more than this, the habit of relying upon other sources for supply, that has retarded the organization of establishments there, devoted to the manufacture of locomotives.

As to materials, the eastern builders have no advantages either in their cheapness or abundance, except that being in or near at hand to the importing towns, they can cheapen their manufactures by yielding to the temptation offered in the use of the cheaper kinds of imported iron. English boiler iron at $3\frac{1}{2}$ cents, and bar iron at $2\frac{3}{8}$ cents, (which were the prices paid by some parties during the last season) cannot be expected to afford the same permanence and durability as the iron worked from Juniatta or Missouri blooms. The better kinds of English iron, as the Lowmoor, Bowling or Kirkstall marks, are not generally employed in the construction of locomotives in this country. Imported stock is preferred for its cheapness rather than for its excellence. The cost of inland carriage aided by the abundance of materials in the iron regions of the west, removes this temptation there. During a visit, last fall, at Pittsburg we passed through the works of Everson, Preston and Co., of the Pennsylvania forge, at that place. We found that all parts of the forged work of a locomotive could be as cheaply supplied there as in Boston. Best double cranks forged from Juniatta blooms could be made for 15 cents per pound. Straight axles at five cents, hammered frames at $5\frac{1}{2}$ cents, and rolled do at $4\frac{1}{2}$ cents. These, of course, are far below present prices, but were as low as could then be offered in Boston. Castings, composition, copper, lumber and all of the other important materials of engines were to be had at proportionally favorable prices. Coal, of course, was much less, being then about \$1.12 per 2,000 lbs. Labor was then much the same as in Boston, at which place, labor is generally higher than in Paterson, Philadelphia and Baltimore. The expenses of living, for mechanics and others, was in the main, much lower than at the east, except in the single item of rent, which was quite as high.

We have made the above remarks to show in part, the relative advantages of the east and west as locations for engine factories. To show another fact of great importance, and greatly in favor of the western establishment, is the expense of the

delivery of engines upon the western roads. As many of the western roads are of a different gauge from the lines which run from the east, the shipment of locomotives is often attended with much expense. Again, most of the locomotives forwarded have to be shipped on Lake Erie, and as the majority of engines are generally contracted for in the fall, to be delivered at the earliest opening of lake navigation in the spring, they are necessarily shipped under the heaviest charges of freights and insurance. Lake captains intend to charge a round sum for risking their necks in April, which with October is a dangerous month for their navigation. Insurance upon locomotives in Buffalo is usually had in April for two per cent, in May at $1\frac{1}{2}$ per cent, and in June at 1 per cent. Freights are graduated something in the same ratio. To show what the expense of delivery may amount to in this case, we will give the expense of delivering two locomotives, from Boston, at Cleveland, during April 1852. The engines were for the Ohio and Pennsylvania road which is of a gauge of 4 feet ten inches. The engines were placed upon trucks for transport over the Boston and Buffalo line, while the tenders, driving wheels, truck frames, smoke pipes, etc., were loaded onto three eight wheel cars. The load transported on the three cars amounted to about 30 tons.

Railroad charges from Boston to Buffalo.....	\$651 21
Railroad Dockage at Buffalo, \$10 each.....	20 00
Paid for changing driving wheels \$5 50 each.....	11 00
Putting engines and tenders on ship.....	34 00
Forwarder's commission.....	50 00
Insurance—\$1,5400 at 2 per cent.....	308 00
Lake freight to Cleveland.....	225 00

Total for the two engines.....\$1299 21

The railroad charges were much beyond the usual sum of 20 cents per engine per mile, which is the price charged for transportation on most roads. Of the whole sum, however, \$48 were paid for moving the engines through the city of Troy, and \$30 were demanded by the Boston and Western road for allowing their cars to run through.

Now, as we have reason to believe that materials are not higher in the west than at the east, and as the labor upon engines is usually not far from \$2,000 each, the expense of transportation from Boston to Cleveland, is equal to an advance of 32½ per cent, on the price of the labor necessary to construct the engine. That is, the Ohio and Pennsylvania road could have as well afforded to give out a contract for their engines in Pittsburg at \$8350 each, as in Boston at \$7700, and who does not believe that with such encouragement, a western shop could compete with eastern establishments on work for western roads.

Since that time, efforts have been made to establish a locomotive manufactory at Pittsburg, but we believe that no steps have yet been taken towards erecting the establishment. However, there must be felt a necessity, sooner or later, for a manufactory at that point. The capital can be readily procured there and at many other of the important cities in the west. The skill can be carried there, and with both capital and skill there should be no obstacle to success. The present establishments at the east will sustain themselves under the present demand for engines, but the new shops should be located in the west. When powerful concerns are once started there, which

can supply a first-class, acceptable style of work, they can make easier terms with roads in their own vicinity, than could be afforded at the east. The convenience to the roads in that section would be great in the priority which they could obtain for their orders over what would attend their reception here; they would enjoy the advantage of the opportunity for making alterations when necessary, and of obtaining duplicate parts of engines for repairs and renewals. But greater than all else, an engine could be completed and delivered at any time in six weeks from the reception of the order, and with a saving of from \$400 to \$600 in the expense of its delivery, as compared with a machine ordered at the east.

A shop of sufficient capacity to build 50 locomotives per annum would require an outlay of from \$10,000 to \$12,000 for land and buildings; \$35,000 to \$40,000 for tools, and \$100,000 of working capital. Under proper management \$150,000 would organize and start such a concern in Pittsburgh, Cincinnati or St. Louis.

To show the market which such an establishment would create for the metal producers in its vicinity, we will give the following estimate of what stock it would work up in one year, at the above mentioned rate of production (50 engines per year.)

600 tons of Castings at \$60.....	\$36,000
20 " Composition do., at \$600.....	12,000
325 " Bar Iron and Forged Shapes.....	48,750
25 " Steel Springs.....	5,625
75 " Copper Tubes, Sheets, &c.....	45,000
140 " Boiler Iron.....	16,500
62 " Tank Iron.....	5,000
	\$168,875
Add miscellaneous charges for stock.....	15,000
Expenses of carrying on establishment.....	15,000
" of delivering engines.....	5,000
Labor, \$8,500 per month.....	102,000

Expense of building 50 locomotives.....\$305,875
Receipts from 50 locomotives at \$8,000... 400,000

Leaving an annual profit of.....\$94,125

Marietta and Cincinnati Railroad.

ALL UNDER CONTRACT.

The Directors of the Marietta and Cincinnati Railroad Company, at their meeting last Saturday placed under contract the three Divisions of the road for which proposals were received up to the 15th inst. at the Engineer's office at Wheeling, Marietta and Cincinnati. These lettings together with those heretofore made, place the whole line of the road from Wheeling to Millford (near Cincinnati) in the hands of Contractors, and its completion is confidently looked for in about one year from this time.

We learn that there was a very spirited competition for the contracts, and that the bidding was very close. As an example, we understand that there was not a difference of fifty dollars between three of the bids on one Division of nineteen miles. On the seventh Division there were six bids, which did not vary five per cent. in the aggregate. The work was all let at prices below the estimate of the Chief Engineer. The successful bidders were Messrs. DeGraff, Brantnall & Co., for the West division of nineteen sections between Millford and Blanchester. The work is to be completed in one year. To Messrs. Bradley, Whitmore & Co., of Vermont, was awarded the eighth Division of thirty-two sections, being the work nearest the

city of Wheeling. This Division to be completed the first of September, 1854. The seventh Division of forty sections, being the residue of the road between Wheeling and Marietta, was awarded to Messrs. DeGraff, Brintnall & Co., to be completed the 1st of Sept. next.

American Railroad Journal.

Saturday, July 30, 1853.

Hon. H. C. Seymour.

We grieve to announce the death of this gentleman, which took place at his late residence at Piermont, in this state, on the 23rd inst.

Few men of his age were better or more favorably known to the public. He was a man of much more than ordinary ability, and uniting to this an ardent temperament and untiring industry, was always constantly occupied and uniformly successful. He was early and for many years employed as an Engineer on the Erie railroad, and it was mainly owing to his efforts that the present gauge of that road (6 feet) was adopted. He perhaps, as Superintendent of the road, was more instrumental in saving it from being utterly abandoned, than any other man, and in this manner probably contributed more than any other person toward the final accomplishment of that great work. Upon leaving this road he was chosen Chief Engineer of the State of New York. At the expiration of his duties in this office, he embarked largely in the construction of railroads, and had on his hands, in connection with other parties, at the time of his decease, contracts to the amount of over \$20,000,000. It was the immense labor that these contracts imposed upon a person naturally solicitous to do all that he could himself, and to do everything well, that brought him prematurely to his grave.

In all the relations of life he was without blemish. His intellectual qualities, which were of a high order, his genial nature and generous disposition, at once secured for him the respect and affection of all. His death is a public loss. To the immediate circle of his friends, it is one that can never be supplied.

Erie Railroad.

Mr. Nelson Robinson has been chosen Treasurer of this Company in place of Mr. Townsend resigned. Mr. Robinson is regarded as the leading "operator" in the stock of the Company, of which he has the reputation of holding a very large amount. He would seem to have every motive in having the affairs of the company judiciously managed. He is of course a *Bull* in the stock, and his election will undoubtedly be a signal for a fresh attack upon it by the *Bears*. Mr. Robinson is looked upon as one of the shrewdest men in Wall street, but we cannot help thinking it would have been a wiser move to have filled his place with a person, all of whose interests and responsibilities would have been summed up in the word, *Treasurer*. We know that the company have suffered from having parties in its management whose interests have been adverse to those of the stockholders. Mr. Robinson's interests and those of the company are identical, but he may be in a position where he may think it for his interest to pursue a course really adverse to that of the company. On the other hand it may turn out that he is just the man to cleanse the Augean stable. The result must show.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net Earnings in 1852.	Dividend, 1852.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	95
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	30
Kennebec and Portland..... "	72	876,141	800,000	2,180,000	133,338	.....	none	40
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland..... "	20	227,981	291,200	In progres	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	41½
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	108½
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	.....
Northern	82	3,016,634	.....	.....	328,782	163,075	5	58
Manchester and Lawrence....	24	717,543	.....	.....	.....	.....	6½	96½
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord....	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,500	.....	.....	none	9
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	44
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	32½
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	none	17½
Vermont and Canada	47	1,500,000	.....	1,500,000	.....	.....	Leased to the Vt. C.	ent. 102
Western Vermont	51	392,000	700,000	.....	.....	.....	Recently opened.	none
Vermont Valley	24	.....	.....	.....	.....	.....	.....	none
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	99
Boston and Maine	83	4,076,974	150,000	4,092,927	659,001	338,215	7	106½
Boston and Providence	53	3,160,390	390,000	3,546,214	469,656	227,434	6	87½
Boston and Worcester.....	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101½
Cape Cod branch	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River	52	1,501,100	193,500	1,801,946	229,004	72,028	5	57
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	93
Fall River	42	1,050,000	none.	1,050,000	229,445	99,589	8	104½
Fitchburg	66	3,540,000	112,305	3,623,073	574,574	232,787	6	99
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County	26	547,015	819,743	1,245,927	67,251	23,415	none	63
Old Colony	45	1,964,070	282,300	2,293,534	322,213	101,510	none	94
Taunton Branch	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	18
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99
Stonington	40	.....	.....	.....	.....	.....	.....	58½
Providence and Worcester.. R. I.	50	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... Conn.	62	3,000,000	472,000	.....	600,408	332,223	none	126
Housatonic	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	105
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	.....	.....	opened.	none 45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	54½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	.....	.....	Recently opened.	none 85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	.....	none 65
Buffalo and State Line	69	879,636	872,000	1,921,270	.....	.....	Recently opened.	..... 130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	76½
Hudson River	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	72½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	61½
Long Island	95	1,875,148	516,246	2,446,391	205,068	44,070	none	35½
New York Central	504	22,858,600	2,111,824	.....	.....	.....	.....	119½
Ogdensburgh (Northern).... "	118	1,578,311	2,780,760	4,933,029	480,137	196,847	none	41
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal	23	174,042	131,000	349,775	.....	.....	Recently opened.	none
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	.....	.....	Recently opened.	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland	32	237,690	100,000	329,577	.....	.....	Recently opened.	..... 33
Troy and Boston	39	430,936	700,000	1,043,357	.....	.....	Recently opened.	none
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	150
Morris and Essex	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	.....	.....	Recently opened.	..... 125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	.....
Philad., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	.....

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings in 1852.	Net earnings in 1852.	Dividend, 1852.	Price of shares.
Pennsylvania Central.....	Penn. 250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	...	99 1/2
Philadelphia and Trenton.....	" 30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	" 47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio.....	Md. 381	9,188,800	9,827,123	19,542,307	1,325,563	615,384	7	71 1/2
Washington branch.....	" 38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.....	" 57	.....	.....	.....	413,673	152,536	.....	42
Alexandria and Orange.....	Va. 65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	" 27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	" 64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville.....	" 73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg.....	" 22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac.....	" 76	1,000,000	503,006	1,513,238	254,376	113,256	7	105
South Side.....	" 62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central.....	" 107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee.....	" 60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac.....	" 32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N.C. 161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina.....	S.C. 110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.....	" 140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina.....	" 242	3,858,840	3,000,000	7,002,336	1,000,717	609,711	7	125
Wilmington and Manchester.....	" 100	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga. 191	3,100,000	306,187	3,378,132	945,508	508,625	8	117
Georgia.....	" 211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western.....	" 101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee.....	" 71	.....	.....	In prog.	.....	.....	.....	.....
South Western.....	" 60	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River.....	Ala. 55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	" 93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	" 33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point.....	" 88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern.....	Miss. 60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia.....	Tenn. 80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.....	" 125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky.	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.....	" 29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	" 65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	" 100	1,233,450	1,371,000	2,963,756	194,429	123,306	6	96
Cleveland and Pittsburgh.....	Ohio. 71	.....	.....	.....	.....	.....	.....	.....
Cleveland, Painesv. and Ash.....	" 135	3,027,000	408,200	3,655,000	777,793	483,454	12	132
Cleveland and Columbus.....	" 61	.....	.....	In prog.	.....	.....	.....	.....
Columbus, Piqua and Indiana.....	" 60	1,694,000	906,000	2,600,000	321,793	200,967	.....	115
Cincinnati, Ham. and Dayton.....	" 40	310,000	550,000	925,000	.....	.....	.....	72 1/2
Cincinnati and Marietta.....	" 20	.....	.....	In prog.	.....	.....	.....	80
Dayton and Western.....	" 36	.....	.....	.....	.....	.....	.....	70
Dayton and Michigan.....	" 31	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton.....	" 37	.....	.....	.....	.....	.....	.....	.....
Greenville and Miami.....	" 84	2,370,784	.....	2,634,157	526,746	314,670	10	119 1/2
Hillsboro.....	" 167	900,000	1,000,000	1,855,000	565,751	.....	.....	95
Little Miami.....	" 57	1,860,500	.....	In prog.	.....	.....	.....	.....
Mansfield and Sandusky.....	" 187	.....	2,450,000	.....	.....	.....	.....	.....
Mad River.....	" 87	552,000	800,000	1,317,140	.....	.....	.....	.....
Ohio Central.....	" 54	1,092,137	119,500	1,257,714	237,506	135,363	15	150
Ohio and Mississippi.....	" 31	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Pennsylvania.....	" 181	.....	.....	.....	.....	.....	.....	.....
Ohio and Indiana.....	" 83	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley.....	" 62	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd.....	" 88	1,650,000	750,000	2,400,000	516,414	268,075	10	97
Xenia and Columbus.....	" 40	.....	.....	In prog.	.....	.....	.....	.....
Evansville and Illinois.....	" 72	632,387	663,100	1,355,019	105,944	71,446	4	108
Indiana Central.....	" 136	.....	.....	.....	.....	.....	.....	.....
Indiana Northern.....	" 125	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine.....	" 128	.....	.....	.....	.....	.....	.....	.....
Lawrenceburg and Ind.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....
Lafayette and Indianapolis.....	" 92	1,932,361	500,000	In prog.	473,548	286,152	.....	.....
Madison and Indianapolis.....	" 315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	.....
Peru and Indianapolis.....	" 282	4,000,000	4,067,396	8,614,193	.....	.....	.....	.....
Terre Haute and Indianapolis.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....
Rock Island and Chicago.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....
Illinois Central.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....
Galena and Chicago.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....
Michigan Southern.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....
Michigan Central.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....
Pacific.....	" 115 1/2	.....	.....	.....	.....	.....	.....	.....

Stock and Money Market.

The stock market has been inanimate for the week, with declining prices for fancies. On Wednesday there was a decided fall in a large number of them, owing partly to the fact, that the law requiring Banks to make weekly statements of their affairs is about to go into operation. They are, in consequence, drawing in their loans, and calling upon each other to make good their balances. Weak holders, therefore, are obliged to let the stock go. Very large sales were made of Erie, Hudson River, Nicaragua, and the Coal stocks. Erie touched the lowest point of its depression since the non-payment of the dividend. The fancy market looks decidedly blue. The prices for sound securities are well maintained, and there is by no means an over supply of such. Money is abundant, and private bankers readily supply all the calls at fair rates. The present inactivity is a good indication for the future. An unusually large business in the fall is anticipated. All parties seem disposed to await till affairs in Europe assume a more definite complexion. Whatever course events may take there, would break the monotony here. The ordinary course of business cannot now be disturbed in any part of the world without influencing every other.

While little is doing in negotiations for new works, our roads in operation are having a season of remarkable prosperity. In nearly every instance their earnings show a large gain over last year. This is the case with old roads as well as with new. Below we give the returns for June for several roads, comparing their receipts with those for June 1852:

	1852.	1853.	Increase.
Mich. Cent.	99,236 40	119,433 44	20,197 06
Mich. South.	76,794 34	148,668 42	71,874 00
Ogdensburg.....	48,167 94	51,039 36	2,871 42
Ohio & Pennsylv.	21,176 04	55,214 04	33,528 00
Penn. R. R.	122,152 33	156,978 59	34,824 76
Baltimore and Ohio.....	170,545 00	220,606 00	50,055 00
Macon and Western.....	16,469 58	16,592 01	.....
Cin. Ham. and Dayton.....	25,096 15	33,302 93	8,006 78
Erie railroad.....	312,367 90	362,748 90	50,381 82
New Haven Railroad ..	55,546 13	59,738 80	4,188 67
Hudson River.....	64,827 73	94,928 79	30,151 06
Norwich and Worcester..	21,919 53	26,411 25	4,491 20
Milwaukee & Mississippi	5,163 34	18,362 18	13,399 35
Hartford, Providence and Fishkill ..	30,118 04	59,629 52	9,510 48
Harlem.....	55,699 04	80,591 00	14,252 00
Petersb'g, Va. (6 months) ..	102,505 03	117,262 91	14,668 88
Cleveland and Columbus..	73,593 00	91,366 00	17,773 00

Great Western Railroad of Canada.

We give in another column the letter of R. G. Benedict, Esq., late Engineer of this company, vindicating himself from the reflections cast upon him in their recent annual report. As we gave the substance of the report, justice requires to publish Mr. Benedict's reply.

Kentucky.

The Maysville and Lexington road is progressing steadily to completion. The line to Paris will be opened early in the fall.

Lake Erie and Mad River Railroad.

The recent annual report of this company, dated May 31, 1853, presents the following statement of its affairs:

	1852.	1853.
Earnings.....	\$332,872 98	\$540,518 14
Expenses.....	195,972 59	274,888 44
	236,900 39	265,729 70
Interest and taxes.....		155,288 53
Net earnings.....		110,441 17
Property account.....		2,960 00
Net income.....		113,401 17
Balance May 31, 1852.....		72,870 93
		186,272 10
Dividend August 1852.....		110,877 00
Balance May 31, 1853.....		75,395 10
The capital of the company is.....	\$2,387,200 00	
Bonds.....	1,767,000 00	
Other indebtedness.....	667,354 68	
Total.....	\$4,821,554 68	
Cost of roads and furniture.....	4,110,148 51	
Other property.....	711,406 17	

Crystal Palace.

We find some of our cotemporaries asking why no locomotives and other steam engines are exhibited at the Crystal Palace: why it is that in a country especially noted for the extent and importance of its railroads and the perfection of its railway machinery, no exhibition worthy of that interest is to be made. The *Scientific American* thinks our people could make a show of such machinery that would not suffer in comparison with that of any other country in the world. We do not think that any one, however, can be so innocent as to suppose that our locomotive builders feel any interest in the exhibition, or that they will employ it for the display of their machinery. Among the builders of our acquaintance, scarcely any regard is shown to the progress of the fair; there is a feeling that they have not been asked, and they therefore remain outside, contenting themselves with the assurance that display is not necessary to the success of their business. The management of the exhibition has made itself a stranger to a large and important interest, to one without which the exhibition would have been impossible. Men have caught the feeling that the sense of the exhibition is a speculation, a means for Advertising, and those who from the real value of their productions, and from their own reputation, are placed beyond the want of such aid will not voluntarily assist in the extension of such an influence.

The officers of some of the largest locomotive establishments in New England have already gravely inquired of us if it was expected that any machinery would be exhibited;—as they had not learned that any contributions would be made from their quarter. Philadelphians exhibit the same indifference, while at Paterson, the headquarters of the locomotive business, nothing has been done.

The board of commissioners of the Metropolitan railroad company, held a meeting on the 5th inst., in Georgetown. Ten thousand and nine shares have been subscribed, making a sum of \$500,450. The subscribers are to meet on the 28th of July to elect twelve directors for the ensuing year. It is to be hoped that their charter will be perfected during the coming winter.

Modern Improvements of the Locomotive.

There have been two general classes of alterations, wrought out at different times and under different circumstances, which have established the distinctive features of English and American locomotives. The alterations of the original machine tested in 1830 at Rainhill, on the Liverpool and Manchester railway, were made, first, by placing the cylinders inside of the smoke box, which though perhaps hardly an improvement, received considerable importance and was regarded as a leading feature of the new locomotive, from the essential value of other changes made at the same time. The insertion of the furnace within the boiler and the system of valve motion by four fixed eccentrics were very important improvements, and were adopted in the early English engines. From their adoption there were no striking, but many slight and useful improvements, until the perfection of the manufacture of engines had reached a stage which suggested the employment of expansive steam. Improvements then commenced in the proportions of the valves and communicating passages, in the introduction of the "early exhaust" and the necessary means for obtaining it—the "lap valve." The framing was soon after modified to use the present universal "inside bearing," by which much weight was saved and the parts of engine were rendered more accessible. From thence the first important improvements were the arrangement of the variable expansive gear by means of the curved link, and the system of counter balancing the momentum of the reciprocating parts of the engine. During all of this time improvements were continually making in the proportions of the different parts and in their combination, by which increased efficiency, accuracy and durability were obtained. The result of all these alterations has been the English locomotive, the standard of perfection for the nature of service it is called upon to perform.

The second series of alterations originated in America.—Here we could avail ourselves of all that had been done in England, and having done so there was little else remaining but to adapt our engines to a cheaper and more severe character of road. Upon the level and straight roads laid out in New England the English style of engines, as manufactured at Lowell, were considered as quite complete and efficient. But the severe character of the curves and gradients of the southern roads turned the attention of the Philadelphia builders to the importance of coupling one or more additional pairs of drivers to the pistons, and to make the engine as flexible as possible on the curves by the adoption of the truck frame. The "outside connection" was restored to such a general extent as to entitle our builders to some credit for its application; the chilled wheel was applied for the trucks and eventually with great success for the drivers; the "sparker" was introduced both for comfort and safety, and the locomotive was successfully adapted also for burning coal. During all of this time too, our builders were active in appropriating all the valuable experience of the English roads, so that the introduction of expansive working, both by separate valve and by the link, the inside frame, the counter-balanced drivers, etc., were made in this country at an early period after their first adoption.

The development of perfection in the locomotive

has been as gradual as is that of the oak, or of the human being. It has been attained by changes almost insensible,—by altering some part until its identity was lost and then by a substitution of a new member of improved construction and proportion. We can only realize their extent by regarding them in their combination, and by referring them to general epochs at the end of the series of years during which they have been made. To show what has been the improvements of the last five years (and this appears but a short time in the activity which has characterized them) we will state the difference between a first class engine of the present day, and one of 1848.

The allowance of heating surface and steam room for a given capacity of cylinder has been increased generally 25 per cent.

The action of the valve motion has been perfected in increased throw of valve and increased capacity of steam passages, and the consequent greater efficiency of steam admission: in an abandonment of "drop hooks" and the adoption of "vee hooks," or the link motion, and in the accessibility to the valve by the projecting steam chest, or the side cover of steam chest.

The attachment of the cylinder has been strengthened in many varieties of engines; the boiler braces have been arranged to admit of the expansion of the boiler without straining upon the frame.

The truck frames have been made more elastic, and have been adapted to take their load, many of them, upon their centers.

The dome boiler has gone out of use.

The pumps have been made more generally of brass, and are less subject to corrosion about their joints. They have been generally provided with air vessels on both their suction and forcing sides. The check valves have been removed from near the tube sheets, which has tended to keep the latter tight.

Double domes and throttles have been used to equalize the draft of steam from the boiler.

The practice of fitting the grates closely to the interior of furnace, of closing up their front ends, and the use of a damper have been more observed than previous to five years ago.

Tightening wedges have been applied to take up the wear between the driving boxes and pedestals.

Brass tubes have been used extensively and approved of, from being cheaper, stiffer, less liable to incrustation, having a better distribution of metal whereby the thickest parts are nearest the fire, and from their having no brazed joints. A better size of tube is being introduced—two inch tubes are adopted on all new engines in place of the 1¾ inch tubes generally used for so long a time past. With a long tube it is not believed that so good a draft can exist with the small as with the larger tube. This result has been ascertained in the cases of a large number of engines.

The chilled slip tire has been very generally introduced within this period. It has recommended itself by its great economy, and by being equally as durable, safe and adhesive as the wrought tire.

There has been much more attention paid, than previous to five years ago, in balancing the drivers against the disturbing forces generated in the machinery. This matter has been so well provided for that the antiquated objection to the "instability

ty" of outside connections is now well removed.—The most important lines use the outside connection, where the question of the gauge of their track forms no part in the consideration of the best engine. In fact, a feeling has arose in the minds of some builders and managers, that a wide gauge is unfortunate, as it almost necessarily involves an inside connected engine.

The extension of another good feature has been the increased use of the ten wheel engine. This description of engine has been adopted extensively on the Erie and the Baltimore and Ohio road. Its advantages are that where four of the wheels are combined in a center bearing truck, the six remaining drivers have sufficient adhesion, if not as much as the eight driver engine, while the whole engine is more flexible than an eight driver engine, and is easier upon any single point than an engine having but four drivers. The four driver engine does not possess sufficient adhesion under all circumstances, unless with large engines it carries too much weight on a single point; the eight drivers are too rigid unless clustered together, and have more adhesion than is required under ordinary circumstances. The ten wheel engine allows of a much better cylinder connection than the eight driver engine, as the outside cylinder may be brought down nearly horizontal, and the connecting rod be applied close beside the wheel. A ten wheel engine secures also a convenience in applying the tires, for with the slip tire, which is the most secure and economical method of applying a tire, all the tires will be back, out of the way, of the cylinder, and can be renewed without raising the engine off from its springs until the cylinder is elevated over the front driving wheel. It makes the changing of a set of tires but half a day's work.

We see, almost daily, a large number of the class of engines built just previous to the commencement of the changes made within the last five years. They have small boilers and furnaces, say from 550 to 600 square feet of tube surface, and 8 square feet of grate, for a 15 inch cylinder. There was one small dome, and the steam pipes to each cylinder were not over half the size of a single steam port. The travel of the valve was but $2\frac{3}{4}$ inches. The commencement of the exhaust was at a late period of the stroke of piston. The valve motion consisted of a complicated "drop hook" motion, with tubular rocker shafts, and there was an independent cut off in a separate chest. The cross heads and slides were of an inferior pattern. The jaws of the frame were of a clumsy pattern of cast iron and had no means for taking up the wear between them and the driving boxes. The pumps were of cast iron, worked by a complicated and expensive "short stroke" motion. The tube sheets were iron, and the check valves were placed on the side of furnace. The trucks were rigid and had side bearings always. And, throughout, the engines were without graceful proportions, being rude and plain both in design and finish.

We do not hesitate to say, when we compare the locomotives of 1848 with the superb engines now in use on the Baltimore and Ohio, the New York and Erie, Hudson River, and especially the New Jersey, Railroads, that the locomotive has received more improvements than any other class of machinery which has been in operation during

the period of these alterations. And the result is confirmed in the increased speed of railway communication and in the fact that heavier engines at higher speed are still maintained at the same expense for repairs per mile run as at a period of five years ago.

New Orleans, Opelousas and Gt. Western Railroad

The stockholders of this company held an adjourned meeting on January 24th, 1853, at which resolutions were passed to call a future meeting to take into consideration the policy and propriety of amending their charter; and also requiring a payment of 10 per cent. on all stock subscriptions on the first Monday of April following, also 10 per cent. on the first Monday of October, 10 per cent. on the first Monday of January, 1854; 10 per cent. on the first Monday of April, 1854; 10 per cent. on the first Monday of September, 1854; 10 per cent. on the first Monday of January, 1855; and 5 per cent. on the first Monday of April, 1855.

We have a copy of the report of the President and Directors, which was read at this meeting, which gives the following exhibit of the condition and prospects of the work.

The New Orleans, Opelousas and Great Western railroad corporation was chartered in April, 1852, with a capital of \$3,000,000. The route of the road indicated in the charter was from Algiers, on the opposite bank of the Mississippi from New Orleans, westward near Thibodeaux, across Berwick's Bay to Washington, in the Parish of St Landry; thence to a point on the Sabine River most favorable for the construction of said road, through the State of Texas to El Paso, on the Rio Grande, and thence to the Pacific Ocean. The road to be made on such a scale as to serve for the main trunk railway from New Orleans to the Pacific.

The private subscriptions to the period of the report amounted to \$759,835; the city of New Orleans has also subscribed \$1,500,000, payable from a six years property tax of one-third of one per cent. annually. The following Parishes have also subscribed as annexed—

Parish of Orleans, \$75,000, by a five years' tax of one per cent. per annum, from January 1853.

Parish of St. Mary, \$156,600, by a six years' tax of one-half of one per cent. per annum from June 1, 1853.

Parish of St. Martin, \$103,775, by a five years' tax of one per cent. per annum from June 1st, 1853.

Parish of Lafayette, \$33,400, by a tax as in St. Martin.

Parish of St. Landry, \$115,625; taxed as in St. Martin.

Parish of Natchitoches, \$250,000, by a 5 years' tax of three and one-half per cent. per annum, commencing June 1st, 1853.

The aggregate of the tax stock subscriptions is \$2,234,400, all of which have been approved and ratified by the qualified electors in the respective localities, and generally by large and commanding majorities. The tax to pay the subscription is levied upon, and secured by, landed property of the valuation of one hundred millions of dollars.

The whole amount of all subscriptions is \$2,994,235, or within \$5,765 of its entire capital.

The company have, besides, the prospective subscription of De Soto Parish, recently voted, of

\$100,000, with its private subscription of \$53,325, and the offer by its citizens of an increase of subscription to the sum of \$200,000 on condition of the location and construction of the road through their Parish.

There is also an offer of a subscription of \$74,000 from the western portion of Avoyelles, upon the same condition as from De Soto.

Thirty-five per cent. of the private subscriptions have been called, and \$140,361.88 have been paid in. Two large lots of land opposite the city have been purchased for depots. The price paid was \$60,000.

In June 1852, Mr. James G. Gibbs was appointed Chief Engineer. Under his direction 82 miles of the road have been located to Berwick's Bay. Ninety one miles more from thence to Washington would be located by March, 1st 1853. Of the first division to Berwick's Bay, 55 miles are under contract, of which 20 miles are ready for the superstructure.

Up to the date of report the receipts and expenditures are as follows.

Receipts on account of Capital Stock \$140,361
Disbursements 64,156

Balance on hand \$ 76,205
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PROSPECTIVE MEANS FOR CURRENT YEAR.

Due on Instalments already called in \$125,580
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Instalments on Tax Stock payable on or before June 1st 395,186
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Balance on hand 79,205
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20 per cent assessed at Stockholders meeting 140,000
--	---------------

 \$786,971
--	-----------------

The fifth of capital paid, if allowed by the State, will be 160,000
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The contracts for construction and equipment amount to 555,000
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Owing to the advance in iron which will amount to \$800,000 on the line from New Orleans to Washington, 173 miles it, will be necessary to increase the capital of the company to extend its work to the state line at Texas.

The trunk line of the road through Louisiana traverses and develops twelve millions of acres, the most of which are unpeopled and untitled; It passes three degrees of latitude and over four distinct geographical formations.

The first is the Delta proper of the Mississippi River, ending at Berwick's Bay. It is exclusively a sugar growing region.

The second district is upon the belt of prairie skirting the Gulf coast westwardly to the Rio Grande. This district is a cotton and sugar growing region and exports annually 40,000 head of cattle.

The third district from Washington, the point of intersection with the valley of the Red River, embraces the entire allusion to the village of Natchitoches.

The fourth district embraces the table lands between the Red River and the Sabine. The entire crop of 1851 raised in these districts amounted to 112,084 hogsheads of sugar and 7,112,950 gallons of molasses, besides from 90,000 to 100,000 bales of cotton.

The line of road from the intersection of the 32 parallel of latitude, runs west through the best part of Texas, a country adapted for the cultivation of cotton and grain. The distance from New Orleans to Logans port on the Sabine is 340 miles. The distance across Texas to the Rio Grande, 704 miles; from thence to San Diego 566 miles,—

making the whole distance from New Orleans to the Pacific Ocean 1610 miles.

The following is the Engineer's estimate for the construction of the road.

First Division 82 miles.....	\$1,125,000
Second " 91 "	1,067,500
Branch to Breau Bridge, 18 miles....	180,000
Lands Depots &c.....	170,000
10 First Class engines.....	80,000
20 Passenger and 100 freight cars....	110,000

\$2,737,500

or \$14,330, per mile.

Wabash Valley Railroad.

On the 4th inst. a meeting of the stockholders in the Wabash Valley railroad, met at the town of York, in Edgar county, for the purpose of electing directors. The following gentlemen were chosen:

U. Manley, Jas. Welch, R. P. Ober, and J. B. Richardson, Clark county.

Jonathan Young, Edgar county.

Jas. C. Allen, O. H. Bristol, A. C. French, and E. Callahan, Crawford county.

John Shepherd, and Jasper Catlett, Lawrence county.

After the election of directors was over, and the result announced, the new board organized by electing

O. H. Bristol president, Uri Manley vice president, John Houston treasurer, John B. Richardson, secretary.

We copy the following notice of the proposed route from the Wabash Valley Republican.

The railway from Mobile, Alabama, terminating at Paducah, Ky., on the Ohio river, is 464 miles in length; something near 200 miles of this road is built and in operation, while the balance is provided for by the large donation of public lands voted by Congress. The work on it is pushed with great energy, and it is anticipated that it will all be completed within the next two years. From Brooklyn, opposite Paducah to Vincennes, the distance is 130 miles. On this part of the route, the individual subscriptions amount in the aggregate to \$200,000; in the city of Cincinnati \$100,000 more, being a sum more than sufficient to grade and bridge the entire route. In addition to this subscription they are endorsed by the Ohio and Mississippi railway company, giving them a credit to purchase all the rail necessary for building the road. With this prospect of certainty before them Judge Ellis resigned the presidency of the Cincinnati and St. Louis railway and accepted that of the Paducah and Vincennes road. The engineers are now busily engaged in their surveys and estimates, and the whole road will shortly be let to efficient contractors. It is intended that it shall be completed by the time that the Cincinnati and St. Louis road reaches Vincennes.

From where the connection is made, some four miles west of Vincennes, to Paris, it is by survey, some sixty-four miles, all told, over one of the best routes in the State, a large portion of the grading of which can be done very cheaply. The supposed cost for bridging and grading is estimated to be about \$160,000, some little more or less, of which there is at this time about \$80,000 subscribed. From Paris to Chicago, by way of Joliet, is 175 miles, and there cannot be a shadow of doubt, but that if the Paducah road and ours are built, the Joliet and Terre Haute road will immediately follow. Just see what a connection:

From Mobile to Paducah,	464 miles.
" Paducah to Vincennes,	130 "
" Vincennes to Paris,	64 "
" Paris to Joliet,	135 "
" Joliet to Chicago,	40 "

833

At 21 miles per hour, which is a moderate speed

on railways, 40 hours will carry a passenger from Mobile to Chicago. From Paris, the merchant trader or speculator may reach Mobile for the transaction of business in 31 hours. Here are facts, briefly condensed and thrown together for the consideration of those concerned—the details being too extended for an ordinary newspaper article. Enough we think has been given, to show that the Wabash Valley road is an important one, with fine prospects of being classed A. No. 1.

Cleveland and Pittsburgh Railroad.

We believe there is not another railway in the country, of the same length, that is paying a better return to its stockholders than this. The road is 100 miles in length, and from its commencement, has been doing all the business its capacity would allow. The several branches of this road already in operation, and the two now in progress of completion (the Wheeling and Beaver Extensions) will open a region of country which must find a market over the main trunk of this road, not equalled in any portion of Ohio, or any other State.

The stock of this road, ever since it was opened, has been above par, and has sold readily, when it has been in market. This is certainly encouraging to those who labored and toiled for the completion of this work. Further: we have no hesitation in saying that there is not a better managed road in the United States. Every care is taken for the safety and convenience of passengers. The road has been in operation over two years, and not a passenger has been killed. This fact speaks more for the Superintendent, Conductors, Engineers, and officers of the road, than volumes of paid for newspaper twaddle. The directors will not employ any other but safe and experienced officers, and this accounts for the fact alluded to. We do not believe there is another road in the Union carrying, as this does, over 800 passengers every day, of which it can be said, not a passenger has been killed.—*Ravenna Whig.*

Blue Ridge Railroad.

The construction of this road appears to be now placed beyond a contingency, by the recent subscription of \$549,000 to its stock, by the City of Charleston. The State of South Carolina has also subscribed \$1,250,000 to the project. The following letter from the President of the road, addressed to the City Council of Charleston, showing the present condition of the company, will be read with interest. The road is one by which the city of Charleston proposes to open for herself an independent railway to the Tennessee Valley.

CHARLESTON, July 12, 1853.

To the Honorable the Mayor and Aldermen of the City of Charleston.

GENTLEMEN: In behalf of the Blue Ridge railroad companies, chartered by the State of South Carolina and Georgia, I have now the honor to lay before your honorable body the copy of an agreement entered into between the two companies, and W. G. Swan Esq., President of the Knoxville and Charleston Railroad Company, by which the company is placed under the management and control of the two companies above named.

I have also to lay before you the draft of an agreement made with Messrs. A. Bangs and Co. contractors, by which they engage to construct and equip the entire line of road from the starting point in the state, through to Knoxville, so that the condition of the state endowment, and of the subscription of a further sum of five hundred and forty-nine thousand dollars (\$549,000) on the part of the corporation of the city of Charleston, has been complied with.

The arrangement made with the Knoxville and Charleston Railroad Company, though it increases the responsibility of the other companies, and may delay somewhat the completion of the entire line, vesting as it does the entire control and regulation of freights, &c., in the Carolina company,

is regarded by the directors, as of vast importance to the interests of this city, and of the state generally.

Recent examinations have reduced the length of the several roads, as exhibited by the first surveys and it is not improbable that it will be still further diminished when the final location is made. From the point of departure in this state to the Tennessee state line, the distance is 135 miles, and thence to Knoxville it is 45 miles, making the length of road to be constructed 180 miles.

Railroads are now in the course of construction from Cincinnati and Louisville to Danville, in Kentucky, and charters have been obtained and subscriptions are now being made to complete the connection between that point and Knoxville, 140 miles. Thus, in a very few years, there will be an uninterrupted line of railroads from Charleston to Cincinnati, of 631 miles, and to Louisville of not exceeding 600 miles.

The directors have therefore to congratulate the city on the progress that has been made towards the construction of this great work, and they would express the hope that your honorable Body will regard the condition on which the city subscription was made as having been complied with and that you will proceed to render it available to advance the interests involved.

I have the honor to be very respectfully,

H. GOURDIN,
President Blue Ridge Railroad Co.

North Missouri Railroad.

We announced, several days ago, that the Michigan Central Railroad company have become interested in the North Missouri Railroad, and that Messrs. J. W. Brooks and James F. Joy had been chosen Directors of the latter company, and subsequently Mr. Brooks elected its President.

Since then we have taken occasion to inquire into the object of the North Missouri Railroad company, and the connection it proposed to form with eastern roads.

The charter for the North Missouri Road locates its eastern terminus at Burlington, Iowa, and its western at a point on the Missouri river opposite where the Platte river enters the Missouri, about twenty miles below Council Bluffs.—The distance is three hundred miles, and the section of country between Burlington and the Missouri river is unsurpassed as an agricultural district. There is abundance of water throughout the entire distance, and the prairie and timber lands are divided in proportions suitable to the wants of a large population. There is not probably, any portion of the United States, where the essentials, soil, timber, good water and mill streams are better proportioned.

Burlington, the eastern terminus, is only sixty miles south of Chicago, and eighteen miles south of the mouth of the Platte river. From Chicago to Burlington, there will be a direct line of rail road finished this year,—the Aurora, Central Military Track, and Burlington branch of the Peoria Road. The distance from Burlington to Chicago is only 22 miles further than to Montgomery, in Iroquois county, a point south of Chicago and east of Burlington; so that the line from Burlington to Detroit, via Chicago, will not be over 20 miles further than direct east by an independent road. This being the case, we take it for granted that no "cut off" will take from Chicago the trade and travel passing east and west via the North Missouri Road. Indeed we are aware that the Michigan Central Railroad does not want any "cut off" but desires to make this city the great theatre of consumption for business. Its connection with the Aurora and Central Military Tract-Roads are well known, and also that its object is to feed those roads, and through them the great trunk road between this and Detroit. Hence it has become interested in the North Missouri road, via Aurora.

This North Missouri road, therefore, becomes an important work to Detroit. It will pour into this city a stream of travel and trade from a point below the section of Iowa drained by the Rock

Island cut off, and greatly aid in building up the commerce. That the road will be built, and speedily, too, we have not a doubt. The Michigan Central Railroad company, has an abundance of capital and credit to carry through whatever it undertakes, and Mr. Brooks, above any other man, is most capable of carrying out the intentions of the company. His name, as President of the North Missouri Road, is a guaranty to capitalists and the people of Chicago, that it is not only a first class enterprise, but that it will be prosecuted vigorously to completion. Indeed, we understand that part of the line between Burlington and the Des Moines river will be put under contract immediately; and that the whole line from Chicago to Council Bluffs will be completed within thirty months.

Evansville, Illinois Railroad Company.

We are pleased to learn that this company are pursuing the right course in relation to railroad crossings. It proves that they are determined to spare no expense to prevent the loss of life at such places. We hope to hear of other roads adopting a like course.

The following preamble and resolution were adopted at a recent meeting of their Board of Directors:

"Whereas the Mississippi Railroad and the Evansville and Crawfordsville Railroad cross nearly at right angles at or near the Borough of Vincennes, Knox county, Indiana—and whereas many accidents have happened and many lives have been lost in consequence of the trains belonging to different roads coming in contact at such crossings—and whereas it is believed that all casualties arising from that cause, may be entirely prevented by mutual arrangement between railroad companies, one raising an embankment and the other making an excavation, so as to have one train pass under the other—Therefore it is resolved that the President of the company correspond with the President of the Ohio and Mississippi Railroad Company, and enter into such arrangement as will best carry into effect the object set forth in the foregoing preamble."—*Evansville Journal*.

Louisville and Covington Railroad.

Two corps of engineers are now in the field, locating the line of this road: one working west from Covington, the other east from Louisville. The entire line will be located in about two months. But few hands are at work yet, for the reason that the side stakes have been set at only one or two points. We are assured, however, that just so fast as sections are prepared for grading operations, laborers will be put upon the line.

Although the precise track of the Louisville and Covington road is the matter which the surveyors and officers are now determining, enough has been settled to show within a very material distance where the rails will be laid. From Louisville up as far as the mouth of Patterson's Creek, the road will run along the river near the foot of the second bank, about ten feet above high water mark. The grade for this distance varies from ten to fifteen feet to the mile. The road will then run up Patten's creek, with grades part of the way fifty to fifty-five feet, to where the head branches of that creek interlock with the head branches of the Little Kentucky river, when it will descend and pursue the course of the Little Kentucky to Carrollton. This takes it over the high Bedford ridge, and avoids the great bend in the Ohio river at Madison.

The Road will cross the Kentucky river at Carrollton by a splendid stone bridge, with a draw—two spans of 225 feet each. From this point to the mouth of Gunpowder creek, it will again pursue the course of the Ohio. To avoid the great bend in which lies Boone county, it will pursue Gunpowder creek up to where the head branches of that stream interlock with those of the small brooks that descend to the Ohio opposite Cincinnati, and taking down these pass in the rear of the race-course nearly opposite the mouth of

Millcreek, (the western boundary of Cincinnati) and sweep around the slope of Lone Tree Point into the city of Covington.

All tunneling is avoided by the route, and a line gained which will be within 108 miles in length. About three quarters of this distance is very "plain sailing;" the residue of the line has heavy grades and what may be called great curvature. At the mouths of the numerous creeks crossed, of course there will be a good deal of masonry; but the fills are not large except at a very few points, nor will the excavations be heavy. Altogether, we doubt not the road will be one which can be run for the average cost and with more than average speed. It is contemplated to have the cars in daily operation between Covington and Louisville, within a period of two years.—*Louisville Courier*.

Grand Trunk Railway.

We learn that the following are the names and some of the salaries of the principal officers of the Grand Trunk railway—

President—Hon. John Ross.
Vice President—B. Holmes, Esq.
Chief Engineer—Mr. Ross—£3,000 stg.
Assistant Engineer—Mr. S. Keefer—1000.
Secretary—Mr. C. P. Roncy—1,500.
Superintendent—Mr. Bidder—1,500.
Agent at Portland—Hon. J. S. Little—\$3,000.
Accountant at Portland—Mr. C. E. Barrett—\$2,000.—*Sherbrooke Gazette*.

Kings Mountain Railroad.

The annual meeting of this company was held, in our village on Monday last. The stockholders, being generally citizens of our district, always find it convenient and agreeable to attend in person, which makes the day quite a bustling and crowded scene. The road has now been in operation for near ten months. The reports of the officers of the road exhibit the gratifying intelligence, that notwithstanding the newness of the project, and the washing away of the bridge of the Charleston and South Carolina Railroad last fall, and the consequent loss of freight and travel for about two months, the Kings Mountain Railroad realized a nett profit of upwards of four per cent. If then five per cent, and it will be near this amount if we add the two additional months, for the year, be realized the first year of a road's operation, it is not more than probable that a full seven per cent dividend may be declared the second year. The general experience of roads is that freight and travel steadily and progressively increase. Facts and figures are stubborn things, and the stockholders of the Kings Mountain Railroad cannot but be pleased with the results of the working of the road the first nine months and twenty-two days.

The report of the officers of this road further shows the very remarkable fact, not often heard of in the history of Railroads, that if the Railroad thought proper to sell the two hundred shares of Charleston and South Carolina Railroad stock, amounting, at par value, to twenty-five thousand dollars, held and owned by it, the road would be able to pay off every cent of its indebtedness and have a large surplus on hand. The truth however is, that the creditors of the road do not want their money, and regard the road as a very safe debtor, and the road was very willing to pay seven per cent for borrowed money, whilst the South Carolina Railroad stock was refunding it by paying seven and one-half per cent. It is thus seen that the stockholders of this road could in one or two years pay off all their debts by the ordinary means of their road, and have the 25,000 dollars of South Carolina Railroad stock as a clear and unembarrassed fund of income besides the profit of the road. Can any other road in the United States show such a balance sheet. We pause for a reply.

The following gentlemen have been elected officers of the Road for the present year:

Col. Wm. Wright, President: John S. Moore, George Steele, Col. W. C. Beatty Dr. Samuel

Wright, Dr. James M. Lowry, Samuel Rainey, sr., F. H. Simril, and John Webber, Directors.—*Yorkville Miscellany*

Indiana.

The Railroad City.—We have frequently been asked, "What is the number of railroads making Indianapolis their terminus?" and we have never been able to tell exactly. Yesterday, at a little trouble, we procured a list of the names of the railroads finished or in contemplation, running to this city.

The following roads are contemplated, and are running trains regularly every day:

1. *Madison and Indianapolis.*
2. *Terre Haute and Indianapolis.* Two trains daily.
3. *Indianapolis and Bellefontaine.* Two trains daily to Cleveland, Pittsburgh, Dayton and Cincinnati.
4. *Lafayette and Indianapolis.*

The following roads are partially completed:

1. *Jeffersonville and Indianapolis.* By this road in connection with Madison, daily trips are made through, between Louisville and this city. Arrangements have been made with the Lawrenceburgh road, by which trains will soon run through between Jeffersonville to this city, without transshipment of passengers or baggage.

2. *Peru and Indianapolis.* Daily trains are run upon this road to Tipton, a distance of forty miles. The road will be completed through to Peru, 75 miles, by the 1st of December next.

3. *Central Indiana.* From Indianapolis to Richmond, will be completed by the 1st of September.

4. *Lawrenceburgh and Indianapolis.* This road is completed from Lawrenceburgh to Greensburgh, a distance of about 40 miles, and the iron is being rapidly laid at both ends of the remaining portion of the road. It will be finished early in the fall.

The following roads have been surveyed and are partially under contract, or are being surveyed.

1. *Evansville, Indianapolis, and Cleveland Straight line.*
2. *Vincennes and Indianapolis.*
3. *Branch of the Salem and New Albany, from Gosport.*
4. *Indiana and Illinois Central.*—From Indianapolis to Hannibal on the Mississippi.
5. *The Junction Road.*—From Cincinnati to Indianapolis, via Hamilton, Rushville, &c.
6. *Cincinnati and Indianapolis Straight Line*—via Harrison, Brookville, &c.
7. *Aurora and Indianapolis Broad Gauge.*—to connect with the Ohio and Mississippi, at Aurora.

Making fifteen roads with about 1480 miles of track. In addition to the foregoing, a company has recently been organized, to build a road directly from Greensburgh to Cincinnati, to connect with the Lawrenceburgh road at the former point. All the above roads, not already finished, will be certainly built, except perhaps one, or, may-be two of but little importance. Who says that Indianapolis is not entitled to the appellation of 'The Railroad City?'—*Indiana State Sentinel*.

Georgia Railroads.

There are 990 miles of railroad now in actual and profitable operation in the State of Georgia. In addition to these, the city of Savannah has just surveyed a road to Florida, having its western terminus at Pensacola, a distance of three hundred and eighty miles. Savannah will build to its western border, two hundred and ninety miles.—\$5,500,000 have been subscribed. Besides these roads, three more are in contemplation, and will certainly be built. These will make the system of railroads in Georgia amount to one thousand five hundred miles.

Cincinnati and Indianapolis Short Line Railroad.

A company was formed in this city a few weeks ago, says the Indiana State Journal, for the purpose of constructing a railroad from some point on the Lawrenceburg railroad, below Greensburg, on as direct a line as possible to Cincinnati. John H. Bradley, Esq., of this city, is the President of this Company, and if perseverance and energy will push it forward, it will soon be completed.

We understand that an agreement has been entered into between Mr. Bradley and C. B. Smith, Esq., President of the Cincinnati Western railroad Company, by which the Short Line Company have obtained the right to make, and exclusively own and use, a branch of the Western road from Harrison, Ohio, to the main line of the Western railroad at a point about five miles from Cincinnati, and from thence into the city, to make, own and use the five miles of the main line, jointly with the Western railroad company.

This arrangement may be regarded as of great importance to the short line road, as it now has an excellent and continuous line from the Lawrenceburg road to the heart of Cincinnati. It also gives to the Lawrenceburg company a connection with Cincinnati at a less cost, probably, than by any other route.

It only remains now to consummate arrangements with which Mr. Bradley is vigilantly progressing for the advantage of his company, to give us connections of great importance to our city, as well as to the travelling public.

It is proposed to unite the interests and the means of the White River Valley railroad, and the company in Ohio (with the title of which we are not acquainted, but known as Reemelin's road), with the "Short Line road," in making the road through Ohio.

The two companies could make the road wide enough for their respective tracks, jointly, at a much less cost than to make separate roads. Each then could put down its own tracks. It seems to us that the true policy of all the companies concerned demands the consummation of the arrangement.

Maine.**Androscoggin and Kennebec Railroad.**

From the recent report of the Directors of this road we have the following statement of the business of the road for the year ending June 1st, 1853.

Earnings from Passengers	\$71,647.68
" " freight	63,210.19
" " other sources	5,708.55

Total earnings

An increase of about 12 per cent over the earnings for the previous year. The expenses of operating road were for the past year \$60,507.99, leaving \$80,053.43 as net earnings.

The contract made in July last, (one year ago) with the Atlantic and St. Lawrence road, for the division of receipts from the joint business, allows that company 40 cents per passenger and sixty-five cents per ton of freight carried by them 28 miles, from Danville Junction to Portland, and in the same proportion to intermediate Stations. During one year \$48,621.96 have been paid to the Atlantic and St. Lawrence Railroad, on this account. A contract has also been made with the

Androscoggin road which will extend to July 1st 1854.

The cost of the road, or construction account including \$44,210 of convertible stock coupons, is \$2,064,458.03.

The Bonded debt is	\$1,016,500.00
" Floating debt is	191,269.56

\$1,207,769.56

The following gentlemen were elected Directors for the ensuing year:

A. P. Morrill, Readfield; William Willis and Ira Crocker, Portland; Ashur Hinds, Benton; John M. Trye, Lewiston; Lysander Cutler, Dexter, Wm. M. Longley, Greene.

(We published the list of Directors in our last number but give it again in connection with the report.)

Locomotive Building.

Since the publication of our list of the locomotive shops in the United States we have learned some further particulars of shops in operation and in progress, which we give below.

M. W. Baldwin, of Philadelphia is now building at the rate of seven engines per month. The Pennsylvania Central Road is being almost entirely stocked with engines from his establishment. Norris & Son have reached beyond 700 as the number of engines made at their establishment.

There is a large establishment in Richmond, Virginia, known as the "Tredegar Works." It was started by Jos. R. Anderson of Richmond and John Souther, of Boston. Since its commencement D. N. Pickering, of Boston, has become associated with it while it is currently reported that Mr. Souther has withdrawn. The works are of the capacity of four engines per month.

The New York Locomotive Works, at Jersey city, will be completed in a short time, and will be prepared to complete three engines per month.

Two companies have been organized in Pittsburgh, but we do not learn if either have taken active steps in the erection of a locomotive shop.

At Louisville we hear of a new locomotive factory as being in progress of erection.

There is also the locomotive establishment of the Nashville Manufacturing Company at Nashville, Tenn.

Messrs. Palm and Robertson of Saint Louis have a heavy contract with the Pacific Railroad for the construction of engines. The entire equipments for the construction of railroads may already be supplied at Saint Louis.

New Haven and New London Railroad.

We have a copy of the report of the Directors of this road made April 19th, by which the gross earnings from July 1, 1852, to April 1, 1853, comprising the first nine months of the operation of the road, were

Expenses for working road	\$55,973.06
	35,266.79

\$20,706.27

Out of this sum have been paid interest on seven per cent bonds

Leaving as net earnings	\$756.27
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The amount of stock paid in is \$730,877.82.

The funded debt of the company consists of \$450,000 7 per cent mortgage bonds; and \$138,879 have been sold and paid (out of \$200,000 issued,) of 6 per cent. bonds, not mortgage.

The whole cost of construction and equipment of road is \$1,297,793.99.

Cincinnati, Wilmington and Janesville Railroad.

At the Boston Locomotive Works a few days since we saw two fine inside-connected passenger engines designed for this road. They had each 5½ feet drivers and "link-motions" for working the valves. They were called "Pickaway" and "Fayette," and were quite ready for delivery. The Circleville Herald, speaks of the progress of this road as follows:

"The track laying commenced west of the river, at this place last Monday morning. One thousand tons of the iron for the road have arrived at this place, and more is constantly coming. The work will be pushed forward as rapidly as possible, to Williamsport, in order to transport the stone for the bridge across Deer creek over the road to that place. Now the work goes bravely on."

New York, Newburgh and Syracuse Railroad.

The following gentlemen have been elected officers of this road:

President.—Hon. Allen M. Sherman, of Orange.

Vice President.—Maj. Moses D. Burnett, of Syracuse.

Directors.—Robert A. Foreyth, Cornelius C. Smith, Hon. William C. Hasbrouck, and Hon. A. M. Sherman, of Newburgh; Maj. Moses D. Burnett, Thomas G. Alford, William B. Kirk, and John J. Peck, of Syracuse; Chas. Hathaway of Delhi; Orin Griffin, of Hobart; Joshua V. H. Clark, of Manlius; Albert L. Pritchard of New Berlin, and Smith M. Purdy of Norwich.

Immense Boiler Plate.

In the Crystal Palace, in New York, there is a boiler plate of *Low Moor Iron*, which weighs 2,700 pounds. It is 19 feet 4 inches long, 4 feet 10 inches wide and ⅜ of an inch thick. It is larger than any plate exhibited at the World's Fair at London.

We quote the above from a cotemporary. A plate of iron of this size could not weigh over 1400 lbs. Iron of ⅜ ined thickness weighs 15 lbs per square foot.

Boston Locomotives.

We saw a new outside connected engine in Boston, last week, which was about starting from the Worcester depot on its way to the Ohio and Indiana road. This engine, called the "Crestline," was built by John Souther and Company, and exhibits some changes from the rather antiquated class of engines which have heretofore been built by that establishment. It has "full stroke" pumps of an improved pattern and has check valves near the forward end of boiler. It has also been fitted with the "link motion," instead of the "link hooks" and "cut off" so long adhered to. These changes have simplified its construction and given it a modern appearance. The "cab" has also been made in a style more in accordance with improved taste, but the dome and escape pipes remain in remembrance of the "old style." The new outer frame which has been applied, consisting of a single bar, about 4 inches by 1 inch, does not appear to us to afford sufficient security in the attachment of the cylinders, which have no direct attachment to the smoke-box. The pressure of the hand will spring this rail sensibly within a short distance of the cylinder. The engine is how-

ever an improvement on the style to which this establishment has faithfully adhered for *five years* past until now.

New York.

Northern Railroad.—The last annual report of this company, made up to December 31, gives the following statement of its business for 1852—

Gross receipts.....	\$480,137 04
Expenses	284,290 06

Leaving as net income.....\$195,846 98

The total cost of construction and equipment to April 1, 1853, is.....	\$4,503,004 45
Interest paid, discount on bonds, &c.....	630,829 99

\$5,133,834 44

Which has been received from

Capital stock.....	\$1,579,969 61
Bonds.....	2,969,760 00
Floating debt.....	584,104 83

\$5,133,834 44

Mechanical Drawing.

The second number of the Practical Draughtsman's Book of Industrial Design and Engineers and Machinist's Drawing Companion is now issued by Stringer and Townsend. It is a useful number, being devoted to the construction of polygons, the principles of projection and the elements of Architecture; all of much importance to students of the practical success. It is illustrated by four double page copper plates, forming, in clear style, the reference of the text. Being an amateur in this art we speak advisedly of its value, and we may further say that its adoption as a text book has taken from us nearly all responsibility of the instruction of a young friend and pupil at home.

Ashtabula and New Lisbon Railroad.

The friends of this road held a meeting at Canfield, on the 4th. The people of Ashtabula, Trumbull, Mahoning and Columbiana assembled and organized by the appointment of H. R. Sarmon, of Trumbull, president, and Dr. Elwell, of Ashtabula, secretary. The convention was addressed by Messrs. Brewer, McCook and Hartshorn, of New Lisbon; Gen. Roller, of Green; Eben Newton, of Canfield, Dr. Elwell, and O. H. Fitch, of Ashtabula. The following gentlemen were elected directors of the Ashtabula and New Lisbon railroad:

Henry Hubbard and Frederick Carlisle, of Ashtabula, L. B. Austin, of Austinburg, J. R. Giddings of Jefferson; J. H. Holcomb of Canfield; Henry Springer, and Anson L. Brewer, of New Lisbon.

Cleveland, Columbus and Cincinnati Road.

The receipts of this road for June, 1853, are.....\$91,366 58

June, 1852..... 73,583 61

Increase.....\$17,772 97

Total receipts for six months ending June 30, 1853..... \$185,766 29

Total receipts for six months ending June 30, 1852..... 295,535 95

Increase..... \$190,230 34

Total Receipts for year ending June 30, 1853.....\$1,000,308 63

Mr. Stone, the Superintendent of this road, has retired from its management, and L. Tilton, Esq., late Superintendent of the Fitchburg railroad, takes his place.

Liabilities of Public Carriers.

A case of much public interest was recently tried in the Circuit Court for Ulster County, in which O. S. Bonesteel was plaintiff, and Messrs. Daniel Drew and Cornelius Vanderbilt, of New York, (owners of Vanderbilt's through line of steamers from New York to California, via Nicaragua,) were defendants.

It appeared in the evidence that the plaintiff purchased of the agent of the defendants through tickets to San Francisco. One promised him passage by the steamer Prometheus to Greytown, another, across the Isthmus by the accessory Nicaragua Transit company's line, a third by the steamer North America to San Francisco.

He had been induced to purchase these tickets by advertisements claiming a superiority for this line over all others in regard to speed, safety and comfort, and to its passage through a healthy country. It also appeared that statements had been made by Vanderbilt personally, that at Greytown the passengers would be changed to the river steamboats immediately, and by them ascend the San Juan river, which has its source from Lake Nicaragua. Thence there would be a land carriage of twelve miles to San Juan Del Sur, on the Pacific. The passage was to be accomplished in 40 hours, and the delay on the Isthmus not to be longer than 15 days.

The plaintiff, in company with 650 passengers, sailed in the Prometheus. Arriving at Greytown, they were compelled to quit the vessel, and remain for eleven days subject to its unhealthy climate and miserable fare. They were then taken across the Isthmus in boats overcrowded with passengers, which frequently grounded in the river, forcing these passengers to wade in the water to assist in their onward progress. The passage lasted nine days.

At San Juan del Sur they waited in vain for the North America, which vessel had previously been wrecked. The Monumental City was sent in her place, but could not, from its inferior size, take half the number of passengers in waiting. Afterwards the steamers Pacific and Independence, belonging to the same line, came to port, but refused to allow the plaintiff passage, being also filled beyond their capacity with passengers, many of whom held tickets of a subsequent date to plaintiff's, and arriving in subsequent steamers to the Isthmus. It also appeared that tickets had been sold by persons connected with some of these boats to transient passengers.

Waiting thirty days at San Juan del Sur, to secure a passage to San Francisco, plaintiff returned to New York, having in the meantime been exposed to the disease of the climate, which carried off his companions at the rate of four or five daily, and to a miserable fare, among the items of which are included monkey soup, guano (lizard) steak, apple sauce with turpentine, and other delicacies of a like nature, for which they paid the sum of three dollars daily, inclusive of one dollar for water.

On their return, remonstrating with Vanderbilt for sending away passengers with the Northern Light, a steamship which sailed after the loss of the North America was known in New York, the passengers of which over crowded the Isthmus and took precedence of those of an earlier date for passage on the Pacific, he told them that it was more profitable to pay damages than to send the

Northern Light empty, and forego the passenger money.

The counsel of plaintiff summed up this passage money at \$212,000. Taking also the number who had died on the Isthmus, it was found that the saving by their deaths to the Vanderbilt line was \$33,500.

The points taken by defendants were first—that they were severally, not jointly liable; second, that the loss of the North America by the act of God, discharged their liability as common carriers; and third, that in any event, they were only liable for the passage from San Juan del Sur to San Francisco.

The Judge charged that the advertisement held the defendants, as a contract, to perform all which they set forth; and that for its omissions the plaintiff was entitled to recover the damages he actually sustained, in the loss of his passage money and expenses while living on the Isthmus, together with the loss of his time. He further held, that if this contract was violated in a fraudulent and oppressive manner, the plaintiff was entitled to exemplary damages.

The Jury by the verdict, it is generally believed, intended to express their disapprobation of the indifference to life and comfort marking the California passenger trade, as demonstrated by the evidence in this case, and to correct its evils by the only method calculated thoroughly to reach them.

Grand Trunk Railway Company of Canada.

The meeting of the Stockholders of the Grand Trunk Railway Company of Canada, was held at Quebec, on Monday, July 11th, at which time the necessary votes were passed, accepting the surrender of the St. Lawrence and Atlantic, and other roads in Canada, and merging the whole into one company, under the charter of the Grand Trunk Railway company of Canada.

All that is now required to consummate this great scheme is the signing of the lease of the Atlantic and St. Lawrence Road from Island Pond to Portland. The terms of this lease are all agreed upon, on both sides; and on the arrival of the Hon. Mr. Jackson from England, and the Hon. John Ross from Canada, the papers will be executed. For greater security of all parties, the lease is made to Messrs. Jackson and Ross as Trustees, for the benefit of the Grand Trunk Railway company, with a right to assign the same to said company on request, on their receiving further legislative power as may be required.

Mr. Jackson, accompanied by his partner, Mr. Betts, and Robert Stephenson, the great engineer, were to sail from Liverpool on the 16th inst., and may be expected in Portland in all July, at the furthest.

The organization of the Grand Trunk Railway company is reported as follows:—

President, Hon John Ross.
Vice President, B. Holmes, Esq.
Chief Engineer, Alex'r McKenzie Ross.
Assistant Engineer, Samuel Keefer.
Secretary, C. P. Roney, Esq.
Superintendent, Samuel Bidder, Esq.
Agent at Portland, J. S. Little.
Accountant at Portland, C. E. Barrett.

We understand that the company have fixed the prices of transportation of Flour from Montreal to Portland, at 40 cts. per Bbl.

We are informed, also, that there is to be a large Store House at Island Pond, from which point, Produce will be sorted and loaded for the various way stations, as the same shall be required for consumption.—*State of Maine.*

Hon. Samuel P. Shaw has been elected Treasurer of the Somerset and Kennebec railroad company, vice L. C. Johnson, resigned.

Cincinnati, Union and Fort Wayne Railroad.

The company constructing this road, was incorporated under the laws of Indiana, on the 15th day of February, 1853, and organized on the 22d of the same month. The officers of the company are:

Jer. Smith, president, Winchester, Ind., V. P. Debolt, secretary, and Jonas Votaw, treasurer, Union City, Ind., and R. M. Patterson, engineer, Indianapolis, Ind.

Directors.—Geo. Carlisle, Cincinnati, Ohio; Jer. Smith, Winchester, Ind.; B. W. Hawkins, Union City, Robert Huey, Jay, C. H., Theophilus Wilson New Corydon, S. L. Rugg, S. S. Mickle, Joseph P. Nuttman, F. P. Randall, Decatur, Ind.

The company have the grubbing under contract, and at the July session of the board, they directed a letting of the grading, bridging and furnishing ties, which is to take place on the first of September next. They also invite proposals for furnishing the iron, laying and ballasting the track, and preparing the road for use.

Savannah River Valley Railroad.

We learn from the Savannah News that a meeting was held at Dorn's Mine, in Abbeville District, on the 11th inst. at which books of subscription to the Savannah River Valley Railroad were opened. Mr. Dorn subscribed \$100,000, and Mr. Floyd, agent of the New York Gold Mining company gave assurance that New York capitalists would take that amount, or double it, if necessary to secure the charter. At Hamburg over \$75,000 have been already subscribed.

Vincennes and Paducah Railroad.

At a meeting of the stockholders of this company, held at Paducah, on the 30th ult., the following named gentlemen were elected directors for the present year:

Paducah—L. M. Flournoy, and W. F. Norton.

Vincennes—A. T. Ellis, C. M. Allen, A. Smith, Thos. Bishop, W. E. Browne.

Cincinnati—H. H. Goodman, and C. W. West.

Illinois—J. G. Bowman, V. B. Bell, E. B. Webb.

At a meeting of the Directors held on the same day, the following officers of said company were elected:

President—A. T. Ellis.

Secretary and Treasurer—J. C. Bowman.

Chief Engineer—N. A. Gurney.

The Cleveland, Columbus and Cincinnati Rail Road have contracted for 8000 tons of rails for a double track from Cleveland to Gallion.

The city of Alexandria, Va. has voted a subscription of \$200,000, to the Manassas Gap rail road.

Commissioners Agreed upon.

We understand that the Board of Directors of the Illinois Central Rail Road and the Northern Indiana and Chicago Railroad have agreed upon William H. Swift, of Boston, Gen. Wilkinson, of the State of New York, and William H. Broadhead, chief Engineer of the Milwaukee and Mississippi road, as Commissioners to settle the mode and manner of crossing, and other questions between the two companies, relative to the crossing of their roads near this city. This exciting question seems to be in a fair way to be speedily settled.—*Chicago Tribune.*

AMOSKEAG MANF'G CO.

MANUFACTURERS OF LOCOMOTIVE and STATIONARY STEAM ENGINES, Boilers, Cotton and Woolen Machinery, Tools, Turbine Wheels, Mill Work and Castings of every description.

MANCHESTER, N. H.

WM. AMORY, Treasurer,
65 State st., Boston, Mass.

O. W. BAYLEY, Agent,
Manchester, N. H.
ly jy 6.

To Contractors.

SEALED PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTEROOK, Chief Engineer.

Portland, April 9, 1853.

Railroad Letting.**KENOSHA AND BELOIT RAILROAD.**

ON and after the first day of August next, and until the 15th of August, inclusive, proposals will be received, under seal, at the Office of the Kenosha and Beloit Railroad company, in Kenosha, for the construction of the entire road from Kenosha to the Rock River Union Valley Railroad, a distance of about 50 miles.

The proposals may be made for the grading, masonry, ties, and entire construction in a single contract—or for the same and all items separately. and in independent contracts by different individuals. They will likewise be received for the above in parts. The work will besides be divided into sections of moderate length, and proposals, as above, for a single section or any number of sections will be received.

Profiles and specifications may be inspected at the Engineer's Office in Kenosha, on and between the days above specified, and forms of proposals will be supplied to all who desire to take contracts.

ALEX. C. TWINING, Engineer.

Engineer's Office, Kenosha, June 20th.

RICHARD NORRIS.

HENRY LATIMER NORRIS.

Richard Norris & Son,

NORRIS' LOCOMOTIVE WORKS, BUSH HILL,

PHILADELPHIA,

MANUFACTURE to order Locomotives, exclusively, on any plan, or of any size—of best materials and workmanship. Their Works having been this year greatly enlarged, and furnished with the most approved Tools, they are enabled now, having a large number of Workmen employed, to execute orders with despatch.
June 9, 1853.

Railroad Iron.

623 Tons T Rails of good quality, 59 lbs. to the yard to arrive during July, for sale by
JOHN H. HICKS, 90 Beaver st.

Railroad Iron.

2000 Tons of Rails, weighing from 58 to 60 lbs. per yard of Favorite Patterns, now on hand in New York, For sale by
W. F. WELD & CO.,
June 21, 1852. 42 Central Wharf, Boston.

INDUSTRIAL WORKS.

BEMENT, COLBY, DOUGHERTY & CO.,

IRON FOUNDERS AND MACHINISTS,

Callowhill Street, between Schuylkill Second and Third,

PHILADELPHIA.

MACHINISTS TOOLS, particularly adapted for Railroad Work, MILL WORK, and Heavy Castings, for cupolas, buildings, etc.

E. D. MARSHALL, JAMES DOUGHERTY,
G. A. COLBY, WM. B. BEMENT.

Notice to Contractors.**ST. LOUIS AND IRON MOUNTAIN RAILROAD.**

PROPOSALS will be received at the office of Company in St. Louis, Mo., for the Graduation, Masonry and Bridging of that portion of the St. Louis and Iron Mountain Railroad included between St. Louis and the Iron Mountain, or Pilot Knob, distance about 84 miles. The preliminary surveys and approximate locations are now complete, and the final location for construction in rapid progress, and may be closed by the 1st Sept. Meanwhile, profiles and plans, now ready, will, with examination of the country, give all necessary data.

The work on this road is heavy, including three tunnels, and much rock work and masonry, about 20 miles of the road, shows "side-hill" work, and the balance heavy through work. The Iron Mountain is 700 feet above the river at St. Louis; but two principal depressions are to be crossed before reaching that height. The country passed through is healthy and well watered.

Proposals will be received (by quantities) for the whole or a part of the road, but contracts will only be made with responsible parties. No contracts will be closed before the 15th of August, and no sooner thereafter than satisfactory offers are received from responsible parties. The road will hereafter be extended to the Arkansas line, to connect with the Cairo and Fulton road, and a branch to the Mississippi River, at Cairo or new Madrid, is also contemplated.

WM. M. M'PHERSON, Pres't.

THOS. S. O'SULLIVAN, Consulting Engineer.

J. H. MORLEY, Eng. in Charge.

4w.

St. Louis, July 21, 1853.

Notice to Contractors.

SEALED PROPOSALS will be received at the Engineer's Office of the Pittsburg, Maysville and Cincinnati Railroad, in M'Connellsville, until the 20th of August, for the Graduation and Masonry of the line of road (about 35 sections) between the Muskingum River and the Central Ohio Railroad.

Bids enclosing proper testimonials will be received for the whole or any number of the above sections.

Plans and specifications will be ready for examination after the 20th of July.

The division between the Muskingum and Hocking Rivers will be offered for contract as soon as the location is completed.

ROBERT M'LEOD,

Chief Engineer.

M'CONNELLSVILLE, June 4th, 1853.

Notice to Contractors.**JEFFERSONVILLE RAILROAD.**

SEALED Proposals will be received at the office of the Company at Jeffersonville, Indiana, until 10 o'clock, A. M., on Wednesday, the 7th day September, 1853, for the clearing, grading and bridging the road between Edinburg and Indianapolis.

Proposals may be made for sections, divisions, or the entire line, about 30 miles, payable in the 7 per cent mortgage bonds of the Company or part bonds and part cash, and also for payments entirely in cash.

The company reserves the right to accept such proposals as in their judgement will best secure the prompt construction of the road, and to reject all, if none are satisfactory.

The route traverses a fertile country, furnishing abundant supplies of all kinds, and the line is easy of access at all points.

Bidders will please give their post office address.

WILLIAM G. ARMSTRONG, President.

Jeffersonville, July 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
SECOND QUARTO SERIES, VOL. IX., No. 32.] SATURDAY, AUGUST 6, 1853. [WHOLE No. 903, VOL. XXVI.

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, August 6, 1853.

Break of Gauges.

It strikes us that some portions of the west, the State of Ohio for instance, are preparing for themselves a great deal of future trouble, by the different gauges upon which they are constructing their roads. The prevailing gauge in the Western States, with the exception of Ohio, is 4 feet 8½ inches. That of Ohio is 4 feet 10 inches. Here, then, is a distinction without a difference; nothing gained in principle, but a great deal lost in practice. All the States lying to the east have a different gauge, so that upon reaching Ohio everything has to break bulk. On the west the same is the fact. The gauge of Michigan and Indiana is 4 ft. 8½ in.; so that produce from these States, instead of passing on to New York, or Philadelphia, in the same car, is shifted *twice*, involving great delay, expense and damage to the freight; all owing to a folly that is not productive of the least practical good.

But the mischief already done, though felt to be a grievous burden, is far from having its legitimate effect. Instead of profiting by experience, a considerable portion of the people of Ohio seem determined to add to the inconvenience under which they are already suffering. They are taking means to introduce a *new* gauge, the 6 feet, into the State; which is peculiar to the *Erie* road and its branches, and in existence no where else.

For this innovation we can see no good reason whatever. In fact no sufficient one exists. Admitting the advantages of the 6 feet gauge, its superiority over the 4 feet 8½ inches, it is not so decided as to override the question of *convenience*. The *prevailing* gauge should determine the one to be adopted in a given case. Where the 6 feet prevails, this should govern, and *vice versa*, where the 4 feet 8½ in. is the common one. Of this we think there is no dispute. It is too late to raise the question of the superiority of gauges in a country already filled with roads. In such case it has been settled long ago, and to attempt to raise it under such a state of things, is to be ignorant of the true merits of the case, or it is an attempt to make capital and strength out of mere assumption or words without meaning.

A wider gauge than 4 ft. 8½ in. would undoubtedly be preferable. A majority of Engineers would name a width somewhere between 5, or 5½ feet. Where the question is an open one, a wider than the ordinary gauge is generally adopted. That of the Pacific railroad, now in progress from St. Louis to the west line of Missouri, is 5½ feet. The Canadians have adopted the same width. —The reason that influenced in both cases was the fact that the question was considered an open one, and the gauge adopted was the one thought to be best fitted to fill all the conditions of superiority. Had it been otherwise, a different gauge would have been adopted in both cases.

One of the lines of road in Ohio for which a gauge of 6 feet is proposed, is that commencing at the east line of the State, not far from the parallel of *Warren*, passing through *Ravenna*, *Akron*, *Ashland*, *Galion*, *Urbanna* and *Dayton*, to *Cincinnati*, a distance of some 300 miles. From *Dayton*, it is expected that the *Cincinnati*, *Hamilton* and *Dayton* road will lay down a six feet track, reducing the length of *new* road to some 240 miles.

This road, when built, will cross some 10 or 12 important lines of railroad, all of a different gauge. Its track cannot be used by cars running upon any of them. We will not enlarge upon the inconvenience arising from this diversity of tracks, as it will be readily appreciated by every railroad man, but it is not too much to say, that it would be considered ruinous to the business of the road having the exceptional track, and as sufficient reason for the construction of a *new* road having a gauge in harmony with the prevailing system. — The exceptional gauge would be looked upon, and very naturally, as an *intruder*, and instead of being encouraged and patronized by other roads, and by the mass of the community interested in the latter, it would be regarded with an evil eye, and every effort would be made to punish the intrusion, which very likely might prove fatal to the success of the new work. Now we submit whether it be wise to adopt a gauge the whole influence of which will be to *repel*, instead of attracting business; and which will provoke, instead of securing the good will of the country it traverses, and the companies whose roads it crosses, when no substantial advantage is gained by a non-conformity to the established usages?

The argument used is that a road of an uniform gauge is wanted extending from New York to *Cincinnati*. Admitted. But in such case, the *Erie* gauge is not the proper one to be adopted to accomplish the object proposed. There are the *Penna.* roads, through which a route at least one hundred miles shorter may be had. Why not adopt the gauge of the *Sunbury and Erie* road, which is a much shorter route to Ohio, the gauge of which coincides with that of the *Pennsylvania* roads? The point of crossing of the former will be nearer New York than the point of intersection with the *Erie*. Why then carry freight more than 100 miles directly from market. It strikes us that the above project is making out the worst possible case for itself at both ends of their line; unfitting itself to receive the advantages that might be derived from its connection with the roads of Ohio, on the one hand, and the shortest and best avenues to the eastern market on the other.

The *Sunbury and Erie* road is in progress, and will be completed sooner than the great proposed *Ohio* line. Now will freight bound for New York

cross this road and take the long circuit of the Erie road, increasing the distance some one hundred and fifty miles? The idea is absurd. Should the 6 foot gauge be adopted, the freight forwarded by the proposed road could reach New York over the narrow gauge. How unwise it would be, therefore, to adopt a gauge which had suitable connections neither at one end nor the other, and which could neither receive nor deliver freight without breaking bulk, and subjecting the road to all those inconveniences, which is the very object of the adoption of the wide gauge to avoid?

The fact is that this question of gauge, as it has been made use of, is a great *humbug*. There is neither sense nor meaning in it. It will really weaken, instead of strengthen, any road that adopts it in Ohio, and any eclat given to a project by its proposed use is all fictitious. It is not the gauge for Ohio as things are, and instead of benefiting it will be likely to prove disastrous to any road using it.

The projectors of this road should not blind themselves to the facts we have stated. If their project be a good one, the adoption of the broad gauge would prove a serious impediment to its success. If by adopting the gauge of the state, their road should lose a portion of its supposed importance, rely upon it that this advantage will be a great disadvantage. Everything that gives it a fictitious importance should be discarded and make nothing the basis of action, that is not inherently correct.

In this connection we would state, that we are sorry to learn that the Ohio and Mississippi Railroad, propose to adopt the wide gauge for their road. All the roads with which their line will connect, will have the 4 8½ gauge. This company are taking a step which will not only prove a most serious drawback upon the success of their road, but one that will be sure to raise up a rival project, having the same general direction and objects. The roads of Southern Indiana and Illinois are not going to remain without a convenient avenue to the Cincinnati market, and if the Ohio and Mississippi road will not supply one they will unite together and construct one for themselves. Already is such a project mooted. A shorter route even, can be had between Cincinnati and St. Louis than by the line of the Ohio and Mississippi road, by following up the Lawrenceburg road as far as Greensburg, and thence striking off direct to Terre Haute. The adopting the 6 feet gauge, will compel the Lawrenceburg and Indianapolis company, to continue their track to Cincinnati. The construction of the branch of this road, already referred to, will follow as a matter of course; and the step which the Ohio and Mississippi Railroad company supposed would give them the monopoly of business between the above cities will be the one that will raise up to them a formidable and successful rival. The only way to avoid rivalry is to accommodate the local business of the country. This they do not propose to do. They are about to sacrifice a portion of the appropriate business of this route to a fiction, and excite an opposition which will at least divide through business. It is not too late for them to recede. Will they not do it.

North Carolina.

The staging on the line of the Wilmington (N. C.) and Manchester route has been reduced to about 25 miles.

Grooved Axles.

We notice an article in the August number of Appleton's Magazine which, on the whole, appears to defend the practice of grooving axles, if the groove be made larger at the bottom than the journal of the axle, and "rounded" or "scolloped out" instead of having square corners. The axle which broke and caused the Andover accident, was turned with square grooves, the depth of which we do not recollect. We can say, however, that until within a short time the B. and Maine railroad turned their axles with a sharp cornered groove 3-16 inch wide, and ⅜ inch from the inner shoulder of each journal, the groove being ¼ inch larger at bottom than the diameter of journal.—The fracture in the axle broken at Andover could not have been seen several days previous to the accident, as it was enclosed in a box to which no attention is required oftener than once in 4 weeks. No doubt the fracture had existed for some time, and no doubt similar fractures are in progress now in other grooved axles, but the boxes require examination so seldom that these fractures may escape notice. We have seen the groove turned into a collar, which is shrunk upon the axle just within the bearing; this, we believe, is one of Mr. Timm's plans, and we should judge, his best plan, being less liable to lead to accident than that of cutting out the strength of the axle in the part subjected to the most strain.

Balancing Locomotive Drivers.

(Continued from Page 484.)

We resume the illustration of this subject, this week, from D. K. Clark's work. As we presume but few have made any calculation of the necessity of "counterbalancing" but have applied weights by "guess" or by trial, we do not doubt that its consideration will prove acceptable to engine builders and operators.

Internal Disturbing forces (Continued)—Numerical Values.

Central Forces.—Centrifugal force is excited by the constrained circular motion of a heavy body, and is the force with which the revolving body tends to fly from the center round which it revolves. It acts on the center, and must be met by an equal and opposite strain, known as *centripetal force*, and the two forces so opposed are classed as *central forces*:—they are mere cases of action and reaction, and necessarily co-exist: and it is customary to allude to the disturbing action so induced as, simply, central, or centrifugal force.

Central force depends upon the weight of the revolving body, its velocity in the circle or orbit of motion, and the radius of the circle, or the distance of the body from the center of motion. The intensity of the force in pounds is found by the following rule:—

RULE 1.—To find the Centrifugal force of a Revolving Body. Multiply the weight in pounds by the square of the velocity in the circular path, in feet per second,—divide by the radius of the circle in feet,—and by 32. The quotient is the central force in pounds.

Applying the laws of central force to the circumstances of locomotive machinery, it appears that, 1st. When the diameter of wheel, and the speed on the rails are the same, the central force increases directly with the length of the crank, or with the length of the stroke; it also increases

directly with the weight of the revolving masses of the crank and the connecting rod.

2nd. When the diameter of the wheel and other matters are the same, the centrifugal force of the crank and connecting rod increases as the square of the speed on the rails; that is, for twice the speed there is four times the disturbing force.

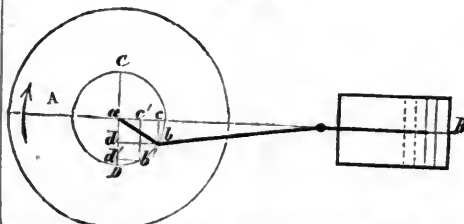
3d. When the speed on the rails, and other matters, are the same, the centrifugal force of the crank and connecting rod increases as the square of the diameter of the wheel inversely; that is, for half the diameter, with the same speed, the disturbance is not merely doubled but increased 4 times; on the contrary, with double the wheel, there is only one-fourth of the disturbing force.

These conclusions show not only the great influence of speed in increasing centrifugal force, but also the equally great influence of the diameter of wheel in reducing it; so that if the diameter of wheel be increased in proportion with the speed, other matters being the same, the centrifugal force at the crank and connecting rod would remain unaltered. They explain also the great increase of disturbance from unbalanced masses, arising from a relatively small reduction of the wheel: for example, a reduction of the wheel from six feet to four and a half feet, or in the ratio of 4 to 3, would increase the disturbing force at the same speed, in the ratio of three squared to four squared, or as nine to sixteen, to nearly double.

Analysis of disturbing forces in the Locomotive.

—It has already been stated that the centrifugal force of the crank and connecting rod is of more consequence to the stability of the locomotive by its horizontal action parallel to the rail, than by its vertical action. These two actions may be separated by diagram, thus:—Let A, B, be the center line of the engine, and a, b, the right hand crank revolving in the circle C, D, with its load on the pin at b; the centrifugal force at b acts in the direction a, b, and may be represented in intensity by a, b. Draw b, c, and a, d, perpendicular and b, d, parallel to A, B; then a, c, represents the horizontal strain on the axle at a towards B, and a, d, the vertical strain downwards, caused by the central force a, b. Similarly for any other position of the crank, a, b' the horizontal and ver-

Fig. 4.



tical forces, a, c'; a, d', are developed. In the position a, D, at half throw, the force is entirely vertical, and the horizontal element vanishes; the same may be said of the position a, C, on the opposite side. At the dead points A, B, on the contrary, the force is entirely horizontal, and the vertical element becomes nothing. Thus, though the central force be constant, its horizontal and vertical actions are variable, and alternate in such a manner that the horizontal action is greatest at the dead points, and vanishes at half throw, while the vertical action is greatest at half throw, and vanishes at the dead points.

The horizontal forces developed in the succes-

sive acceleration and retardation of the piston and its appendages vary in the same manner and at the same rate as the horizontal element of central force; they are greatest at the dead points, where the piston is to be started and stopped, and vanish at half stroke. The horizontal action due to the piston, is in brief, *centrifugal force, wanting the vertical element*. This is the coincidence to which Mr. Fernihough alluded, in his evidence referred to in last chapter.

The disturbing forces for the left hand cylinder act in the same way, and unite with those of the other cylinder in unsettling the progressive motion of the engine on the rail. In tracing the joint action of these forces it is necessary to separate the revolving masses from those which merely reciprocate. The connecting rod partakes of the two motions as it works between the crank and the cross head; one half of its weight will therefore be classed with the revolving mass, and the remainder with the piston and appendages.

As central force varies with the distance of the center of gravity of the revolving body from the center of motion, a fixed radius, the length of crank, is that for which as a matter of convenience the central force of all the revolving masses may be estimated. While the crank-pin and the half connecting rod work on this radius, the crank itself, inasmuch as its center of gravity is nearer the axle, works on a shorter radius, and it requires to be reduced in the same ratio, to refer it to the crank pin, that is, to find the equivalent weight, centered at the pin, which would produce the same central force.

This is done by the following rule:—

RULE 2.—To refer a given Revolving weight to the crank-pin.—Multiply the weight in pounds by the distance of its center of gravity from the center of the axle, in inches,—and divide by the length of crank, in inches. The quotient is the equivalent weight in pounds at the crank-pin.

Let A, B, fig. 5, be one check of an inside crank, A the pin, and C the circle described by the center of the pin. The center of gra-

Fig. 5

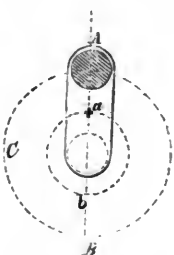
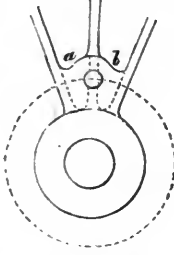


Fig. 6

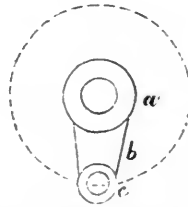


vity of the check is at a, midway of the crank, and moves in the circle a, b, with half the radius of the crank-pin. If the crank be 10 inches long, and weighs 96 pounds, the radius B, a will be 5 inches, and by the rule $(96 \times 5) \div 10 = 48$ lbs., the equivalent weight of the crank, referred to the pin; or exactly one half of its actual weight.

For outside wheel-cranks of cast iron, the metal extra to the nave, formed round the pin may, without material error, be estimated as a semi-cylinder, of which the center of gravity is at the center of the pin. When the wheel-cranks are malleable, and wrought into the spokes, as in fig.

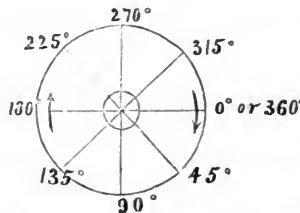
6, the extra metal consists of the wedges a, b, defined by dotting, at the length of the crank from the center.

Fig. 7.



For independent outside cranks, as in fig. 7, the center of gravity of the entire crank may be found directly by balancing it horizontally over a point; or, overlooking the boss, a, which is not a part of the disturbing weight, the socket c, may be taken as equivalent weight at the pin.

Fig. 8.



Numerical values of the Disturbing Forces. Le Chatelier's results for the sample engine, fig. 1, are here quoted, in English measures; they are estimated at intervals of 45° of a revolution of the right hand crank, commencing with 0° at the dead point, as set off in fig. 8; and are taken separately for the two cranks, the simultaneous forces for the left hand crank being estimated for positions at right angles to the others, or 90° behind it in the direction of motion.

For the engine in question.

Diameter of cylinder, 15 inch; stroke 22 inches.

Crank, 11 in.; connecting rod 54 inches.

Wheel, 66 inches.

Cylinders, 6 feet 2 inches apart between centers.

Wheels 4 feet 7 inches apart centers, transversely.

Fore and hind axes, 9 feet, 10 inches apart.

Center of gravity, 3 inches behind vertical center line of driving axle.

Weight on rails at fore wheels..... 6 tons.
Do. do. driving do..... 7 "
Do. do. hind do..... 8 "

Total in working order..... 21

Weight of piston and rod..... 178 lbs.
Crosshead..... 56 "
Connecting rod..... 172 "
Crank referred to pin..... 100 "
Crank pin..... 34 "

Total..... 540 lbs.

Weight of crank referred to pin..... 100 lbs.
Crank pin..... 34 "
Half connecting rod..... 86 "

Total revolving weight..... 220 lbs.

1st. Of the tendency to Pitching and Rolling.

This is caused by the upward pressure on the guide-bars due to the oblique action of the connecting rod. With 40 lbs. steam in the cylinders,

under the full gear it varies from 0 at the end of the stroke, to about 1560 lbs. or 14 cwt. at half stroke, for each cylinder; by the combined action of the two rods, the total upward pressure fluctuates between 14 and 21 cwt. inducing vertical play on the springs, or pitching; and the difference of pressures, right and left, varies from 1 to 14 cwt. four times during a revolution, inducing a rolling motion. The wider apart the cylinders, the greater is the effect from this cause, because the greater is the leverage laterally of the fluctuating forces on the machine.

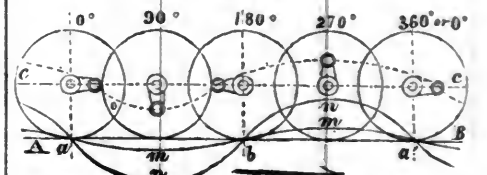
2d. Vertical action of Centrifugal force.—Calculated for 220 lbs. or about 2 cwt. the weight of the revolving mass referred to the crankpin, the following are the vertical pressures for speeds of 25 and 50 miles per hour, reckoned positive (+) when acting downwards, and negative (−) upwards.

TABLE, NO. 1.—VERTICAL ACTION BY CENTRIFUGAL FORCE OF A REVOLVING MASS OF 2 CWT. AT CRANK PIN.

Angle of right hand crank.	Right hand Cylinder.		Left hand Cylinder.		Sum of the two Cylinders.	
	25 m.p.h.	50 m.p.h.	25 m.p.h.	50 m.p.h.	25 m.p.h.	50 m.p.h.
0°	0	0	−8 3/4	−35	−8 3/4	−35
45°	+6 1/4	+25	−6 1/4	−25	0	0
90°	+8 3/4	+35	0	0	+8 3/4	+35
135°	+6 1/4	+25	+6 1/4	+25	+12 1/2	+50
180°	0	0	+8 3/4	+35	+8 3/4	+35
225°	−6 1/4	−25	+6 1/4	+25	0	0
270°	−8 3/4	−35	0	0	−8 3/4	−35
315°	−6 1/4	−25	−6 1/4	−25	−12 1/2	−50

By this table, it appears, the centrifugal action of about 2 cwt. on the driving axle, alternately adds and subtracts about 9 cwt. from the pressure

Fig. 9.



MOTION OF LOCOMOTIVES.—Illustration of the Vertical Action of Centrifugal Force on the Driving Wheel, at 25 and 50 miles per hour.

on the rails, on one side, at 25 miles per hour; and the variation amounts to 35 cwt. at 50 miles. This is illustrated in fig. 9, where the wheel and crank are shown at intervals of one-fourth of a turn.—Over the distance a a', a whole turn is made, and an extra half turn to b'; c c is the path of the center of the axle, and the wave-line o o is that of the crank pin. The wave-lines m n are constructed by a scale of parts, from the contents of the 2d and 3d columns of the table, and indicate the variations of vertical action for 25 and 50 miles per hour, their depression below the rail-line showing extra downward action, and their elevation above, upward action. They show not only how the action is increased by extra speed, but also that the upward and downward actions coincide with the upward and downward movements of the crank-pin.

The joint vertical action of the two cylinders never exceeds 12 1/2 cwt. up or down, at 25 miles; at 50 miles, it reaches 50 cwt. The downward pressure is met by the rails, and the stability can be affected only by the upward pressure, when it exceeds the weight of the wheels and axles and the mounting, for otherwise the springs cannot be affected. As the wheels and axle alone weigh two tons, and with mounting, 2 1/2 tons, their dead weight alone balances the combined upward pres-

sure at 50 miles. The vertical action at each wheel singly is more powerful, as it reaches 35 cwt. at 50 miles; and, operating at the end of the axle, it has a leverage of 2 to 1 upon the whole dead weight, and would balance it with a force of 25 cwt., leaving 10 cwt. to act on the springs and the load. But this could not affect the compass of the spring materially above $\frac{1}{8}$ inch; still less can the vertical action affect the stability of inside-cylinder locomotives, where it has less leverage upon the load; and, in fact, it is not found in practice that the vertical action of central force in the locomotive operates as a cause of instability.

3d. *Longitudinal Fore-and-aft Movement.*—The horizontal action of the whole reciprocating mass may be calculated by the rules employed for the vertical action of centrifugal force; and in proportion as the whole moving weight exceeds that of the revolving weight, the horizontal will be found to exceed the vertical actions. The combined horizontal forces are as follows, calculated for a reciprocating weight of 540 lbs. to each cylinder, or a total of 1080 lbs., about 10 cwt. for the whole machine.

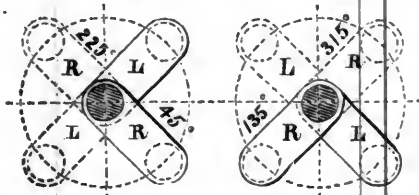
TABLE NO. II.—COMBINED FORE-AND-AFT HORIZONTAL ACTION OF THE WHOLE REVOLVING AND RECIPROCATING WEIGHT, ABOUT 5 CWT. TO EACH CYLINDER.

Angle of right hand Crank.	Horizontal Force.	
	— Forward.	— Backward.
0°	25 m.p.h.	50 m.p.h.
45°	—21 $\frac{3}{4}$	—87
90°	—30 $\frac{3}{4}$	—123
135°	—21 $\frac{3}{4}$	—87
180°	0	0
225°	+21 $\frac{3}{4}$	+87
270°	+30 $\frac{3}{4}$	+123
315°	+21 $\frac{3}{4}$	+87
	0	0

This table shows that the combined horizontal force varies from 0 to 1 $\frac{1}{2}$ tons at twenty-five miles, and to above six tons at fifty miles, or three tons tons to each crank due to the mere inertia of the mechanism! These are most formidable pressures, and they contribute seriously to the wear and tear of the machinery. At 45° and 225° where the action is greatest, the cranks are in the positions shown in fig. 10 R and L being the right and left

Fig. 10.

Fig. 11.



hand cranks, the action vanishes at the position shown in fig. 11.

4th. *Horizontal Sinuous Movement.*—This arises from the same causes which create longitudinal fore and aft movement, and in practice the two results are combined; the distinction being that the forces causing sinuous movement predominate alternately with those causing longitudinal movement, as exhibited by the letters in table in the last chapter, and further shown in the following table III in contrast with the contents of table

TABLE NO. III.—COMBINED SINUOUS ACTION OF THE WHOLE REVOLVING RECIPROCATING WEIGHT.

Angle of Right hand Crank.	Sinuous Forces.	
	25 m.p.h.	50 m.p.h.
0°	—21 $\frac{3}{4}$	—87
45°	0	0
90°	+21 $\frac{3}{4}$	+87
135°	+30 $\frac{3}{4}$	+123
180°	+21 $\frac{3}{4}$	+87
225°	0	0
270°	—21 $\frac{3}{4}$	—87
315°	—30 $\frac{3}{4}$	—123

preceding. In these tables it is shown that the sinuous forces are the same in intensity and rate of variation as the fore-and-aft forces just given. The leverage with which they act on the whole mass is equal to half the distance of the centres of cylinders, as the axis round which the pendulous action takes place must be at the middle of the driving axle. The action is greatest at 135° and 315°, when the cranks are in the position fig. 11 and reduced to nothing in the positions fig. 10. Sinuous motion is still more detrimental to the durability of the engine, than fore-and-aft motion.

To be continued.

Workshops of the Michigan Central Railroad at Detroit.

We find a long and useful article in the Detroit Tribune, giving an account of the extent and operations of the workshops of the above company in Detroit. From it we learn that the Michigan Central railroad company have completed their arrangements for building all of their locomotives and cars, and are now turning out specimens of each, which will compare favorably with any made elsewhere. Four new locomotives were in process of construction at the time of the publication of the article from which we quote.

The property of the Michigan Central railroad company in Detroit is situated between Third-st. and the western boundary of the city, and an extension of Jefferson avenue and the Detroit river, having a front upon the latter of 2,000 feet, worth at the market value of such property with equal advantages, nearly or quite half a million of dollars. Their buildings consist of a passenger depot, on Third street, 75 by 325 feet, with eight offices for the accommodation of the different railroad officers, a freight depot 100 by 800 feet, in front of which lies their steamboat dock; another 41 by 92 feet, four stories high, and a third 50 by 92 feet, three stories high; a machine shop 63 by 95 feet, two and a half stories high, with one wing 40 by 63 feet, and two stories high, which is used for a coppersmith shop, and another 40 by 43 feet, two stories high, which is used for a boiler shop; an engine house for stationary engine, 23 by 30 feet; blacksmith shop 56 by 182 feet of the most permanent kind, and another 30 by 63 feet; oil and pattern fire proof shop, 16 by 53 feet, four offices for car shop and the superintendent of machinery, 36 by 40 feet, two and a half stories high and fire proof. A car shop 55 by 170 feet, with the stories all occupied, and with a planing room connected with it 22 by 65 feet. In addition to these buildings they have a paint shop 36 by 160 feet, and a foundry building occupied for a carpenter's shop, etc., 40 by 90 feet. All of the buildings thus far noticed, are substantial brick structures, of the most permanent and durable character. Besides these they have temporary buildings, one 82 feet by 170 feet, and used partly for shops and partly for storage, another 43 by 135 feet, with several smaller buildings, occupied now for similar purposes, but which will before long give place to more durable structures.

The machine shops are under the superintendence of S. T. Newhall, Esq.

The whole number of men employed in carpenter's shops and wood department generally is 164. they are paid annually \$45,000, and the value of the cars, &c. manufactured by them exceeds \$100,000.

The second story of the freight depot is of sufficient capacity to store 50,000 barrels of flour, leaving the lower floor exclusively for the business of the road. There is attached to it an engine house 18 by 24 feet, with a 24 horse power engine, driving three Elevators, with capacity to raise 45 barrels per minute, or upwards of 25,000 barrels per day, when necessary.

The men in charge of the car building and carpenter department, are G. B. Avery, General Superintendent; S. C. Case Assistant Superintendent.

The lower floor of the machine shop is used for setting up new locomotives, under the superintendence of G. J. Lomas.

At the west end of the lower floor is the boiler shop, 45 feet square. Ascending to the second floor, we come to the finishing shop. At the east of this shop, and on the same floor, is the copper-smith and sheet iron workers' department. West of the machine shop is located the blacksmith shop. This building is 180 feet long by 55 ft. wide, of one story, the walls of the building 24 feet in height, with slate roof with ventilators in the attic, the entire length of the building. It contains 33 forges or fires, employing regularly 70 men as blacksmiths and helpers. Adding 10 additional forges in another building and 20 smiths and helpers, there are 90 men in the smith's department. Adjoining the main finishing shop is the engine house, a circular building 130 feet diameter, the walls of which are 16 feet in height, and measuring 64 feet from the floor in the center to the top of the dome in the center of the building. In this building are 16 pits or stalls for locomotives, surrounding the turn-table, which is situated in the center. The entire machinery in the shops, together with the fires in the smiths' shops, is propelled by a 40 horse-power stationary engine.

The whole number of men employed in the iron working department in these shops, 290; running engines and firemen, 71; total number of men in the iron department at Detroit, 361.

Stock used daily at the present time at the Detroit shops: Iron Castings, 4,400 lbs.; Brass, 200; Wrought Iron, 7,500, and Steel, 800, being an average of six tons and a half per day, or at the rate of more than two thousand tons per annum.

The machinery in this machine shop consists of six drill lathes, four power planing machines, 3 hand planing machines, one circular and one upright saw, one trip hammer, machinery for manufacture of locomotive tire, one heavy lathe for turning locomotive tire, 12 other lathes of various sizes, three screw cutting machines, and 2 machines for boring car wheels.

The men in charge of the machine shops and iron departments are S. T. Newhall, General Superintendent; George J. Lomas, Assistant do.; E. Benham, Book-keeper; James Therry, Draughtsman.

We will now recapitulate the above facts.

Number of men in Machine shop.....	361
" " Wood Department.....	164
" " Freight Department, &c.....	91
" " Passenger Depot Office.....	20

Total number of men employed in Detroit by the M. C. R. R. Co..... 636

Amount paid to Finishers, Blacksmiths and Laborers engaged per annum.....	\$113,300
Amount paid Car builders, &c.....	45,000
" " For Carpainting.....	11,000
" " Laborers in Depot, &c.....	35,000
" " Passengers Depot Office.....	20,000

Total amount paid annually for labor in Depot.....	\$214,300
Lumber used worth.....	40,000
Iron used, (6500 tons).....	120,000

Total amount for all purposes..... \$374,300

New York Locomotive Works.

We learn, says the Albany Evening Journal, that Mr. E. P. Gould, late Master Mechanic on the Hudson River railroad, has accepted the position of Superintendent of the New York Locomotive Works, at Jersey City. The company, says the Journal, are fortunate in their selection, and have secured the services of a sound, practical mechanic. The Hudson River railroad appears to be a kind of graduating school, in which the highest perfection is attained, and to which the best talent is attracted.

Crystal Palace.

The "Machine Arcade" is progressing towards completion. But very few articles however of United States manufacture, intended for exhibition in that department, have arrived. There are to be two steam engines for driving what machinery is offered for exhibition. One of these is from Corliss, Nightingale & Co. of Providence, R. I. and is of 60 horse power. The other is a double cylinder, horizontal engine from the Essex Co. of Lawrence, Massachusetts. This engine has 18 in. cylinders, $3\frac{1}{2}$ feet stroke, and both cylinders will be capable of exerting 120 horse power.

The list of American machinery is extremely limited. The Centrifugal Pump; a Cutting and shearing Press acting on Dick's patent; the power Printing Presses of A. B. Taylor of New York, and of Isaac Adams of Boston; a Throble frame from the Franklin Foundry and Machine Co. of Providence, R. I.; Wylly's Drawing Regulator, for cotton preparation, from Levalley, Lanphear and Co. of Phenix, R. I.; a Brick Press from Charles Carnell of Philadelphia; etc. are among the most prominent on exhibition.

Among American manufactures of iron we see a fine exhibition of Scales, from Fairbanks & Co. comprising one Depot Scale of 12,000 lbs., 4 platform truck scales and six counter scales.

There are also Scales by J. A. Ross, of St. Louis; Iron doors from McMurray and Pawly, of St. Louis; a magnificent safe from Stearns and Marvin of this city. Linus Yale's Bank Lock; Bank Lock by J. H. Butterworth of Dover, N. J.; Engine and Coach Springs from Gatehell & Gates. Francis' Patent Life Boat, etc. There is a case of Carpenters Tools, as Planes, etc., of beautiful manufacture from the Ohio Tool Co. of Columbus Ohio.

Thus far the contributions in this department will not compare in extent with those usually seen at State fairs.

In the department of Great Britain much more is already exhibited. Joseph Whitworth & Co of Manchester, contribute a good display of Machinist's tools. These consist of a powerful Slotting machine, with very massive frame, and having an uniform downward and quick return motion; a Screw Cutting machine, to cut from $\frac{1}{2}$ inch to 2 inches; a general Shaping Machine having self acting feeds in either a horizontal, vertical, angular or circular direction; a patent Duplex Lathe, which we have not yet had an opportunity to examine; and last, a 14 feet Planing Machine with revolving tool to plane both ways, the carriage being driven by a long screw working into two revolving flanged discs.

John Mason of Rochdale has one 120 spindle Roving frame, to run 1250 turns per minute; a 72 spindle Slubbing frame to run 800 turns per minute; also a large scroll screw chuck and an improved vice, of Stiven's patent.

Among British manufactures of iron the Lowmoor company contribute a plate of iron, 19 ft. 2 in. $\times 4\frac{3}{4}$ feet, $\times \frac{3}{4}$ inch (not $\frac{3}{8}$ inch as has been stated); a finished flanged Tire for Engine Driving Wheel; a Car Wheel with wrought iron arms, rim and tire, and cast iron nave; a car axle; together with numerous specimens of iron which have been bent, tied and twisted in a cold state, and specimens of Coal, Coke, Limestone and Ironstone from the Lowmoor works.

W. Chance, Son & Co. of Birmingham contribute a full rack of Cables, Chains, etc. together with specimens of cable iron tied in *hard knots* without fracture, while in a cold state. The American agency of this house is E. B. Mullany, 42 Cliff St. New York.

George Hopper, of Durham, sends engine shafts of various forms.

James Russell & Sons, of Wednesbury, Staffordshire, send Wro't Iron Tubes, also wrought iron crosses and elbows, all apparently of the best workmanship.

Jowitt and Battic, of the Saville works, Sheffield, send specimens of Steel and Files. American agency, Delapierre, Baldwin & Co. 33 Dey St. New York.

John Brown, of the Atlas Steel Works, Sheffield, sends Patent Spiral Buffers, Engine and railway Carriage Springs, Steel Files, etc. American agency John S. Webb, 15 Gold St. New York.

Marriott and Atkinson, of the Fitzalan Works, Sheffield, send a splendid case of Files. American agency, John Moulson Jr. 102 John Street, New York.

Thomas Thurton & Sons, whose branch house is at 18 Cliff Street, New York, send a fine case of Files and a case of beautiful carpenters tools, besides tools for other purposes.

A Traversing Screw Jack, from George England & Co. of Hatcham Iron works, London, is an article which has been tested with much success on many of our principal railroads.

There is also a working model of semaphore and lantern Junction Signal, as used on the English railways. This forms a good illustration of the efficient and complete system of railway signals adopted in England.

There is a beautiful case of drawing instruments from the manufactory of J. Kern, Aarau, Switzerland, whose Agent is C. T. Amsler, 224 Chestnut Street, Philadelphia.

Our list, though by no means complete, contains most of the articles which are exhibited as *machinery*, and generally the more prominent of the manufactures of iron for industrial purposes. Its short extent, especially of works from our own country shows how little interest has been taken in the exhibition by machinists and iron manufacturers. To the *practical* mind, it must be recollected that the *steam engine* and the *locomotive* appear as worthy of exhibition as the proudest works of the painter or sculptor.

Grand Trunk Railway.

We learn that Hon. Messrs. Betts & Jackson, contractors of the Grand Trunk Line of Canada, and Robert Stephenson, Esq., the distinguished Engineer, arrived in the steamer of Thursday week. Mr. Stephenson comes out in reference to the proposed bridge over the St. Lawrence at Montreal, a work of greater magnitude than the celebrated "Britannia Bridge," of which he was the projector.

Messrs. Jackson and Betts have contracts for roads in the Lower Provinces, second only in magnitude to those undertaken by them in Canada, which involve an outlay of \$45,000,000. The projects they have on hand will constitute a complete system of roads, adequate to the wants of all the Provinces, and when completed, cannot fail of becoming to them sources of extraordinary prosperity.

Another Link in the Southern Railroad.

We learn from the Vicksburg Whig that the citizens of Autauga County, Alabama, situated on the north side of the Alabama river, between Selma and Montgomery—lately held a meeting at the county seat, and passed resolutions in favor of a railroad from Montgomery to intersect the Selma and Tennessee river railroad, at some point between Burnsville and Montevallo, east of Selma. A second meeting, in the same county, is to be held at Prattsville on the 2nd of August, to forward this connection. They are now making the road from Selma, west, in the direction of Vicksburg, to Union Town, whilst the directors of the Southern railroad have advertised for contracts east of Brandon towards Selma, and will probably soon be ready to let out the road to the Alabama line. The only link then required, to connect the Mississippi river at Vicksburg with Savannah, Charleston, Nashville, and by the East Tennessee and Southern railroads, to the Northern cities, will be the connection between the Alabama State line and Union Town, a short link running through Sumpter and Marengo, two of the largest cotton producing, slaveholding and wealthiest counties, not only in Alabama, but in the South; each of which could build the railroad through her borders without asking for a dollar from abroad.

Sunbury and Erie Railroad.

We learn from the Philadelphia News that the work on this road between Sunbury and Williamsport, is steadily progressing. The grading between Milton and Black Hole, about sixteen miles is half done, some four or five sections above Warrior Run, culverts and all, being entirely completed. The bridge over the Susquehanna, about two miles below the Muncy Dam is also progressing. More than one-third of the stone covering several acres, are already on the ground and dressed, and the masonry of the piers going up. The section through Milton is graded, and the one below running through the farm of James Cameron, Esq., is about half done. The first section above Chilliwaukee Creek, and the three above, are about to be vigorously prosecuted. The section on the farm of Mr. Watts, four miles above Northumberland, is about half done, and the remaining sections down, which are light, are also about to be commenced. The road is to be graded immediately for a double track. Whether for a narrow, or for six feet gauge, will, we presume, says the *Sunbury American*, depend upon the success of Mr. Fallon's mission to Europe. Should he not succeed, and the Philadelphians refuse to take the matter into their hands, the project will, continues the *American*, fall into the hands of the New York capitalists, who will, undoubtedly, adopt the wide gauge.

Metropolitan Railroad.

The Metropolitan railroad company has been organized in Washington. This road will lead from that city through Montgomery and Washington counties, Maryland, and connect with the Baltimore and Ohio railroad, so as to form a direct communication between Wheeling and Washington. The directors for the first year are as follows: John W. Maury, W. W. Corcoran, Geo. Parker, Joseph Bryan, Washington; David English, A. H. Dodge, Wm. M. Boyce, A. H. Pickrell, H. C. Mathews, Georgetown; F. C. Clopper, Montgomery County; Meredith Davis, Frederick County; Daniel Weisel, Washington County.

Precaution against Accidents.

The New Haven railroad company, since the accident at Norwalk, have ordered all of their passenger trains to come to a full stop before passing any of the draw bridges on their road. The operation of this rule is attended with considerable delay, which would be inexcusable but from the fact that it proceeds from a cautious regard for the lives of passengers. As the most effectual means for safety, it perhaps stands above others, but it is yet a question if there cannot be secured the passage of a drawbridge at forty miles per hour, by attending it with such safeguards as shall reduce the chances of danger to the same proportion as upon other parts of the road. The progress of a railway train must depend more upon the imparted than upon an observed knowledge of the condition of the track. That is, the number of points where the track crosses the road must be reduced, and the speed of the train must not be increased. These are upon curves, and also upon the road in dark nights. In such cases the exhibit may be considered as made by those placed for road. The safety of the train upon the exercise of human question must be, is it not trust the train to one man, another man, upon the who although himself made, nevertheless, for the safety of others? properly disciplined and properly may.

The movements of the great railway system of England are regulated by a system of signals, and a safe movement in almost every case is the result, for it is a well understood fact that accidents are far less numerous there than in the United States. It would not appear to be a difficult matter to signal a train, which is going at sixty miles an hour, that there is danger ahead. An intelligent signal—a large board or flag, such as is generally known to be indicative of danger,—would not fail to be regarded by men whose own credits, whose trusts, and whose lives are involved in that danger. The practice of stopping a train to be assured that a draw is closed, might certainly be dispensed with if the same assurance could be had half a mile before reaching the draw. The knowledge possessed by the engineman, of the state of the road, which is derived from his own immediate observation, must of course be limited, and yet the information which is imparted to him by others through the aid of signals, is as likely to produce accidents at stations, crossings, or switches as at draw bridges.

A draw bridge is comparatively a safe point to pass where signals are established, for it is opened only for the passage of vessels, and where the keeper and all others engaged must be at their posts and wide awake. Not so at a switch. This may be displaced for any trifling cause; the man to whom its operation is entrusted has less to spur his caution, and may readily forget to put the switch right again; the indications of its signal are seen only at a short distance, and accident may easily follow. Accidents at draw bridges, however, are very rare, and we never knew of one which

could not be easily traced to the absence of signals. The calamity at Norwalk, the accidents at Brandywine and Rancocas Creek, are all due to the same neglect.

If then, we admit that reliable signals may be transmitted in each case of danger, we are beyond the necessity of such extreme precautionary measures as have been adopted by the New Haven Company. Their regulation then appears in the light of a reaction, induced by the occurrence of an accident in a case where proper means had not been taken to avert it. We see that they suffer a detention of nearly a quarter of an hour on every through trip besides the wear and tear of rails and machinery always produced by stopping and starting. All railway men are well aware that a road with numerous stations is more expensive for the working of its machinery than another with fewer stations. It is only the income derived from these stations that makes return for the expense of stopping. If then, a stop is made at every draw, there is an expense incurred, on a road like the New Haven, the same as with half a dozen additional stations, without deriving any income therefrom. It is not worth while to urge the inconvenience of these detentions, as the passengers, who are most interested, can judge of that point for themselves. The direct expense to the company is probably more, for the number of trains they run, than would suffice to place a watchman at every one of these bridges. We must consider therefore that the recent regulation of the company has been made from the want of a knowledge of better means. No measure had been taken to secure safety for the express trains running through Norwalk, and now, that an accident has happened, the most inconvenient and expensive means are employed to avert such calamities in future. The insufficiency of the signal, whose indications should have been enough to ensure safety, is well known. It was a canvas ball of inferior size, and could not be seen, when raised, in season to receive any useful information from its indications. From within three eighths of a mile in approaching the bridge from the west, beyond which distance it would not be looked for, it was visible, when raised, once, for fifty feet, (a distance traversed in less than one second when going forty miles per hour), and not afterwards until within 188 yards of the draw. At a speed of forty miles per hour, at which speed the draw should be safely passed, this would allow ten seconds between discovering the signal and reaching the draw. True, if the train was going slower this time would be prolonged, but the signal should have been effective enough to have ordered a stop, or permitted the full speed, when the train was half a mile back.

The character of the signal relied upon was also of the most indifferent kind under any display. It was a negative signal. Its presence indicated safety, while its absence warned the train of danger. For miles of the road where no danger existed there was the same absence of signals and here, where danger of the most fearful kind threatened the train no signal of any kind was to be expected. It was like signalling a train in daylight and abandoning it to its own chances in the darkness of night.

The location of the line at this dangerous point was very unfavorable for the timely display of any

signal when erected only at the bridge. Besides the danger of a descending grade terminating at a draw, there were curves and natural obstacles in the way of seeing the draw in season to stop an approaching train. The line was originally located in a straight course through this place, but the temptation of saving a trifling sum in grading has had its effect in making this one of the most dangerous points on the line of the road.

Cheap Stationary Engine.

The knowledge of the details of a cheap and substantial engine is often of great service. There is scarcely a town to which railroads have just penetrated but has occasion for just such engines, and some enterprising builder soon finds it profitable to make a set of patterns for his own use and for that of his neighborhood. We have the notes of a very cheap, strong and serviceable upright engine, which may be of use to some of our readers. The engine is of a kind particularly adapted for saw-mills, machine shops and foundries, sash and blind shops, etc. It occupies but very little space, and being very simple, requires but little expense for its operation and maintenance.

Cylinder 12 inches in diameter, 24 inch stroke. Steam ports 6 in. by 1 in. Exhaust port 1½ in. wide. Cylinder is held by bottom flange only to a bed plate forming the connection of the columns of the frame, and is made tight by a lead joint.—Weight of cylinder casting in rough, 564 lbs.

Frame is of two hollow columns connected by bed plate at bottom, and cross braces for pedestal seat near the top. There is a stout rib on under side of bed plate, by which the bottom of the engine is held in a 16 inch timber, bolts being used to secure the engine only upon the square flanges on the tops of the columns. The columns are 4 feet from center to center; 12 feet 4½ inches from bottom of bed plate (exclusive of rib) to top of upper flanges. 10 ft. 6 in. from bottom to seat of pedestal, and 11 ft. ½ in. to center of shaft. Columns 8¾ in. diameter just above base mouldings, and 6½ inches at necks. Weight of frame casting 2915 lbs.

Wrought iron shaft 4⅞ inches diameter, and 7½ feet long. Bearings 4⅝ in. diam. and 11 in. long. Fly wheel with flat rim to belt from, and is 8 feet in diameter, 14 in. face, and weighs about 2500 lbs.

Piston has cast iron packing of two outer and one inner ring, each of ½ inch thickness. Piston rod cut off 3 ft. 11 inches in the rough. Connecting rod 6 feet 3 inches long from center to center; bearing at crank end 2⅝ inches diameter. 2⅝ inches long. Fork end at cross head, each bearing being 2¼ inches diameter, and 2 inches long.—Crank pin held in crank by a flat key.

Eccentric is of variable throw by forming one eccentric within the other, the inner eccentric having 1⅜ inch throw, and the outer one 2⅝ inches. The eccentrics are usually set to be adjustable at 3¼, 3⅝, or 4 inches throw. Lap of valve, one inch. Regulator is of a simple pattern, secured to a bracket bolted to the frame. Steam pipe is a 2½ inch gas pipe. Water pipe from force pump to boiler is 1¼ inch diameter. Boiler is 28 feet long, 42 inches in diameter, has two 15 inch flues. Shell of boiler of ¼ inch iron, flues 3-16 inch.—Cast iron heads weighing 600 lbs each. Entire boiler weighs 7000 lbs. Boiler is set between two 12 inch walls, 46 inches apart in clear. Under

side of boiler 42 inches from hearth; and there is a flue beyond grate of 7 inches deep around lower half of boiler. Grate 16 in. from bottom side of boiler.

To build this engine costs as follows—

9000 lbs. castings, at 3 cts. per lb.....	\$270 00
Finishing and setting up.....	110 00
Boiler 7000 lbs, at 7 cts. per lb.....	490 00
Forging, composition, and extras.....	130 00

\$1,000 00

Of late years there has been a great profit in building cheap stationary engines. During 1851, engines of the above specification could be built at a cost price of \$850 to \$875, while they would sell at the same time for \$1750. The erecting of the engine and setting of boiler were always charged for as extras, by the builders. More than five hundred engines of the above general description have already been built, by different makers, and have always given satisfaction where an effective and economical engine was wanted.

Chesapeake and Ohio Canal.

The Chesapeake and Ohio Canal company have published their annual report, for the year ending 30th June, from which we make the following extracts:

Notwithstanding the disadvantages, the revenue of last year was only \$17,110.92 less than that of 1852, where there was no serious interruption to the navigation of the canal. From the commencement of the coal trade in March last, to the 31st of May, 58,355 tons of coal were delivered at tide water, and it is expected that the amount for the whole year will not be less than 200,000 tons. From January to the 31st of May, the following leading articles, in addition to coal, have passed down the canal, viz: 115,260 barrels of flour; 110,660 bushels of wheat; 109,740 do. corn. From the 1st of January to 31st of May, the cargoes ascending the canal amounted to 7,061 tons, and the cargoes descending to 95,129 tons. Amount of tolls collected \$56,221 69.

After applying the sums borrowed from the Corporations and Banks of Washington, Georgetown, and Alexandria, to the purpose designed, and the revenue of 1852 to current expenses, there remained at the close of the year, arrearages, for repairs, officers' salaries, and other current expenses, amounting to \$49,000. This sum has since been reduced, by means of the revenue of the present year, to \$17,000, which will probably be paid by the revenue of the next two months.

The revenue from the 1st of June to the end of the present year, will probably amount to \$114,000; and the ordinary expenses to \$70,000, for maintenance of the canal, interest on loans, and other current expenses; which will leave a surplus of \$34,000 applicable to the above balance of \$17,000, and to other claims, for which the revenues of the Canal company are first liable.

The amount of claims, first entitled to payment out of the next revenues of the company, is \$435,370. In this statement, the interest on \$114,500 borrowed from corporations and banks, and on \$44,535 30, for which certificates of debt were issued for repairs, &c., prior to 1845, is not included, because it has been regularly paid.

The next prior claims against the company amount to \$1,950,000, and include \$1,700,000 bonds issued in pursuance of the Maryland act passed in 1844, for completing the Canal, and payable thirty-five years after date.

From the foregoing statement of the debts, expenses and revenue, and of the claims first payable out of the net profits of the Canal an opinion may be formed respecting the time when the payment of interest will be resumed on the bonds guaranteed by Virginia, and on those issued in pursuance of the law of Maryland. If the creditors first entitled to payment would consent, as they probably will, to receive only their interest in

common with the next preferred creditors, till there is a surplus revenue to be applied to the extinguishment of their claims, it would be in the power of the company to resume the payment of interest on all their preferred debts at an early period. But the President and Directors could not now possibly designate any particular time for that purpose, without exciting expectations which accidents to the Canal, or other circumstances, might possibly prevent them from fulfilling.

In preparing this report, the President and Directors have thought it unnecessary to indulge in conjectures respecting the future prosperity of the company, so far as it depends on resources not yet developed, or events which may never occur; but existing circumstances justify them in expressing the opinion, that the canal will soon become the medium of an extensive and profitable trade. Since the middle of September, it has continued in excellent order, with the exception of a few slight accidents, such as must occasionally occur on every canal.

Gardner's Rock Drill.

We would invite attention to the advertisement in another column, of this useful machine, for dispensing with a great deal of labor in rock work. We copy the following description of the machine from the Boston Transcript:—"Allow us briefly to describe the engine whose powerful blows excavated in our presence a huge hole horizontally in the granite. Figure to yourselves a platform about three and a half feet wide, and ten or twelve feet long, made of very strong timbers, firmly bolted together. On the hinder end of the frame or platform stands a small upright steam boiler and engine (fastened to the boiler) of three or four horse power. From the forward end of the platform rise four posts, strongly braced, and six or seven feet high. The posts serve to support a strong iron frame, bearing the drill and its apparatus, and allow it to be moved up or down, and to be placed in any position from the horizontal to the vertical. It can drill a hole above or beneath the machine, or in any intermediate direction. The drill is held in an iron mandrel, which is placed in the iron frame, which last is supported on trunnions moving in iron boxes between the aforesaid upright posts. Through these trunnions runs a shaft, on which are placed two cams inside, and a band wheel outside the posts. This band wheel is connected by a belt with the fly wheel of the steam engine. The cams serve to draw back the drill from the rock, and at the same time compress an india rubber spring of about five inches in diameter, and fourteen inches in length. The re-action of the spring gives the gigantic force to the blow when the cams have released the mandril. The length of stroke is about six inches.

This mandril is connected to a cross head which slides in guides, and this cross head by means of a stout screw to another cross head, against which the cams press in drawing back the drill and compressing the spring—which spring re-acts against the latter cross head giving impetus to the drill. By a very simple but ingenious combination of a twisting bar, a pawl and ratchet wheel, the drill is made to turn on its axis about one-tenth of a revolution, more or less, each time the drill is drawn back. Thus it is at every blow compelled to strike in a new place, each time taking out chips, clearing itself readily and not making a wedge hole. The strokes were rapid, sometimes 100 to 125 per minute, and might be easily increased to 150, or perhaps with longer practice to 200 per minute.—By another simple arrangement the combinations

of twisting bar, pawl and ratchet wheel causes the aforesaid stout screw to rotate slowly, and thus the drill is advanced towards the rock with a rapidity varying according to the softness of the stone; in limestone it might be advanced perhaps five or six or even many more inches per minute. The drills in granite will ordinarily be changed about every 6 inches, but fourteen inches have been drilled without change.

In the common way of drilling, three men can sink a four inch hole only about forty inches per day of ten hours, or four inches per hour. While this machine was in operation, we saw the drill enter the rock horizontally in a four inch hole at a rate of ten inches in 11 minutes, with two men only, and this be it remembered, was not limestone, or any of the softer rocks, but the hardest kind of Quincy granite. We can understand this better when remembering that two blows are given every second, each blow will be the power of twenty men. Some of the advantages of this machine over others are 1st. The machine is relieved of the violent shock caused by the reactive force of the blow, unavoidable in machines hitherto constructed. 2d. The drill is kept uniformly rotating and advancing, and cannot turn backwards, or recede from the rock, being prevented by the ratchet wheels. 3d. The whole machine tends to advance towards the rock in consequence of the reactive force of the spring. Other machines tend to "advance backwards." 4th. A number of drills may be operated in the same machine and at the same time, and in different directions—thus rendering it very useful for tunnelling. To contrast the expenses of hand and machine drilling, suppose twelve gangs of three men, each at \$1 25 per day, amounting to \$45, can sink twelve holes of forty inches each, amounting in all to 480 inches, or 40 feet.—Let us see how much it would cost to do the same by the steam drill: Say two men at \$1.50 per day each, plus say \$1 25 each day for coal, and 75 cents per day for interest on the cost of the machine and repairs, amounting in all to five dollars per diem. This is one-ninth the cost of hand labor, no allowance being made for contingencies. An invention which not only promises thus much, but actually performs it, will not be long overlooked by intelligent contractors for railroads, and mine and quarry owners. We understand it is to be exhibited in full operation at the New York Crystal Palace." Those who are interested may find a notice in our advertising columns concerning the machine.

Alleghany Valley Railroad.

A meeting of the Board of Managers of the Alleghany Valley Railroad company, held yesterday at their office in this city, the following preamble and resolutions were adopted:

WHEREAS, The maps, profiles, and estimates made under the direction of the Chief Engineer, Mr. Roberts, of the several routes surveyed for the Alleghany Valley Railroad North-east of Kittanning, as exhibited by him, together with his report upon the same, are entirely satisfactory, there fore.

Resolved, That after due examination of the whole subject, that route from Kittanning, via Mahoning, Red Bank, and East Brauch of the Clariga Rivers, to Bishop's Summit, and thence by the way of Potato Creek to the most eligible points on the New York State line, be and the same is hereby adopted as the line of said Alleghany Valley Railroad.

Resolved, That the Chief Engineer be authorized and requested to locate and prepare the line for work forth with, according to the route this day determined upon.

Resolved, That the Chief Engineer be requested to prepare his report, together with a map of the various lines surveyed, for publication.

American Railroad Journal.

Saturday, August 6, 1853.

Milwaukee and Mississippi Railroad.

We learn that the contract for completing the western extension of the Oakland and Ottawa R. R. from the Rock River to Prairie du Chien on the Mississippi, a distance of 130 miles—62 miles of the road being already done west from Milwaukee—has been closed.

The contractor is A. S. Catlin, Esq., president of the Mechanic's Bank, Burlington, Vt., who is represented to be a gentleman of energy and large wealth. The terms of his contract require the road to be done by the 1st of January, 1855, the same time the managers of the Oakland and Ottawa road have pledged themselves to have it completed.

The company are to pay one-half (\$1,625,000) in stock, and \$1,625,000 in bonds. The road is to be finished ready for running—the rail to be 58 pounds to the yard.

Stock and Money Market.

The downward tendency in stocks, noticed last week, still continues. Nearly all the stocks in the fancy list have fallen materially; Erie being 2 per cent. lower, Harlem 3½, Hudson River 3. The better class of stocks have suffered severely. New York and New Haven has fallen 4 per cent.; Michigan Central 10, Reading 6. The premium stocks that have suffered most had all a vulnerable spot, to which may in a great measure be attributed their decline. The New York and New Haven is still suffering from the effects of the late disaster. In the case of the Michigan Central, excessive dividends recently paid appear to have created much dissatisfaction. The Panama stock appears to be quietly settling down, the last quotations being 110. When we commented in February last, upon the management of the road, the stock stood at 140. The slow progress of the road, and its vast cost, appear to have had the effect of opening the eyes of the public in reference to this project. The fancy coal and mining stocks are "nowhere." An equal degree of depression in the fancy line has not been seen for years.

The tightness of the money market is, of course, the disturbing principle in stocks. The stringency was unexpected, and is attributed mainly to the action of the banks under the new law, compelling them to make weekly statements. There cannot be a great demand for the ordinary wants of business, for the active season has not yet commenced. There is some apprehension felt that we are importing too freely, but there does not appear to be an extraordinary demand for money for shipment. The better opinion is, that the stringency is but temporary, and without any good cause in the condition of the country, or in any inherent weakness in monied institutions, and will soon give place to an easy market.

The imports and exports for July were very large. The following are the returns for the Port of New York:

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for 60.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	100
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland..... "	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland,..... "	20	227,981	291,200	In progres	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,640,217	150,538	79,659	none	41
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	109
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern	82	3,016,634	.....	.....	323,782	163,075	5	58
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	96½
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord .. "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,500	.....	.....	none	14
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	41
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	32½
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	17
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	102
Western Vermont	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell	28	1,830,000	.....	1,995,249	388,108	130,881	7½	99
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	106½
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	87½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101½
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	93
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	104½
Fitchburg	66	3,540,000	112,805	3,623,073	574,574	232,787	6	99½
New Bedford and Taunton.. "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County	26	547,015	819,743	1,245,927	67,251	23,415	none	68
Old Colony	45	1,964,070	282,300	2,293,534	322,213	101,510	none	92
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	18
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	58½
Providence and Worcester.. "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	125
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	102
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	760,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	52½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line .. "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna..... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie)... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	74½
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	69½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	58½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	35½
New York Central	504	22,858,600	2,111,824	.....	.....	.....	.....	116½
Ogdensburgh (Northern).... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	38
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	181,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga..... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	150
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,628	1,251,987	7	86½
Philad., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	74

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.	IMPORTS.			EXPORTS.
									Dry Goods.	Other.	Total.	
Pennsylvania Central.....	Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	99½	1st Week, 1,920,206	1,552,037	3,472,243	1,559,351
Philadelphia and Trenton ..	"	30							2d " 2,614,198	2,110,045	4,724,243	1,312,992
Pennsylvania Coal Co.....	"	47							3d " 2,758,613	1,715,151	4,473,764	1,244,700
Baltimore and Ohio.....	Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	4th " 4,036,274	2,660,390	6,696,664	1,311,819
Washington branch.....	"	38	1,650,000		1,650,000	348,622	216,237	8	Total. 11,429,291	8,037,623	19,366,914	5,428,862
Baltimore and Susquehanna..	"	57				413,673	152,536	42	Tot. '52. 6,926,151	4,862,951	11,789,102	2,965,543
Alexandria and Orange.....	Va.	65		In prog.					Incr'se. 4,503,140	3,174,672	7,677,812	2,463,320
Manassas Gap.....	"	27		In prog.					The export of specie this year has been \$3,901,-			
Petersburgh.....	"	64							158 against \$1,971,499 for July last year.			
Richmond and Danville.....	"	73	1,372,324	200,000	In prog.				The imports at other ports will not probably			
Richmond and Petersburg.....	"	22	685,000		1,100,000	122,861	74,113	none	show a marked increase. New York imports for			
Rich., Fred. and Potomac.....	"	76	1,000,000	503,006	1,531,238	254,376	113,236	7	the whole country, and the increased consump-			
South Side.....	"	62	1,328,722	800,000	In prog.				tion is seen in the enlarged volume of imports			
Virginia Central.....	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	at this port. Largely increased imports do not			
Virginia and Tennessee.....	"	60	3,000,000	1,500,000	In prog.			none	necessarily imply that we are overtrading, or that			
Winchester and Potomac.....	"	32	180,000	120,000	416,532	89,776	12		we are buying beyond our means of payment.—			
Wilmington and Raleigh.....	N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	The rapid manner in which the interior is opened			
Charlotte and South Carolina..	S. C.	110							up by railroads is adding in equal ratio to the abili-			
Greenville and Columbia.....	"	140	1,004,231	300,000	In prog.				ty of the country to purchase. There is no doubt			
South Carolina.....	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	that the people of Ohio, for instance, are able to			
Wilmington and Manchester..	"								indulge in twice the amount of luxuries that they			
Georgia Central.....	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	could five years ago. They have now a market			
Georgia.....	"	211	4,000,000	1,214		934,424	456,468	7½	for the products of their industry; and increased			
Macon and Western.....	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	imports go to show the progress of the country,			
Muscogee.....	"	71							rather than overtrading. It will be seen that the			
South Western.....	"	50	586,887	150,000	743,525	129,395	71,535	8	increase is chiefly in articles of <i>luxury</i> , proving			
Alabama and Tennessee River..	Ala.	55							the correctness of our remarks. Still, as we are			
Memphis and Charleston.....	"	93	776,259	400,000	In prog.				pretty <i>fast</i> people, it would be surprising if we did			
Mobile and Ohio.....	"	33	879,868		In prog.				not occasionally <i>overdo</i> in every department of bu-			
Montgomery and West Point..	"	88	688,611		1,330,960	173,542	76,079	8	siness.			
Southern.....	Miss.	60							The receipts of the Erie railroad for the month			
East Tennessee and Georgia..	Tenn.	80	835,000	541,000	In prog.				of July are reported as follows:			
Nashville and Chattanooga....	"	125	2,093,814	850,000	In prog.				For July, 1853.....			
Covington and Lexington.....	Ky.	29	1,430,150	1,100,000	In prog.				For July, 1852.....			
Frankfort and Lexington.....	"	29	357,218		584,902	87,421	44,250	80	Increase.....			
Louisville and Frankfort.....	"	65							This is not a flattering result, and is probably			
Maysville and Lexington.....	"								not up to the expectation of the company. It			
Cleveland and Pittsburgh.....	Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	certainly does not look well for an October divi-			
Cleveland, Painesv. and Ash..	"	71							dend. It will be noticed as a significant fact that,			
Cleveland and Columbus.....	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	for two or three months past, the company have			
Columbus, Piqua and Indiana..	"				In prog.				not reported the earnings from <i>passengers</i> and			
Columbus and Lake Erie.....	"	61							freight, but only give the aggregate of both. This			
Cincinnati, Ham. and Dayton	"	60	1,694,000	906,000	2,600,000	321,793	200,967	115	is done, we presume, to <i>conceal</i> the loss of the			
Cincinnati and Marietta.....	"				In prog.				<i>through</i> passenger travel, which is now monopoliz-			
Dayton and Western.....	"	40	310,000	550,000	925,000	Recently opened.		80	ed by the Central line. There is no doubt that			
Dayton and Michigan.....	"	20							the Erie has been completely outgeneraled in the			
Eaton and Hamilton.....	"	36			In prog.				recent arrangements between the two companies,			
Greenville and Miami.....	"	31							which has resulted in a loss to the former. of an			
Hillsboro.....	"	37			In prog.				important source of revenue. For the <i>through</i> bu-			
Little Miami.....	"	84	2,370,784		2,634,157	526,746	314,670	10	siness, this company has abandoned the western			
Mansfield and Sandusky.....	"		900,000	1,000,000	1,855,000				division of its road, from Hornellsville to Dunkirk,			
Mad River and Lake Erie.....	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	95	a distance of 128 miles, and have made Buffalo			
Ohio Central.....	"	57							its Lake terminus, and by doing so, have thrown			
Ohio and Mississippi.....	"				In prog.				the whole of this business into the hands of their			
Ohio and Pennsylvania.....	"	187	1,750,700	2,450,000					opponents. The managers of the Erie are evident-			
Ohio and Indiana.....	"				In prog.				ly no match for the experienced, sagacious and			
Scioto and Hocking Valley....	"								successful veterans who control the Central line.			
Toledo, Norwalk and Cleve'd	"	87	552,000	800,000	1,317,140	Recently opened.		150	The receipts of the Hudson River railroad are			
Xenia and Columbus.....	"	54	1,092,187	119,500	1,257,714	237,506	135,363	15	large. They are reported as follows:			
Evansville and Illinois.....	Ind.	31			In prog.				July, 1853.....			
Indiana Central.....	"								July, 1852.....			
Indiana Northern.....	"	131							Increase.....			
Indianapolis and Bellefontaine	"	83							This shows a large gain. We presume that a			
Lawrenceburg and Ind.....	"				In prog.				portion of the increase is made up of money re-			
Lafayette and Indianapolis....	"	62							ceived from persons ticketed over other roads. We			
Madison and Indianapolis.....	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	do not know such to be the fact. If not, the result			
Peru and Indianapolis.....	"	40			In prog.				is a very favorable one.			
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	105,944	71,446	4				
Rock Island and Chicago.....	"											
Chicago and Mississippi.....	"											
Illinois Central.....	Ill.											
Galena and Chicago.....	"	92	1,932,361	500,000	In prog.	473,548	286,152	126				
Michigan Southern.....	Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	128				
Michigan Central.....	"	282	4,000,000	4,067,396	8,614,193			8				
Pacific.....	Mo.							106				

The following is the coinage of the U. S. Mint at Philadelphia, for the month of July, 1853:

Gold.	Pieces.	Amount.
Double Eagles.....	50,228	\$1,004,560 00
Eagles.....	20,860	208,600 00
Half Eagles.....	43,000	215,000 00
Quarter Eagles.....	83,216	208,040 00
Dollars.....	60,276	60,276 00

Total.....	257,580	\$1,696,476 00
Fine gold bars.....		2,762,993 28

Total.....		\$4,459,469 28
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Silver.	Pieces.	Amount.
Half Dollars.....	552,000	276,000 00
Quarter Dollars.....	1,404,000	351,000 00
Dimes.....	540,000	54,000 00
Half Dimes.....	580,000	29,000 00

Total.....	3,071,000	\$710,000 00
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Copper.		
Cents.....	183,228	\$1,832 28

GOLD BULLION DEPOSITED.

From California.....		\$3,459,000 00
From other sources.....		32,000 00

Total.....		\$3,491,000 00
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SILVER BULLION DEPOSITED.

From various sources.....		\$611,000 00
Gold received in June.....		\$1,545,179 00
Gold received in July.....		\$3,491,000 00

Safety of the Chilled Tire.

In conversation, a short time since, with Mr. S. J. Hayes, who has been a machinist on the Baltimore and Ohio railroad for 18 years, and who has had entire charge of the whole motive power of the road for the last four years, he assured us that since the adoption of the chilled tire on that road some ten years ago, but *two* had ever broken thro' the rim. We accompanied him to the pattern loft and were shown the identical pattern from which were cast these tires. The pattern was 35 inches in diameter on the tread, and was originally two inches thick, but since the failure of two of the castings from it, it had been increased in thickness to three inches, which is the usual thickness of all the cast iron tires used. During this time, there have probably been *fifteen hundred* of these tires in service. The security of their application is owing to the fact that they are not *strained* in putting them on, as is done by *shrinking* a wrought tire. They are merely held by bolts upon a conical bearing. The wheel center is half an inch larger in diameter on the inner than on the outer edge, and yet the tendency of the action of the flange against the rail is to draw the tire further and further on. To give an idea of the extent of shrinking, we will say that six feet tires are shrunk at Paterson, three-fourths of an inch in their inner circumference, that is a force is applied to the tire sufficient to stretch it that distance while it is in a state no ways approaching ductility. By this process, wrought iron, although of far greater original strength than cast iron is so reduced in strength as to be the less reliable and safe of the two materials.

To show the security of these tires when exposed to the severe physical difficulties of the Baltimore and Ohio road, Mr. Hayes showed us an engine which had run for several months during the last winter, upon the mountain section west of Cumberland. It had traversed daily the hardest of grades, one in particular of 13 miles length, rising 116 feet per mile, and had run through curves of the minimum radii allowed on the line. The

summit elevation of the road, nearly three thousand feet above the sea, is a region of intense cold the mercury being sometimes 15° below zero, in the winter months, while there is more or less frost during every month in the year. Under all of these circumstances of extreme severity the tires of this engine remained good, and several other engines also which are kept on the same section as assistant engines had "stood the winter" equally as well.

Mr. B. H. Latrobe, the chief engineer, and Wm. Parker, Esq., the general superintendent of this road, have both of them, for a long time been strongly in favor of the chilled tire, and the method of its application as practised upon their road. Mr. Parker, who is a Northern man, and who knows well enough what was once the New England feeling in regard to cast iron tires, says that were he to return to the management of a Northern road, he would make the adoption of the chilled tire one of his first acts. Mr. Trimble of the Philadelphia and Baltimore railroad, has also for a long time been acquainted with these tires. None have ever broken on his road except by violent concessions from "run offs." Probably above 100 of these tires have been used on this road to the present time.

In New England also, there is a great change of feeling among superintendents and master mechanics as to the value of this improvement. At the Eastern railroad shop at East Boston, the visitor may see several sets in successful use and on hand for renewals. They have been used there for over four years. The Boston and Lowell road have one set of the chilled tires and several sets of the chilled whole wheels, the latter having all the merits except that of the economy of the chilled tire. The Nashua and Lowell, Salem and Lowell, Lowell and Lawrence, Boston and Maine, Fitchburg and Boston and Providence roads have also got the chilled wheel in successful use, but suffer their engines to be detained a week for each renewal of the wheels, and go to all the expense of making and fitting new crank pins, re-setting valve, etc., where they would save many hundreds of dollars every year by adopting the removable tire. They express entire satisfaction with the durability, safety, and adhesion of the chilled surface, and it must be admitted that where that surface is obtained from the whole wheel, they pay highly enough for its advantages. The preference for the whole wheel arises from the fact that they are supplied ready on hand at Boston, while the tire has not been generally made except at Manchester, N. H., Wilmington, Delaware, Baltimore, Md., and Alexandria, Va. If the parties who have fixed the standard of motive power for New England had hit upon the application of the slip tire, its introduction along with their engines would have been universal in that section. The men who build engines, do not always get hold of the best improvements at first, but combine gradually their own ideas with those of "outsiders" in such a manner as to complete an acceptable work.

As it is, however, builders tacitly admit the superiority of the chilled tire, by resorting to the application of the whole chilled wheel. The leading Boston, Philadelphia and Baltimore builders have done this long since. The slight tax which is secured from the use of the tire by the operation of a patent monopoly, is another obstacle in the

minds of men prejudiced against patents. But where the balance sheet is struck it will be found that the chilled tire "pays its way," and leaves a respectable net gain besides. This is sufficiently attested in the growing favor with which it is regarded, and its increased use by railroad companies throughout the whole country. Its general adoption, by reason of its reliability and economy, is not far distant.

Babbitt's Metal.

This composition is now used on most of the rubbing surfaces about locomotives, excepting valve faces, eccentric straps and link motions, and excepting, in some cases, the piston rings, cross heads and driving boxes. Its composition, as made at the oldest and largest brass foundries in Boston, is as follows—

Melt 1 part (by weight) of copper, and then add 2 parts of antimony;—stir well, and then throw in 4 parts of tin. This forms a metal called *hardening*, and is prepared for use by melting one pound of hardening with two pounds of tin. The articles to be lined are dipped in tinning salts. Boxes are placed upon an anvil, and have the metal poured in a hole on the back of box. Gibs and similar pieces are lined on a flat surface.

Railroad Items.

The citizens of San Augustine and its vicinity have subscribed one hundred thousand dollars to the Opelousas and Texas Railroad, and it is expected that the adjoining counties will subscribe one hundred and fifty thousand more to insure the terminus of the road at Fullerton's Bluff, on the Sabine. The people of that section expect that this railroad will be extended from New Orleans to San Diego, on the Pacific.

The aggregate earnings of the York and Cumberland (Maryland) Railroad for the months of April, May and June, of this year, were \$15,946 10, against \$13,421 for the same time in 1852—showing an increase of \$2,514 31.

The Milwaukee, Fond du Lac and Oshkosh Railroad Company have concluded a negotiation for iron enough to lay thirty miles of their road. It is expected that the road will be opened to Oshkosh in 18 months from the 1st of July.

The cars on the Richmond and Danville road, have commenced running to Drake's Branch eight miles above Keysville. We are also informed, that by the 1st of September, the road will be completed to the banks of Staunton river; by which time it is anticipated, the contractors will have completed the bridge over the same.

The Railroad Convention, which met at Clarks-Va. on the 13th. ult, appointed a committee to employ an engineer to survey the route for the proposed extension of the Roanoke Valley Railroad to Milton, N. C., and from thence to Leaksville. A committee was also appointed to use every effort to procure from the legislatures of N. Carolina and Virginia a charter for the same.

At a recent meeting of the board of directors of the Wisconsin Central railroad company, a contract was entered into by said board and the Fox River Valley Railroad, by which a connection is secured between those roads and the State Line at Genoa, Walworth county.

The line of the Chicago, Sterling and Mississippi railroad has been located to commence at the city of Chicago, thence by the most eligible route to the village of Naperville, in Du Page county;

thence to Anrora, Kane county; thence near the village of Little Rock, Kendall county; thence to Sterling, Whitesides county; thence to the Mississippi river, to a point not far above Fulton city, nor below Albany, on said river, in said county of Whitesides.

West Side Railroad.
NEW YORK TO ALBANY.

C. D. Westbrook, Jr., the Engineer appointed by the committee of organization of this road, has reported the results of an instrumental survey made by him, with reference to the feasibility and character of the proposed work.

The survey commenced at Hoboken and extended, 66.07 miles, to a point in the valley of Walkill, near the line of a survey made for the Goshen and Albany road. By that survey the remaining distance to Albany was 75.43 miles, thus making the total distance from Hoboken to Albany as indicated by these surveys, 141.50 miles.

The main summit of this route is in Ramapo Valley, 2.31 miles north of the point where the line diverges from the Erie railroad, and is elevated 5 ft. above the grade of that road at the point of its divergence. Thence the grade descends with various inclinations, the maximum of which is 25 feet to the mile, to the crossing of Murderer's Creek. Thence it ascends, at the rate of 25 feet to the mile, a distance of 3.07 miles to its summit, between the waters of Murderer's Creek and those of the Walkill. Thence it continues, on ground mostly level, and slightly undulating and descending to the point where the survey was ended, a further distance of 9.85 miles. Thence it would descend the valley of the Walkill.

The survey proposes a tunnel of 4000 feet at Weehawken hill. The line crosses Hackensack river, passes Hackensack village, and enters the basin of Saddle river, 6 miles beyond. From the entrance of this valley to the crossing of Saddle river is 3.17 miles, and from the latter point a grade of 45 feet per mile extends for 4.17 miles. The line crosses the Erie railroad 20 feet above its track, and at a point $24\frac{1}{4}$ miles from Hoboken.—From here to its junction with the Erie road and beyond that to the point near Wilkes', where it afterwards diverges, is a distance of 17.78 miles.

There are, except in but one case, no grades on the 66 miles of this survey exceeding 25 feet per mile, and in connection with the Goshen and Albany survey, a line is had shorter than has ever been located by actual survey between New York and Albany; being but 10 miles longer than a direct line.

Surveys are in progress from Goshen to Kingston. From Kingston to Albany is a continuous series of planes, extending nearly to Albany, interrupted only by the rock ridge at Catskill, and by three or four streams, and varying but little from their average elevation of 100 feet above the Hudson—broken, however, beyond Coxsackie, by occasional ravines from 10 to 200 feet wide, and 15 to 50 feet deep.

The cost of the work may be judged from the offer of a party of capitalists to build the road with a double track through its entire length, whose weight of rail and character of work shall be equal to that of the Hudson River railroad, and whose grades curvature and distance shall equal those described in this report, and laid down in the map and profile, for \$7,500,000. This offer

would, also, include the right of way, and stipulate for the fulfilment of the contract in two years, giving ample security for its performance.

Journal of Railroad Law.

SUBMITTING LEGISLATIVE ACTS TO THE PEOPLE.

The Supreme Court of Louisiana have, in the case of the *Police Jury, Right Bank of Parish of Orleans* (a municipal authority of that State) *vs. The Representatives of John McDonough*, come to a conclusion opposite to that of our own Courts, concerning the practice of procuring the popular sanction for laws.

The appeal in this case was made in reference to a tax bill for constructing the N. O., Opelousas and Gt. Western railroad.

The Court say "if the Legislature can constitutionally confer on a municipal authority power to pass a taxing ordinance, it would seem rather a safeguard against oppression than the reverse, to qualify the power by requiring it to be recognized with the approbation of a majority of those who are to bear the burden." They rely on the following cases: *Burgess vs. Pue*, 12 Gill. 191, 7 Western Law Journal 220; *Parker vs. Commonwealth*, 6 Barr. 507; 8 *Ibid.* 395 10 *Ibid.* 216; *Rice vs. Foster* 14 Harrington 495. They also refer to the Act of Congress of 9 July, 1846, in which the question of retrocession of Alexandria to Virginia was submitted to the people of that place; and to several acts upon the statute books of Louisiana. The Court expressed their surprise that such legislative caution should be a matter of reproach.

In the case above mentioned, the Court have also come to the conclusion that the Legislature may authorize a municipal authority to subscribe to a Railroad.

CAN LOCAL CORPORATIONS SUBSCRIBE TO RAILROADS NOT WITHIN THEIR LIMITS?

This question has, during the past week, been not only very warmly but also elaborately discussed in Philadelphia, before the Supreme Court of Pennsylvania, by several of the ablest Counsel of that city. The cases in which this discussion occurred were those of the Philadelphia, Easton and Water Gap railroad company, and the Hempfield railroad company. In the former case the city of Philadelphia had subscribed to the amount of a million of dollars in pursuance of an Act of the Legislature, and had issued their bonds accordingly.

Certain citizens invoked the equitable powers of the Court, in order to enjoin the corporation of Philadelphia from laying taxes in order to carry out the enterprise in question.

The principal points urged by Mr. Brewster, in behalf of the petitioners, were the following:

1st. The sole power of laying taxes for matters of general utility belongs to the Legislature. The Legislature have no right to transfer this authority or to delegate it to any other body. And the road in question would be of no special benefit to Philadelphia.

2d. The effect of the tax in question will be to take away the private property of citizens without compensating them therefor. It matters not whether their money be taken or their land. In either case compensation is necessary. What compensation is to be given to the citizens of Philadelphia in this case? Simply the opinion of the Legislature that the Water Gap road would benefit them ultimately.

3d. Only local matters are embraced within the scope of the duties of the corporation of Philadelphia. By the act in question the Legislature has authorized that corporation to tax the citizens for matters not local. One of the roads contemplated terminates in the suburbs, without entering any portion of the city,—and the other does not approach within thirty miles of Philadelphia. As well might Philadelphia be authorized to subscribe to the Lake Shore railroad, or to the Collins Line of Steamers. The Act is contrary to the bill of rights and to the genius of the constitution.

Mr. Dallas in behalf of the railroad companies, based his argument chiefly upon the following points, premising that the "genius of the constitution" was a very vague expression. One man might consider *liberty*, another *equality*, another *protection* to be the genius of the constitution.

1st. The constitution confers upon the legislature the whole power of making laws, except in those cases where it restricts them expressly, or by necessary implication.

2d. The function of the legislature is merely to make laws. It must necessarily avail itself of extrinsic agencies in order to carry these laws into effect.

3d. The legislature is not merely authorized to command a thing to be done. It can also authorize some competent party to execute its commands.

4th. Laying a tax is a different thing from taking private property for a public purpose. A tax is the contribution of the citizens to the general good.

5th. Beyond all dispute the legislature may authorize a city corporation to lay a local tax for a local purpose.

The local authorities of a community are best qualified to judge whether a measure will promote their local interests. The local authorities of Philadelphia, have been consulted in regard to the expediency of subscribing to the roads in question, and have responded affirmatively, and the tax is designed to subserve a work which it is supposed will redound to local advantage.

7th. In questions of policy, so far as is compatible with law, the decision of the majority must control, and to this the minority must yield. The majority in this case have by their duly constituted authorities sanctioned the imposition of the tax now complained of, and they were the legitimate judges in regard to its expediency.

A decision in this case may be expected in September, when the Supreme court will meet at Pittsburg.

Triangles.

We do not recollect of having ever seen any rule for obtaining the length of side of an equilateral triangle of known area. Although a simple problem, and perhaps of but occasional use, we have arranged a convenient rule for its solution.

To obtain the length of side of an equilateral triangle, the area being given.—Multiply the area by '57735, and take twice the square root of the product for the length of side.

A line bisecting an angle and equally dividing the area of an equilateral triangle, in other words a perpendicular raised midway of the base, is '866-025 the length of a side.

Locomotive Engines.

TO THE EDITOR OF THE AM. R. R. JOURNAL.

DEAR SIR:—My attention has been called to an article in your Journal of July 16, apparently from a disinterested visitor to the Repair shop of the Boston and Providence railroad company. From the reading of it, I think the writer must give us as facts, statements which the Annual Report of this company for 1852 do not corroborate.

Soon after the publication of the Annual Reports of the railroad corporations for 1852, by the Legislature, I was induced to compile a table of the cost per mile for running the larger roads which center in Boston. Among them was the Boston and Providence railroad. According to their report, the whole number of miles run by them in 1852 was 283,920, and the cost of fuel \$63,902 60, about 22½ cents per mile, or \$9 23 for fuel for a single trip over their road 41 miles long. Now if ¾ of a cord be their allowance it must be high cost wood. Assuming their wood to cost them when ready for use \$7 00 per cord, about a fair price, their average consumption must have been quite 10 feet. The writer of the article alluded to, in his table of calculation gives us the capacity of the Tenders for wood. The engines used on their passenger trains I find average nearly 1½ cord, and my observations lead me to think that this is nearer the quantity consumed by them on each trip than ¾ cord. Neither do they run five eight wheel cars each trip as the writer has been informed. The article alluded to looks puffy, though probably without design on the part of the author.

In my table, spoken of, I took 11 Roads and if I am correct the Boston and Providence, although they charge nothing to new locomotives to cover depreciation, they stood No. 6; in repairs of passenger cars No. 2; in freight cars No. 4; cost of fuel No. 9; cost of waste No. 8; cost of oil No. 4.

I make this statement to correct any wrong impressions that may be gathered from the article alluded to, and with this am done.

CANDOR.

The statement of the consumption of fuel being ¾ cord per trip was not given as the average for each engine but was the actual consumption of the "Neponset" on several trips where the writer of the article referred to was upon that engine. A train of five eight wheel cars was drawn in each case, viz: three first class passenger cars, one second class car, and one baggage car; although two first class passenger cars, with the other cars, may be a more usual train.

The writer of the article in the Journal of July 16, is tolerably well informed on the subject of locomotives, and has made comparisons of the Boston and Providence engines with those upon the other principal roads running out of Boston. The Griggs style of engine is in his opinion a cheap durable and economical style of engine for an inside connection, as much so as is in use on any road, and more so than the styles adopted on some roads. The Boston and Providence engines were charged with extraordinary expenses last year from the failure of eleven cranks owing wholly to unsound iron or bad welding, for which the master of machinery was not responsible. The Griggs engines are thoroughly built and are kept in an excellent working condition.

So far as the acknowledged means of superiority are considered, and without which engines are not economically worked,—tight boilers and tubes, good grates, tight dampers, good condition of bearings, and of tires;—correct adjustments of valves, large steam room, steam passages and exhaust openings,—these engines possess them all. Nor did the writer of the article, to which "CANDOR" refers, ever receive any statement of the size, condition or economy of these engines, but has given them as the results of his own observation and measurement.

North Carolina Railroad.

The Wilmington Herald contains a copy of the recent report of this company, presented at their annual meeting at Salisbury, N. C., July 14th.

It states that from the date of the last annual meeting to December last, \$500,000 had been paid in by individual stockholders, upon which event the state had made its subscription of \$2,000,000, of which \$500,000 have also been paid.

The construction of the road is rapidly progressing, the iron and a part of the equipments being contracted for, all of which will be delivered in season.

It was decided by the stockholders to commence immediately the extension of the branch routes from Goldsboro to Beaufort on the east, and from Salisbury to the Tennessee line, on the west end of the line. The whole amount of iron necessary for the track of the eastern division has been purchased, and 4000 tons also for the western end of the road which is to be delivered at Charleston, from which place it can be transported to Charlotte, the western terminus of the North Carolina work, by the South Carolina railroad.

Maj. Gwynn has been re-appointed chief engineer at a salary of \$5,000, and is directed to superintend the surveys of the roads east and west at a salary of \$3,000, in addition to the \$5,000. It is understood that Major Gwynn is to reside permanently in North Carolina.

The officers of the road are as follows:

John H. Morehead, President.

Cyrus P. Mendenhall, Secretary and Treasurer.

Walter Gwynn, Chief Engineer.

Directors.—Wm. H. Washington, Rob't Strange, Jr., W. T. Dortch, N. G. Rand, Samuel Phillips, Robert P. Dick, Samuel Hargrave Chas. F. Fisher,—appointed by the Governor. Dr. F. J. Hill, John M. Morehead, Francis Fries, D. A. Davis, elected by the stockholders.

Progress of New Works.

The rapid progress of our railroads is a gratifying fact, not only as an evidence of what we are accomplishing, but from the increased strength that each line of new road adds to the whole system. In a few months more, unbroken lines of roads will touch the Mississippi at three points—Galena, Rock Island, and Alton, near St. Louis, in the west. Every part of Ohio and Indiana, and the settled portions of Michigan are penetrated by railroads. Illinois and Wisconsin are alive with their construction, and the former will soon have as many miles as any State in the Union. A person may now go by railroad from New York to central Kentucky. Further south, the Nashville and Chattanooga road is on the eve of being completed, which will give easy access to the capital of Tennessee. In the south, a junction is about being effected between the railroads of Georgia

and Alabama, thus avoiding all staging between Savannah and Mobile and New Orleans. The Wilmington and Manchester road is fast approaching completion, and will supply the very important link wanting to connect the northern and southern systems. All the unfinished lines referred to are so far advanced that they offer but little impediment to the free course of travel, and the traveller may now visit nearly every important locality in the United States, by railroads, assisted in some few instances by steamboats over good navigable water courses. The cost of travelling, too, is diminished in proportion to the increased facilities for movement, and the productiveness of our works is augmented nearly in the same ratio; and more than all, the vastly diminished cost of transportation is adding just so much to the available capital of the country. We have now reached a point in the progress of our roads at which our roads, as a whole, are entirely safe from the effect of a stringent money market. They have advanced so far as to form parts of a great system, in which each road, and every additional mile opened, adds to the business of all the others that comprise it.

Franklin, Pickaway and Ross County Railroad.

The Circleville Herald has a well digested article on the importance of this road:

It is believed that a road could be built from Columbus to Chillicothe for \$20,000 per mile, and that the enhanced value of property along the line would more than pay for the cost of construction; and that a business in this valley adequate to the support of a railroad does exist, no one will dispute.

The road can therefore be built for \$900,000 the distance between the two points being forty-five miles.

In the construction of railroads in the west, it has become the universal custom to borrow a considerable portion of the means; and in the adoption of this plan, a road that will cost \$20,000 per mile is considered by capitalists as sufficient security for a loan of \$10,000 per mile. Such being the case, it is necessary then to raise only \$450,000 along the line of the road, to build it and put it in successful operation—and \$450,000 can be raised.

Franklin county has \$14,542,672 taxable property on the duplicate for the year 1852, and can easily raise \$200,000. Pickaway county has \$9,316,445 for the same year, and can raise \$100,000. Ross county has \$11,840,731 on the duplicate for the same year and can raise one hundred and fifty thousand dollars.

By a law passed March 1st, 1850, the commissioners of Franklin county, (if a majority of the legal voters in the county so vote) are authorized to subscribe \$25,000 to the road; and the city council of Columbus is authorized to subscribe \$15,000 on the same terms. The commissioners of Pickaway county, by the same law and upon the same conditions are authorized to subscribe \$50,000.

Judge Stilwell, of Zanesville, one of the ablest jurists in the state, decided, in the case of Thompson against Kelley, that the present constitution of the state did not repeal the law authorising the vote and subscription of stock by counties; that the commissioners had power to subscribe and pay in bonds, etc. This was a case testing the constitutionality of subscription by the commissioners of Belmont county to the Central Ohio railroad company.

Should the commissioners of Franklin county, and the city council of Columbus subscribe to the amount authorized by the law of 1850, it then leaves only \$160,000 to be raised by private subscriptions in that county, and with a valuation of

over \$15,000,000, as it will be this year, Franklin county can nearly raise that amount. And should the commissioners of Pickaway county subscribe \$50,000, it will leave only \$50,000 to be raised by private subscriptions.

Railroad Contracts.

Our Western roads have some queer ways of doing things, which appear to us to be a little too much of the *flash* order, to inspire respect for their projects, or confidence in the management of them. We refer to the manner in which they often make contracts for the construction of their roads. It often happens that one is no sooner projected than a contract is made in *gross*, for the whole work, before even an engineer has put his foot in the field. Of course nothing can be known of the route nor the cost of the proposed work. When contract prices are made to depend upon *quantities* of earth or rock work; or upon a given number of yards of masonry, with proper specifications as to the manner in which the work shall be done, contracts may be made with greater safety and propriety. But when they are taken at a *gross* sum, or at so much per mile, before the first step has been taken to ascertain what the actual cost is to be, it is, it strikes us, inverting the regular order of business. People who set to work to build a railroad with their own means, generally ascertain what is to be done before commencing work; upon the same principle that a carpenter precedes the work of the construction of a *house* by a definite *plan*. Now we think that the eclat gained by the reputation of having a road under *contract*, is more than offset by the suspicion which is often created on the part of the public that a little more *appears* than *exists*.

In old times it used to be thought quite an undertaking to prepare a line of 3 or 400 miles for contract; a work frequently requiring two or three years. It was also always considered that every dollar well spent in *surveys*, often saved ten or twenty fold as much in *construction*. But this old way of doing things is quite exploded. It happened in two or three instances quite recently that the first time we ever heard of an extension line of road, was when we were told it was under contract! This is making great haste, though but little speed, the great mass are *old fashioned* still, and will require things to go in the old way, and meet their approbation. "A word to the wise,"—etc.

Cleveland and St. Louis Railroad Co.

We learn that the stock-holders in the Cleveland and St. Louis Railroad company have organized by electing Israel Dille, of Newark; B. Barker, of Cleveland; J. G. Hussey, of Cleveland; H. Griswold, of Cleveland; H. N. Day, of Hudson, H. H. Dodd, of Toledo; and T. H. Binckley, of Lima, Directors; and the Board of Directors have elected Israel Dille, President; B. Barker, Vice President; and H. B. Spellman, Secretary. Erastus Hopkins, of Mass., has been appointed General Agent. The principal office of the company will be established in Cleveland.

The board of directors to construct the portion of the line in Indiana, consists of Erastus Hopkins, of Mass., president; Gov. Wright, of Indianapolis; J. G. Davies, of Parke county, Ind.; Wm. J. Coffin, of Parke county; Wm. H. Harding, of Lafayette; H. H. Dodd, of Toledo; and Israel Dille, of Newark. Wm. H. Harding, secretary; E. M. Benson of Montezuma, treasurer.

The capital stock of the company is to be \$10,000,000. The Ohio and State Journal says that Mr. Hopkins has already issued \$8,000,000 for the project in New England alone! If this be the case we advise Mr. Hopkins to get through this job with the least possible delay. We know of companies that would gladly hire him at a salary of \$1,000,000 a year, and *half* of the profits.

Should this company succeed in making its way through the net work of railroads that surround Cleveland for a distance of 150 miles without treading upon their neighbors' toes, and push on to Alton, they will there come to a dead halt. Alton is the pivot around which the State System moves, and in the opinion of her people, the *central point* in creation. In conformity with this idea the present city council solemnly resolved that no railroad shall be built connecting her with St. Louis! They declared that not even the *right* to build such a road existed. To call the above project a *Cleveland and St. Louis* road, therefore, is a deception, "an attempt to obtain a good name under false pretences." If the Alton lawyers are correct, no right exists. We also think,—when the public find that the above road is *not* a *St. Louis* road, after all, and that they cannot get nearer than 20 miles to that city by it,—they will be a little cautious how they go into it.

But, should a road be eventually built from Alton to St. Louis, there will be a shorter route between that city and Cleveland than the one proposed, and taking all the important towns in its way. Upon the short route, a railroad exists for more than two-thirds the distance, and the balance is soon to be built. In the face of such facts, the friends of this road must have a mighty good appetite for railroading; and pretty good courage, to construct a *round* road the circle, when the *chord* is already occupied. But if \$8,000,000 of stock be already obtained in New England for the new work, it is, we presume, too late to remonstrate, as the Irishman said to the chicken that was already half way down his throat in lieu of what was intended to be a *fresh egg*!

Memphis and Charleston Railroad.

We learn from the Memphis Enquirer that the work is progressing finely on the section of this road beyond LaGrange. There are about 800 men at work now on the first 23 miles, and additional laborers go up from Memphis with almost every train. All the heaviest work is now begun, and the Enquirer expects soon to be able to announce that the work is in actual progress on every section of the entire 43 miles. Even at this dull season the number of passengers over the road will average not less than 150 daily.

The iron is laid down on the Sommerville branch for a distance of about four miles, and the work is progressing well. The cars will be running over it about the middle of September.

Fremont and Indiana Railroad.

We learn from the Fremont Journal that the construction of the whole line of this road has been let out to Messrs. Shoemakers and Doolittle. They are energetic contractors, and the work will be rapidly prosecuted. The road extends from Fremont to Lima, in Allen county, where it connects with the road now in course of construction, from Dayton to Toledo; and it is proposed to extend the road to Union, on the Bellefontaine and Indianapolis road, making important connections at this place with the west and south-west, and affording the most direct route from that point to Cleveland. At Fremont the road connects directly by lines already finished, with Cleveland, Toledo and Sandusky.

New and Important Project.

We have the pleasure of stating that a distinguished railroad contractor, who was never known to *fail*, has just closed a contract for a railroad from Bellecentre, Ohio, to the *North Pole*. The contract embraces graduation, masonry, superstructure and equipment; and is taken at rates remarkably favorable to *all* parties. The contractor has come under bonds to have the work done in season for the return of Sir John Franklin and his party, and takes *one-third* of his pay in stock. To avoid tunnelling, a level above the ordinary elevation of the country will be adopted. It is expected that in this manner, a sufficient speed may be obtained to *jump* all the water courses,—thus saving the necessity for bridges. The first division of the road is to be completed in season for the "fall business." It is believed that it cannot prove less than a 12 per cent. stock. We learn that the President of this company is now on his way to this city with a large amount of bonds for sale. It is believed they will be favorite securities in the *English* market, as this work must save that country a great deal of money, in her attempts to discover the *Pole*. All that her navigators will have to do hereafter, will be to follow the line of the above road, to find the object of their hitherto fruitless enquiries. Too much praise cannot be awarded the enterprising parties who have this project in hand, for the prompt and business-like manner in which they brought it into its present prosperous condition.

Valuable Work on Mechanical drawing.

Blackie & Son, the enterprising Glasgow publishers, have commenced the publication of another of their useful and admirable serial works, called the *Engineers' and Machinists' Drawing Book*, "comprising Linear Drawing—Projections—eccentric curves—the various forms of Gearing—Reciprocating Machinery—Sketching and drawing from the Machine—Projection of shadows—tinting and coloring—and perspective."

The New York Agent of the house of Blackie & Son, George Taylor, Esq., 117 Fulton Street, has placed in our hands the first four issued numbers of this work which he has first received by the Asia.

The value of a work so full of practical ideas and detailed instruction cannot be expressed within the length of a mere book-notice. It is perhaps enough to say that it is arranged and re-written from the French of M. Le Blanc and M. M. Armengand, the former a close and instructive writer on the drawing of mechanical Engineering objects, and the latter a practical professor of industrial design. The work is superbly illustrated by steel engravings by J. W. Lowry, W. A. Beever and others. The whole work is in a style corresponding with the Engineer's and Machinists, assistant, and Clark's Railway Machinery, published by the same house. We shall recommend this work again to students of drawing. Price 56 cents per number. To be completed in about 14 numbers.

Susquehanna Railroad Bridge.

We see it stated that the \$800,000 additional stock of the Philadelphia, Wilmington and Baltimore Railroad; created to meet the cost of bridging the Susquehanna at Havre de Grace, has all been taken, and that the work of erecting the bridge will be commenced at the earliest possible moment.

Georgia.

Atlanta and Lagrange Railroad.—We have the annual report of this company, showing the business of their road for the year ending, Dec. 31, 1852, together with the present condition and prospects of their work.

The final estimates of the chief engineer make the road and fixtures to cost \$1,026,000, of which \$806,000 has been paid, leaving a balance yet to be expended of \$220,000.

This sum will be provided as follows:

Bonds authorised and not issued.....	\$144,000
Subscriptions unpaid.....	46,973
Surplus profit of present year and grading to be taken in stock, say.....	29,027

\$220,000

In February of the present year, the road was opened to Lagrange, 64¾ miles from the junction with the Macon and Western railroad, and 71¼ miles from Atlanta. It is expected to complete the road to the east bank of the Chattahoochee by the 25th of December.

The gross earnings for 1852 are.....	\$114,498 85
Expenses of operating road for same time.....	44,898 96

Net profits.....	69,599 89
Average length of road in use.....	44 miles.
Cost of road and equipment in use.....	\$495,000 00
Rate per cent on capital employed.....	14 4-100

The following is the treasurer's account made to May 20, 1853:

Dr.	
For scrip issued.....	\$654,998 50
Cash on account.....	16,677 84
Income from road to date.....	188,483 64
Company bonds.....	81,000 00
Amount due to individuals on account.....	2,394 24
	\$943,554 22

Cr.	
By construction.....	\$490,539 14
Iron, etc.....	263,618 03
Locomotives.....	49,898 75
Interest.....	71,597 19
Road expenses.....	61,959 81
Incidental expenses.....	54 60
Bills receivable.....	3,500 00
Balance.....	2,386 70
	\$943,554 22

Peoria and Oquawka Railroad.

We have much pleasure, says the Peoria News, in drawing the attention of our readers to this road. The energy and activity shown by their contractors, Messrs. Cruger, Secor & Co., cannot be too highly recommended, and the ability they evinced in their initiatory steps of their contract, leave little for our citizens to wish for. We annex the names of the gentlemen to whom the work has been awarded, and have only to remark, that a better selection could hardly have been made:

Sections 1 to 6, inclusive,	Devin & Russell.
" 7 to 8, "	Maxwell & Dodge.
" 9 to 10, "	J. B. Warner & Co.
" 11 "	Dunn & Reamey.
" 12 "	Smith & Merrill.
" 13 to the Illinois Central R. R.,	William Kellogg.

Illinois Central to Chicago and Mississippi railroad, J. B. Moss & Co., of Bloomington.

Trestle-work opposite Peoria, J. Williams.

We understand that the contracts for that portion of the line between the river and Washington are to be completed by the first of November, that between Washington and the Illinois Central rail-

road, by the first of January, and the balance by the first of March next.

The Columbus, Piqua and Indiana Railroad and its Connections.

We informed our readers a few weeks ago, of an agreement made for an extension of the Columbus, Piqua and Indiana Railroad west to Marion, Indiana, and thence through Peru to Chicago. We have now to communicate to them the agreeable intelligence that the first link in this chain of extension (from Union to Marion a distance of 51 miles) has been let to contract—the work to be commenced within sixty days and completed within two years. The letting took place at Marion last week, and the whole of the work on this fifty-one miles, including the furnishing of the iron and laying down of the track, was awarded to a company of gentlemen at the head of which is our enterprising and energetic townsman, Jonas Ward, Esq. We learn moreover, from the best authority, that the amount of stock subscribed upon this part of the line is amply sufficient to insure the making of the road within the time contracted for; and it is understood that that portion of the line lying between Union and Hartford—all very light work—can, and probably will, be completed and run long before the day specified in the contract for completing the whole.

From Marion to Peru, and on to Chicago, the line will be immediately surveyed, and it is quite probable that some portion of it will be let to contract before the close of the season. The whole line, as our readers have been before informed, is to be under the control of the Columbus, P. and Indiana company, to be run by them, according to a contract already entered into, for ten years we believe.

In addition to this important western connection, another has just been formed by the C. P. and Ia. Co., of not less importance. A road is now in process of construction from Marion to Logansport, Indiana, which is to be continued on through the State of Illinois to the Mississippi river. From Marion to Logansport it is to be completed within two years. With this road an arrangement has also been made, by which it is to be controlled and run for ten years by the Columbus Company.

From this it will be seen that our east and west road will be amply provided with western and north-western connections which cannot fail to render it one of the best, if not the very best east and west road in Ohio; and for these important connections it is indebted to its energetic and indefatigable president, who has exerted himself in praiseworthy manner to secure to his road the advantage referred to.—*Piqua Register*

Knoxville and Danville Railroad.

The survey of the route of this proposed improvement is completed. The line passes through the counties of Knox, Anderson, and Campbell in Tennessee, and Whitley, Laurel, Pulaski, Rockcastle, Lincoln and Boyle, in this State. The Danville Tribune is informed that the line through these counties measures one hundred and sixty-two miles, but by connecting and running more directly from a point in Whitley, that sixteen miles of the distance may be saved, and the entire line reduced to one hundred and forty-six miles. The maximum grade on the line run is fifty-two feet. In passing the Cumberland mountain at Elk Gap, the grade on the Kentucky side is fifty feet, and on the South, or Tennessee side, it is thirty-four feet. The entire line is represented as a very favorable one, as to grades, curves and magnitude of work. The cost of construction, it is confidently believed by the engineers, will range between \$20,000 and \$25,000 per mile.

The citizens of Pulaski county being dissatisfied that the town of Somerset was left off the line by the above survey, have fully organized the "Danville, Somerset and Knoxville Railroad company," of which the Board of Directors have elected Cyrenius Wait, Esq., President.—The intention is to secure the services of a competent

corps of engineers and make an accurate survey of the proposed route through Somerset as soon as practicable.

The Lawrenceburg Register of recent date, in speaking of the Ohio and Mississippi railroad says:

The work on this great road is progressing in a rapid manner. The force at work upon the road between Cincinnati and the Jeffersonville road is 2,360 laborers, 309 mechanics and 709 horses. The 10,000 tons of iron purchased for the road is beginning to arrive by way of Quebec and Toledo. A large number of cars are on the company's grounds below Mill creek.

The citizens of Meriwether and Harris counties Ga., are engaged in the very laudable effort to build a railroad from Grantsville to Hamilton, passing through Greenville. Grantsville is on the Lagrange road, 10 miles west of Newnan. It is understood that Harris county will extend the road to the Muscogee line, if assurances are given that it shall be continued to Columbus, a distance of only ten or 11 miles. The road is 60 miles long.

The Metropolitan railroad company are before the city council of Boston asking the right of way through the principal streets of that city.

The whole line of the Virginia Central railroad is now under contract as far as Clifton Forge. An engine has been transported across the mountain to convey passengers between Waynesboro and Staunton, and a track across the mountain has been finally determined upon, and by December it is calculated to have the cars running through to Staunton.

The track of the Virginia and Tennessee railroad is laid to within about three miles of the Big Spring. They expect to reach Christiansburg in October.

Solid Brass Tubes.

The American Brass Tube company, at Somerville near Boston, have for two years past been engaged in the manufacture of solid brass tubes for locomotive engines. These are now largely used by the principal locomotive establishments in the country, and have always given good results. The processes of manufacture are identical with those pursued in England, where the brass tube has been a settled fact for many years. The advantages of the solid brass tube are numerous and important, and among which the following are sufficient to justify their general introduction.

- 1st. Cheaper in first cost.
- 2d. More durable, wearing from one-half longer to twice as long as copper tubes.
- 3d. They possess a highly planished surface, both outside and inside, and are found in consequence to be less liable to attract scales. The incrustation of tubes, in districts where water impregnated with lime is used, is a great difficulty in the way of the economical working of engines, but by the use of these tubes may be sensibly lessened.
- 4th. Having no joints they are safe against bursting or leaking.
- 5th. While of the same external diameter from end to end, on the outside, the thickness is increased at one end to provide for the increased destruction of metal nearest the surface.
- 6th. Being very stiff, they are not so readily warped or sprung by the pitching of water, liberation of steam or other causes operating within the boiler, and consequently remain much tighter

within their tube sheets. Notwithstanding their hardness, however, they may be easily set by annealing their ends which is always done, and when ordered for feed pipes for the force pumps, or other pipes requiring bends, they are annealed throughout.

The Boston Locomotive Works use these tubes exclusively, while many other builders are using them in large lots and with great satisfaction.

Atlantic and Ohio Railroad.

The Warren (Ohio) Transcript states that the books of subscription to the capital stock of the Atlantic and Ohio Railroad Company have been opened. That paper states that the necessary papers have been filled at Columbus for the organization of the Company with a capital of \$6,000,000, and that the project has been planned by some of the most wealthy and energetic capitalists in Ohio. The line designated is to commence on the Pennsylvania State line in Franklin county, to Columbus, and thence to the Ohio river, connecting with the Maysville and Lexington road. Lexington and Danville in Kentucky, are points of radiation from within, by roads now in course of erection. Charleston, S. C. Savannah, Mobile, Nashville and Louisville will be reached in the most direct lines possible.—With chartered rights now in reach in Pennsylvania, to connect with the Sunbury and Erie and the Cattawissa and Easton roads, a line will be formed with a saving of Distance to New York and Philadelphia of at least one hundred and fifty miles, and, with connections now in progress of construction, will give a uniform gauge from New York and Philadelphia to the great South, Cincinnati and Chicago.

Michigan Central Railroad.

The Central Railroad Company have made their annual report to the Stockholders, from which we gather the following statistics and statements. The report states for the year ending 31st May, 1853, the gross receipts have been—

For Passengers	\$590,997 57
For Freight	497,183 35
For Miscellaneous	61,356 79
	1,145,537 71
Operating Ex.	566,721 98
Leaving net Receipts	\$582,815 73
Surplus from last year	2,158 39
	584,974 12
Interest	279,309 57

Dividend 1852, 8 per cent.	320,000 00
By Mr. Upton's Circular of December, 1852, it will be seen that there had been earned	
For the financial year	\$323,735 54
The dividend then declared, of	320,000 00

Left a surplus of

Left a surplus of	\$3,735 54
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From which it results that one winter's receipts have been \$18,070 99 less than interest and expenses.

It should be stated that while the road has been running about twenty per cent. more distance, than the previous year, at a large increase of expense, it has also had to contend for the first time with a competitor enjoying the advantage of a continuous Railroad communication with the seaboard and Ohio River.

During this year of severe competition, unaided by the connecting lines East and West of us, upon which we can hereafter rely, our through passenger business has fallen off only about \$45,000. Our way passenger receipts have increased about \$54,000 and our freight receipts have increased about \$78,000 making \$132,000. It is now rendered certain that, by means of the Aurora and Illinois Central Roads, we shall this autumn open a direct communication with from 200 to 300 miles of railroad towards the Southwest.

The New Albany Company have sixty miles in operation, from which we have as yet derived little benefit. We are assured that the whole road from Michigan City to the Ohio will be opened within the year.

The Great Western Railway has not advanced so rapidly as we were led to expect, and with so much work remaining to be done, the time of its completion cannot be relied upon with absolute certainty.

A comparison of the present report with former official report, furnishes the following data as to cost of the road and the present debt of the Company :

	June, 1851.	June, 1852.	June, 1853.
Capital Stock.			
Mich. Central.			
Co.	\$2,638,00	\$3,237,500	\$4,234,000
BOND ACCOUNT.			
Seven per cent.			
Unconvert. Bds.	354,500	160,000	69,000
Eight per cent.			
Unconvert. Bds.	1,142,950	1,184,950	1,122,700
Eight per cent.			
Convertible Bds.	2,305,500	2,621,000	2,339,000
Bills payable...	191,388	949,579	631,176
Income Account	76,312	2,153	*
Six per cent.			
(Sterling) Un-			
convertible Bds.			463,613
Unpaid Divi-			
dends	486	1,512	344

Total

Total	\$6,709,187	\$8,156,700	\$8,856,834
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Increase in two years of total cost, as represented by stock and debt.

Increase in two years of total cost, as represented by stock and debt.	\$2,150,647
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* Income account deficient, \$14,335 45.
Estimating the road as being 280 miles in length, the cost per mile is about \$31,600. This includes \$253,000 reported as paid upon the \$500,000 of stock taken by the Central Company in the stock of the New Albany and Salem Railroad Company.

For the foregoing statement, it appears that in June, 1851, the Income Account of the Company was in
Credit

Credit	\$76,312
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In June, 1853, it was in Debt

In June, 1853, it was in Debt	14,335
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Total

Total	\$90,647
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Consequently, the Company has within the past two years made dividends exceeding by \$90,647 its earnings for that time.

New York Central Railroad.

The directors of the Central road met in Albany on the 28th ult.

Chauncey Vibbard, of Schenectady, was appointed General Superintendent of the road. In Mr. Vibbard the company has secured the services of a most capable, efficient and faithful Superintendent. As Superintendent of the Utica and Schenectady railroad, he established a reputation which commended him strongly to the consolidated company. The Board was unanimous in this selection.

Carlos Dutton, the excellent Superintendent of the Rochester and Syracuse railroad, was unanimously appointed Assistant Superintendent. Mr. Dutton is to have charge of the Old and Direct roads between Syracuse and Rochester.

The appointment of a Superintendent for the Rochester and Buffalo and Rochester, Lockport and Niagara Falls roads, was referred to a committee.

Steps were taken to double the track of the road west of Syracuse with all convenient dispatch; and the Superintendents were directed to put the whole line in the best possible running order.

Ohio and Indiana Railroad.

The Fort Wayne Sentinel says that the work on this road is progressing very favorably, and that notwithstanding the great delay caused by the wet weather in the spring, there is every reason to hope the whole will be completed and the cars running to Fort Wayne by the 1st of January next. More than two-thirds of the iron has arrived at Montreal, and is on its way to Lake Erie. The road will be completed to Bucyrus by the last of this month, when the track-layers now employed there will be transferred to the crossing of the Mad River railroad. Track-laying will be commenced at Fort Wayne on the 1st of next month, and at Delphos by the 1st of September. The grading is so far progressed that no obstruction is anticipated to the laying of the rails, and nothing but a very unexpected scarcity of hands can prevent the completion of the work by the close of the present year.

Lackawanna and Bloomsburg Railway.

E. McNeill has been elected Chief Engineer of the Lackawanna and Bloomsburg railroad company, and Charles D. Shoemaker, Esq., Treasurer.—This road, from Pittston, will connect with the Cattawissa road at Fishingcreek, and with the Susquehanna road at Northumberland or Sunbury, and will thus form a part of the Susquehanna line connecting the North with the South. The Pittston Gazette says that at a meeting of the stockholders held at Pittston on the 11th inst., "E. McNeill, Esq., Engineer, presented a report of the survey which he has recently made of the road. The estimated cost of the road, embracing grading, superstructure, bridging, turn outs, furniture, engine and station houses, locomotives, and everything necessary to make it a first-class road, to be \$2,162,000. The length of the road is fifty-five miles from Scranton to Bloomsburg. The turn outs necessary for the use of the road, or contemplated in the Engineer's report, are equal to four miles in length."

Pacific Railroad.

The first division of the Pacific railroad, extending from the city of St. Louis to Franklin Station, a distance of 38 miles, was formally opened on the 19th ult., and made the occasion of a public celebration by the company.

A train with a large number of guests ran through to Franklin, where a bountiful entertainment was provided. Several popular speakers were present.

Foundry of Bush and Lobdell.

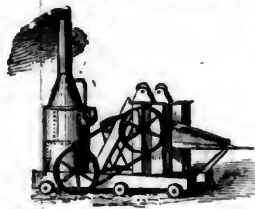
We learn that the damage sustained by the recent fire at the machine shops of these gentlemen will not interfere materially with their railroad wheel business, as their Foundry was not injured. Their "car wheel" and "tire" patterns in general use were not destroyed, and orders will receive prompt attention as heretofore. They are now rebuilding their machine shop and pattern shop which they expect to have completed during this month.

The New Jersey Locomotive and Machine Company,

JAMES JACKSON, Pres't, JOHN BRANDT, Sup't.
PATERSON, N. J.

Will execute expeditiously and promptly, orders for
LOCOMOTIVE ENGINES,
of very superior quality and workmanship.

The Locomotives built under the management of Mr. BRANDT, are well known and need no other reference.
Forgings and Castings for Locomotives, Tenders, Wheels, Tire, Axles, Chairs, etc., etc., and all kinds of General Locomotive Work done in the very best manner.
Patterson, N. J., August 2, 1852.

Cardner's Rock Drill,

Palace.

Designed for Tunneling, Mining, Quarry Use, and Rock Excavations of all descriptions, by the use of which a saving of 50 or 75 per cent is made; operated by Hand, Horse or Steam power.

Applications for Territorial Rights and Machines, must be made to the Patentee. A Working Machine is now in the Crystal

G. ARTHUR GARDNER,
Trinity Building, New York.

To Contractors.**MILWAUKEE AND MISSISSIPPI RAILROAD.**

THE GRADING, BRIDGING and MASONRY for the Milwaukee and Mississippi railroad from Madison, the capital of the state to the crossing of the Wisconsin river—a distance of about 35 miles—will be let on the 22d day of August, 1853, to be completed on or before the first day of April 1854.

The line will be divided into sections of about 1 mile in length, and the proposition may include one or more of them. About twelve miles of this work is quite heavy, averaging some 30,000 cubic yards per mile, which will make good Winter work.

It is also the expectation of the railroad company to have the location of the balance of the road to the Mississippi river—about seventy miles—ready for letting by the middle of September, 1853.

Contractors will find this a desirable work, the excavation being mostly sand and gravel, besides it is easy of access, and is through a healthy and well watered section of the state.

Propositions will also be received for 100,000 CROSS TIES, delivered anywhere on the line of the M. & M. R. R., between Milwaukee and the Wisconsin river—to consist of White Burr, Red Oak and Red Elm; to be six inches in thickness and not less than six inches face, and eight feet in length.

The plans, specifications and profiles will be ready for examination on and after August 15, 1853.

A. L. CATLIN, Contractor.

EDWARD H. BRODHEAD,
Chief Engineer.

Notice to Contractors.

SEALD proposals will be received by the undersigned, through the Post Office at this place, until noon, Wednesday, August 17th, for the Grading and Masonry of the Flemington Railroad, extending from Lambertville to Flemington, 11½ miles.

The line will be ready for inspection, blanks will be furnished, and profiles exhibited, on and after August 12th.

ASHBEL WELCH, Engineer.

LAMBERTVILLE. N. J., July 28, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 198 Broadway, corner Deyst, N. Y.

AMOSKEAG MANF'G CO.

MANUFACTURERS OF LOCOMOTIVE AND STATIONARY STEAM ENGINES, Boilers, Cotton and Woolen Machinery, Tools, Turbine Wheels, Mill Work and Castings of every description.

MANCHESTER, N. H.

WM. AMORY, Treasurer, 65 State St., Boston, Mass.
O. W. BAYLEY, Agent, Manchester, N. H. 17 Jy 6.

To Contractors.

SEALD PROPOSALS will be received at the Engineer's office of the Lexington and Big Sandy Railroad, in Mt. Sterling, Ky., until Aug. 10th, at sun down for the graduation and masonry of the whole of said Railroad, a distance of 125 miles. Bids will be received for any number of sections, the company reserving the right to reject all propositions, if none are satisfactory.

Propositions are also invited by contractors of ability, for the whole road.

This road runs through some of the finest portions of the State, the facilities for the supplies of every kind being very abundant.

Plans and specifications may be seen at the office after July 1st.

J. B. WESTBROOK, Chief Engineer.

Portland, April 9, 1853.

Railroad Letting.**KENOSHA AND BELOIT RAILROAD.**

ON and after the first day of August next, and until the 15th of August, inclusive, proposals will be received, under seal, at the Office of the Kenosha and Beloit Railroad company, in Kenosha, for the construction of the entire road from Kenosha to the Rock River Union Valley Railroad, a distance of about 50 miles.

The proposals may be made for the grading, masonry, ties, and entire construction in a single contract—or for the same and all items separately, and in independent contracts by different individuals. They will likewise be received for the above in parts. The work will besides be divided into sections of moderate length, and proposals, as above, for a single section or any number of sections will be received.

Profiles and specifications may be inspected at the Engineer's Office in Kenosha, on and between the days above specified, and forms of proposals will be supplied to all who desire to take contracts.

ALEX. C. TWINING, Engineer.

Engineer's Office, Kenosha, June 20th.

RICHARD NORRIS.

HENRY LATIMER NORRIS.

Richard Norris & Son,

NORRIS' LOCOMOTIVE WORKS, BUSH HILL, PHILADELPHIA.

MANUFACTURE to order Locomotives, exclusively, on any plan, or of any size—of best materials and workmanship. Their Works having been this year greatly enlarged, and furnished with the most approved Tools, they are enabled now, having a large number of Workmen employed, to execute orders with despatch.

June 9, 1853.

Railroad Iron.

623 Tons of Rails of good quality, 59 lbs. to the yard to arrive during July, for sale by
JOHN H. HICKS, 90 Beaver st.

Railroad Iron.

2000 Tons of Rails, weighing from 58 to 60 lbs. per yard of Favorite Patterns, now on hand in New York, For sale by
W. F. WELD & CO.,
42 Central Wharf, Boston.

INDUSTRIAL WORKS.

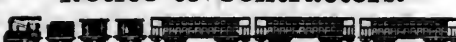
BEMENT, COLBY, DOUGHERTY & CO.,

IRON FOUNDERS and MACHINISTS,

Callowhill Street, between Schuylkill Second and Third, PHILADELPHIA.

MACHINISTS TOOLS, particularly adapted for Railroad Work, MILL WORK, and Heavy Castings, for cupolas, buildings, etc.

E. D. MARSHALL, JAMES DOUGHERTY,
G. A. COLBY, WM. B. BEMENT

Notice to Contractors.**ST. LOUIS AND IRON MOUNTAIN RAILROAD.**

PROPOSALS will be received at the office of the Company in St. Louis, Mo., for the Graduation, Masonry and Bridging of that portion of the St. Louis and Iron Mountain Railroad included between St. Louis and the Iron Mountain, or Pilot Knob, distance about 84 miles. The preliminary surveys and approximate locations are now complete, and the final location for construction in rapid progress, and may be closed by the 1st Sept. Meanwhile, profiles and plans, now ready, will, with examination of the country, give all necessary data.

The work on this road is heavy, including three tunnels, and much rock work and masonry, about 20 miles of the road, shows "side-hill" work, and the balance heavy through work. The Iron Mountain is 700 feet above the river at St. Louis; but two principal depressions are to be crossed before reaching that height. The country passed through is healthy and well watered.

Proposals will be received (by quantities) for the whole or a part of the road, but contracts will only be made with responsible parties. No contracts will be closed before the 15th of August, and no sooner thereafter than satisfactory offers are received from responsible parties. The road will hereafter be extended to the Arkansas line, to connect with the Cairo and Fulton road, and a branch to the Mississippi River, at Cairo or new Madrid, is also contemplated.

WM. M. McPHERSON, Pres't.

THOS. S. O'SULLIVAN, Consulting Engineer.

J. H. MORLEY, Eng. in Charge.

4w. St. Louis, July 21, 1853.

Notice to Contractors.

SEALD PROPOSALS will be received at the Engineer's Office of the Pittsburg, Maysville and Cincinnati Railroad, in M'Connellsville, until the 20th of August, for the Graduation and Masonry of the line of road (about 35 sections) between the Muskingum River and the Central Ohio Railroad.

Bids enclosing proper testimonials will be received for the whole or any number of the above sections.

Plans and specifications will be ready for examination after the 20th of July.

The division between the Muskingum and Hocking Rivers will be offered for contract as soon as the location is completed.

ROBERT McLEOD,

Chief Engineer.

M'CONNELLSVILLE, June 4th, 1853.

Notice to Contractors.**JEFFERSONVILLE RAILROAD.**

SEALD Proposals will be received at the office of the Company at Jeffersonville, Indiana, until 10 o'clock, A. M., on Wednesday, the 7th day September, 1853, for the clearing, grading and bridging the road between Edinburg and Indianapolis.

Proposals may be made for sections, divisions, or the entire line, about 30 miles, payable in the 7 per cent mortgage bonds of the Company or part bonds and part cash, and also for payments entirely in cash.

The company reserves the right to accept such proposals as in their judgement will best secure the prompt construction of the road, and to reject all, if none are satisfactory.

The route traverses a fertile country, furnishing abundant supplies of all kinds, and the line is easy of access at all points.

Bidders will please give their post office address.

WILLIAM G. ARMSTRONG, President.

Jeffersonville, July 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
SECOND QUARTO SERIES, VOL. IX., No. 33.] SATURDAY, AUGUST 13, 1853. [WHOLE No. 904, VOL. XXVI.

The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH COLEBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, August 13, 1853.

The Future Value of our Railroads.

From the immense present, and prospective investments in railroads in the United States, the future value of railway property has become a matter of paramount importance. Already have our roads in operation cost \$500,000,000, and we see no reason why their construction should not proceed till their aggregate cost shall many times exceed this vast sum. All classes in the community are now interested in our roads; in some way or another; the active and enterprising in the hope of making money, or of improving their property, by their construction; and a still larger class, in their success. It is therefore full time that attention was turned to the future condition of our roads, as the best means of securing a wise and permanent system of action for the present.

The railway is useful and profitable in the United States, as it is no where else. The first set-

tlements in this country were upon the seaboard, where have grown up our manufacturing and commercial towns, which are our markets. From these the tide of population has flowed into the interior. For a great portion of our people, to be without an avenue to one, is to be without a market, altogether. Our virgin soil is brought into immediate cultivation with little labor, and produces abundantly without dressing or rotation. In a few years therefore after a district is settled, are found all the elements of a lucrative business for a road, and as soon as one is opened, in whatever part of the country, we are apt to be surprized at the amount of its business and income, the influence it exerts in increasing the value of every kind of property within its reach; and the change it effects upon the whole face of the community. It is looked upon with a sort of feeling of wonder, and we come to regard it as having an attribute not possessed by ordinary agencies. From the past, we are naturally led to regard their future success as unquestioned, and are very likely to be urged forward to new works, with a feeling that railroad construction is a kind of business that can never be overdone.

Now there is of course a fallacy about this mode of reasoning, or rather want of reasoning. Investments in railroads are subject to precisely the same law as are our investments in other enterprises. They attract capital just in proportion to the inducements they hold out, and are certain to do so till their profits are brought down to the standard of profits of manufacturing, farming, or of any other branch of business. In every State their construction is a common right of our citizens, without the necessity of a special appeal to the Legislature. However profitable a road may be at the present time, therefore, its profits in the end are certain to be regulated and limited by a universal law, which reduces the profits of every branch of industry, and every kind of business, to a uniform grade.

But we may go further. In embarking in ordinary transactions, men are usually governed entirely by the prospective profits. It is different with railroads. They are desired for the influence they exert upon the value of property, and for the social advantages they confer. The members of a particular community may be well content, and often are, to sacrifice one-half the amount of the

investments in a road, from the incidental advantages they may derive from it. One reasons in this manner: "I own 500 acres of land worth \$5,000. A railroad, that is proposed, will double it, the moment it goes into operation. If I take \$1,000 stock in the road, and by so doing secure its construction, I am directly the gainer to the amount of \$4,000, provided my stock should prove an entire loss." This is an argument commonly addressed to a community whose co-operation is solicited, and one of the strongest and most reasonable ones that can be offered. The profits of railroads, therefore, are not only limited by the application of the law already referred to, but by the general willingness that exists to make a sacrifice for the purpose of reaping the incidental advantages that follow their construction.

The correctness of these general statements will be readily understood, as well abroad as at home. We do not mean here to convey the idea, that our railroads will not pay well, only that in the long run, capital invested in them, will not pay better than the same amount invested in any other legitimate enterprise. We have in this country the element of wealth scattered in such profusion, that capital well employed, no matter in what direction, is certain to yield a satisfactory return. It is important however that the soundness of the views expressed be fully realized, to serve as a check upon the over construction of railroads, upon extravagance in their management, and upon excessive dividends from apparent earnings, and in fact upon the mistakes and follies to which those devoted to the exciting subject of railroads are particularly exposed.

Railroads to pay well, must be well built, and well managed, as must a cotton, or rolling mill. Extravagant dividends are not to be expected except in extraordinary cases. With good management they may be made to yield an equally lucrative return as any other branch of business. In the east, a net revenue of 6 or 7 per cent. upon the cost is all that is to be expected. In the west they will for the present yield a larger income, from the fact that their labor and capital are more productive, and investments in railroads come in for their fair share of profits. There, 10 or 12 per cent. is not considered an ex-

travagant rate of interest or a large return upon an investment in a legitimate business. In the west too, a given extent of country supplies a much larger amount of traffic than the same area in the eastern states, and the few lines yet built have been constructed at low cost and enjoy to a considerable extent, a monopoly of the business of their appropriate routes. But *there* the rapid increase of capital is fast reducing the rates of interest, and competition the profits of business, and the influence of these causes is as certain to be felt upon the earnings of railroads, as upon the profits in every other branch of industry.

These common sense views seem to have been quite forgotten by some of our western companies. They act upon the idea that the transient monopolies they now enjoy can be maintained, that the railroad is different from every other kind of property, and they accordingly commence business by paying annual dividends of 15 or 20 per cent., holding out the encouragement that these high rates can be maintained. Now this is all folly.—The very payment of an extravagant dividend is the very act of all others calculated to reduce it. It is at once the signal for the commencement of *new* roads, which will soon divide the business of the *old*. Capital is attracted by such enormous profits, till the whole business is so over-done that the best roads can only make a passable show of earnings. This fact has been strikingly illustrated in the history of the Massachusetts railroads. The earnings of the leading lines first built out of Boston, were very large, and seemed to justify large dividends, and, for a year or two, 8 and 10 per cent. were paid to the stockholders;—a large sum for so wealthy a population as that of Boston, and above the current rates of interest. The effect of these dividends was to stimulate the construction of new roads that were not needed, but which took away a portion of the business of the older ones, and to beget an extravagance in their construction and management, which would never have been indulged in, but for the enormous supposed profits of the former. Under the influence of large dividends, the stocks of these roads went up to extravagant premiums. In a few years it was found that the high rates of dividend could not be paid; that when paid, the cost of the road had not been, in fact, ascertained; that it was, in all cases, much greater than was anticipated. The roads were compelled to fall back to dividends of 6 and 7 per cent., and their shares dropped at the same time from 115 and 120, to *par*. But the worst features about the whole matter have been the losses directly attributable to the high dividends paid, which cannot have been less than \$10,000,000 or \$15,000,000, in an improvident system of construction and management to which they gave birth, and in non-paying roads, which, under a healthy state of the public sentiment, would never have been undertaken.

Now some of our western friends are to a certain extent pursuing the same course, which will be followed by similar results. We see that the Galena & Chicago Co. have just paid a semi-annual dividend of 11 per cent, carrying a considerable sum to their *reserve* fund. At the same time the entire line of the road is not yet opened, nor its cost fully ascertained. Up to the present moment the road has been in complete possession of a mo-

nopoly of the business of northern Illinois, not because it had the best line, but because there was no other road. This business is soon to be divided among numerous rivals, and more than all, *this* company is occupied in expensive improvements for the purpose of strengthening its position, and more will soon be required. The original location of a considerable portion of its line was a *bad* one. All these mistakes have in time got to be corrected. The cost of making these improvements is for the present a matter of entire uncertainty. Under such circumstances to declare dividends equal to 22 per cent per annum is unbusiness like and manifestly improper. Such a dividend has unquestionably not been earned. The correct course would have been to have paid such a rate as would have proved satisfactory to the stockholders, and ten per cent. would have been equally so as 22, and to have reserved any balance for contingencies that will be sure to arise. The Galena and Chicago road cannot in the long run continue dividends of 22 per cent, nor 15, nor 12 even. How unwise is it then to start upon a key that cannot be maintained, to hold out expectations that cannot be realized, and to excite a competition which is sure to prove fatal to the present extraordinary success of this road. We would not insinuate any improper motive. It is a mistake in judgment that we condemn. We have taken the above case as an extreme illustration of the point we want to prove. Others might be selected, but the above may stand for a class. The results of these high dividends has already shown itself in Illinois. Attempts are now being made to construct a road parallel, and within a stone's throw of the Chicago *straight* line, for a distance of some 90 miles, which, if successful, would at once cut down its receipts; and it will be successful if it can be shown that this road can earn twenty-two per cent. on its cost. The dividends that this company have been paying have set the whole of Northern Illinois and Southern Wisconsin in a blaze, and railroads are started which appear to us to be premature, if not entirely unnecessary.

We believe that, in the *aggregate*, investments in railroads in this country must continue to be profitable, and that on the whole they offer greater attractions to capitalists, particularly to foreigners, than any other of our numerous interests. They are exactly appropriate to the condition of this country. They are certain to yield a satisfactory revenue upon their cost. They are, on the whole, built and managed with a good degree of prudence and economy. They have been eminently useful. Their good effects are as much seen in the increased activity in the manufacturing districts of *New*, and *Old* England, as in the wonderful impulse they have imparted to our Southern and Western agricultural interests. We desire to see this favorable state of things continue. To do this they must have a *natural*, which is the only *healthy*, growth. We must not allow their construction to be urged forward by reasons of an accidental or temporary character. We must treat them precisely as we would all other commercial enterprises, and be content with a reasonable profit in the present, that all may continue the same in the future. By doing so, we shall protect alike the property invested in our roads, and best promote the real advantage of the whole country.

We shall again refer to this subject.

To Architects and Engineers.

Two German gentlemen of our acquaintance, educated at the Polytechnic school at Carlsruhe, the one as an Architect, the other as an Engineer, are anxious to obtain permanent engagements in their respective professions. They have shown us well executed plans of subjects embraced in their studies, and will pass any desired examination as to their attainments. They speak English without difficulty. A line addressed to Joseph Lederle, care of Railroad Journal, will receive prompt attention.

Brand's Liquid for Steam Boilers.

We beg to call the particular attention of Engineers to an advertisement of Messrs. Bourry and Roeder, Consulting Engineers of this city, setting forth the merits of Brand's Liquid, for dissolving and preventing incrustations of steam boilers.

The agents have laid before us certificates from the head engineers of the Royal Prussian Artillery, the Superintendents of the Cologne, Berlin; the Cologne, Rhenish, and other railroads, the President of the Royal Prussian Society of Engineers, (who is also a Professor of Chemistry,) the President of the Rhenish Steamboat Company, and other high authorities, all speaking in the highest terms of this invention. The invention is one of a recent date, but its use is spreading rapidly over Europe, and we have no hesitation in recommending it to our countrymen, the more so, as a trial can be made free of expense.

We learn Brand's Liquid has been used for some time successfully on the boilers of the Cincinnati Water Works, and several steamers on Lake Erie.

Presentation.

Our friends, R. G. Benedict, and Ira Spalding, Esqrs., late of the Great Western, (Canada) road, have been made the recipients of a handsome testimonial from the present associate and assistant engineers of the Great Western line.

The presentation came off at the City Hotel, Hamilton, on Thursday evening, July 28th.

The pieces of plate presented, consisted of a large silver Tankard, the workmanship of which was most superb—which was given to Mr. Spalding—a large silver Claret Jug, four beautiful goblets, and a massive silver Salver, on which a suitable inscription was engraven. These latter were presented to Mr. Benedict. The cost of these valuable articles was something over £200.

Sir Allen McNab; Hon. Francis Hincks, Inspector General; Hon. J. Morrison, Solicitor General; Dr. Hamilton and others were present and contributed to the agreeable nature of the occasion.

Resignation.

We omitted to state in our last that Mr. Robert Schuyler has resigned the Presidency of the Illinois Central railroad. His place has been filled by Mr. Burrall, the late Treasurer of the Company.

Michigan Central Railroad.

At the recent annual meeting of the stockholders of the Michigan Central railroad, in Detroit, the following named gentlemen were elected directors for the ensuing year: D. D. Williamson, and John C. Green, of New York; Erastus Corning, Albany; John F. Forbes, R. B. Forbes, John E. Thayer, and George B. Upton, Boston; Elon Farnsworth and J. W. Brooks, Detroit.

Vicksburg, Shreveport and Texas Railroad.

C. J. Tournadre, Esq., Chief Engineer of this work, has recently made his report upon its route and construction.

The line surveyed is 206½ miles in length, comprising three sections; the first extending from the bank of the Mississippi, opposite Vicksburg, to the Ouachita river at Monroe; the second from the Ouachita river to the Dorcheat landing; and the third from the latter place to the line of the State of Texas.

The first section is through what is called the *Mississippi swamp*, nearly a level country, rising but 41 feet in 81 miles. The most of this section is to be built on embankment, of from one to four feet high, together with about 6 miles of trestle work.

Beyond Monroe, the country is more hilly. The line passes through the Parishes of Jackson and Bienville, 20 miles in each.

West of Dorcheat landing the line extends 15 miles over a country highly favorable to the construction of a railroad. A short distance beyond, the line intersects the Red river swamp, where overflows of seven feet will be encountered for six miles, requiring six miles of trestle work.

On no part of the entire line need the curves have a radius of less than two thousand feet, and of the whole line 29½ miles will be curved and 177 miles straight.

The estimated cost of construction and equipment of the road is as follows:

Section No. 1, Graduation and Bridging,	\$315,129
" 2, do do	549,254
" 3, do do	402,902

Total.....\$1,267,285

Average per mile, \$6,137.

Estimate for superstructure, \$7,013 per mile.....	\$1,451,856
Estimate for motive power and cars.....	258,800
" " station buildings.....	75,400

RECAPITULATION.

Cost of construction, bridging, etc.....	\$1,267,288
" superstructure.....	1,451,856
" motive power and cars.....	258,800
" station buildings.....	75,400
Engineering expenses and other contingencies.....	100,000

\$3,153,342

Average per mile.....\$15,233

From the address of the president of the company, N. D. Coleman, Esq., of Monroe, La., we learn that the amended charter of the company was granted under the new constitution of Louisiana, April 28, 1853.

The state has subscribed one-fifth, or \$800,000 of the capital while \$285,000 of private subscriptions had been made previous to that act. Since that period, the parish of Caddo has voted a subscription of \$100,000, payable by a real estate tax amounting to \$20,000 per annum for five years, and individual subscriptions have increased \$42,000 in Vicksburg alone.

The company confidently believe that the private subscriptions can be immediately augmented to \$500,000, and that the city of Vicksburg and the parishes of Madison, Ouachita, Jackson, Clairborne, Bienville and Bossier, will follow the liberal example of Caddo, by voting a tax subscription of \$100,000 or \$150,000 each.

With the subscription by the State of \$800,

000—of private individuals of \$800,000—the City and Parochial tax subscriptions of \$300,000—amounting in all to \$2,100,000—there can be no reasonable doubt of final, and indeed, immediate success.

At the last meeting of the Board of Directors on the 1st of May, it was unanimously resolved that as soon as \$150,000 of stock should be directed by subscribers to be applied to that section of the road commencing at Vicksburg and running west, the President should take steps to put under contract twenty miles from Vicksburg to Richmond; and when the like sum was so subscribed and designated for Shreveport, the road from Shreveport to the Texas line should be commenced; and, also, that when a like amount should be designated in like manner to be applied to that section from the Ouachita river, that twenty miles of road extending westward from Monroe should be placed under contract.

These several sums have been designated or are ready to be applied, and the company is now prepared to locate the three sections above specified. So that, within a few weeks, the work of clearing the track will commence; and before the 1st of October, we expect to commence the embankments at Vicksburg, Monroe and Shreveport—all running westward.

ANTICIPATED BUSINESS OF THE ROAD.

Texas emigration and travel—100,000 passengers, at \$6 each.....	\$600,000
N. Louisiana and Arkansas emigration travel—50,000 at \$3.....	150,000
Transportation of cotton from La., Texas and Arks.—300,000 bales.....	250,000
Transportation of dry-goods, groceries, western produce, bagging rope, and other articles, including mails.....	100,000

Making in all the gross item of \$1,100,000
Deduct ⅓ for all expenses..... 367,000

Leaving a net income of..... \$733,000

Let us, for greater satisfaction, deduct one-half for expenses, and we have \$550,000 net income—equal to one-fourth of the estimated cost of the whole work. If we deduct one-half for expenses, the nett income of the road is upwards of 17 per cent. per annum upon \$3,000,000, the supposed cost of construction; but, if we deduct only one third for expenses, then the income equals 24 cent. per annum.

Journal of Railroad Law.

The lately published volume of the reports of the Supreme Court of Illinois, being the 13th volume of the series, contains several decisions of much interest. We subjoin a few notices of those which are adapted to our columns.

DOES THE TERM LUGGAGE (OR BAGGAGE) INCLUDE DU-ELLING PISTOLS?

This question the Supreme Court of Illinois answer affirmatively in a case which arose from the loss of a trunk containing the deadly implements above mentioned. In deciding this point the court substantially say: "the principle of the decision is that by the word baggage, (an expression, by the way, which Judge Story sternly condemned as incorrect) is meant a reasonable amount of money in the trunk of a passenger intended for travelling expenses, and such articles of necessity or convenience, as are usually carried by passengers, for their personal use, comfort, amusement or instruction, and that it does not extend to

mere merchandise or other articles although carried in the trunks of passengers, which are designed for different purposes. And regard may with propriety be had to the object and length of the journey, the expenses attending it, and the pursuits and condition of life of the passenger. A more definite rule cannot under the circumstances well be laid down. The language of Bronson, justice in the case of *Hawkins vs. Hoffman*, 6 Hill, 586, is in accordance with the foregoing exposition of the law. In the case cited, Judge B. observed in delivering his decision, that "in regard to the meaning of the word 'luggage' it is undoubtedly difficult to be definite. I do not intend to say what is generally deemed essential to comfort. Some travellers carry very few things, others very many. Nor do I intend to say that 'baggage' is confined to wearing apparel, combs, brushes, shaving utensils, and writing apparatus, which most men consider essential for travelling. If one carries books, or his gun or fishing tackle for instruction, recreation or amusement, they would fall within the meaning of the term."

We think that the article in question, with the duelling pistols may be regarded as baggage under the circumstances of this case. They were not carried for the purpose of traffic, but for protection and use."

WHEN NEW COMPANIES MAY CONDEMN LANDS.

Companies organized under the law of 1849, providing for a general system of railroad incorporation, cannot proceed to condemn lands for the purpose of obtaining the right of way, until after the company shall have obtained from the Legislature a law approving of the route and the boundaries of the road proposed to be constructed.

Gillinwater, vs. Mississippi and Atlantic railroad company.

COMPELLING THE PAYMENT OF INSTALLMENTS.

Where power to require payment for stock is invested in a board of directors, an action will not lie to recover instalments, unless all the pre-requisites of the charter have been complied with.

But a party cannot take advantage of his own non-compliance with the provisions of the Charter, especially when he has admitted his obligations as a subscriber. If he pays the requisite instalment, due upon the stock before the books are closed, he will be bound to pay the remaining amount due, although he did not make the required payment upon each share at the time of taking the stocks.—*Klein vs. Alton and Sangamon railroad Co.*

WHEN MAY STOCK BE FORFEITED?

A subscriber for stock cannot rescind his contract by forfeiting the payment made thereon.—The right of forfeiture is exclusively subject to the option of the corporation. They must elect whether or not to consider stock when unpaid for as forfeited. They may, if they choose, sue the non-paying subscriber for the non-performance of his promise to pay, conformably to the terms of the subscription.—*Id.*

SUBSCRIPTION TO RAILROAD STOCK BY A CITY.

The city of Alton, and also citizens of New York, had a clear right to subscribe to the railroad in question, and the city might select whatever proxy she preferred.—*Ryder vs. the Alton and Sangamon railroad Company.*

Dividends must be general, so that each stockholder shall receive his proportionate share—*Id.*

IS A STOCKHOLDER DISCHARGED BY A CHANGE OF ROUTE?

This is decided by the Supreme Court of Illinois, qualifiedly, in the negative. They declare that a subscriber will be held liable to pay his subscription, although the Legislature may have authorized, and the directors may have adopted a change of route from that just fixed by law; provided the change does not materially alter the character of the improvement contemplated, nor on the whole, prejudice his interests.—*Banet vs. Sangamon and Alton railroad Co*

DUTIES OF RAILROAD COMPANIES AS TO RINGING OF BELLS, &c.

The Legislature may regulate railroads, with a view to provide for the safety of the public. And they may make necessary regulations which shall operate retrospectively in regard to companies chartered before the said regulations were prescribed,—as, for example, the requirement of bell-ringing, or blowing the steam whistle before arriving at crossings. But in case any injury results from the company's omitting to give the appropriate signals at crossings, the party complaining of such injury and prosecuting therefor, should be prepared to show *prima facie*, at least, that it was in fact the consequence of the company's neglect to give the warning of danger. It would not be right, in the first instance, to throw upon the company the burden of proving a negative;—to wit, that the injury did not result from their not ringing the bell—blowing the whistle, or the like.—*The Galena and Chicago railroad vs. Loomis.*

Missouri Iron.

The success of manufacturing industry must depend very much upon a good supply of the best description of *Iron*. The sources to which our manufacturers will probably have to look for this supply will be L. Superior and Missouri, where there is little doubt, the best iron in the world exists to an inexhaustible extent. In this connection we clip the following article from the Missouri Republican, giving an account of the site of the contemplated works of the St. Louis and Birmingham Iron Mining company:

A few days ago, in company with a number of gentlemen, some of them the most experienced of our iron mongers and manufacturers, we made a visit to the site of these proposed works. We have no pretensions to a full understanding of either geology or mineralogy, and we can only speak of what we saw as it presented itself to our judgment.

The site of Birmingham is at the mouth of Apple creek, about 120 miles below this city, and about 25 miles above Cape Girardeau, and directly on the bank of the Mississippi. That part of the company's lands which may be regarded as the town or station site, is most admirably situated for security and beauty. The landing in front is secured by a rock bluff above and below, leaving an uninterrupted front of nearly a mile along the river bank. From the river it gradually rises back to a pleasant height far above high water, and thence extending out along the valley of the Apple creek, and also up the valley of a small branch that empties into the creek. The whole space fronting on the river, and all the line extending up Apple creek may at a very trifling expense be secured against the consequences of high water in either stream, and present proper places for residences or business.

Directly opposite this site the Big Muddy disembogues its waters. On this stream are the heaviest and best deposits of coal yet known in this quarter of the country. A coal boat from the Mud-

dy, following the direction of that stream, would strike the town site about its centre.

The town of Birmingham is most advantageously located, either for manufacturing purposes or an agreeable and healthy residence. We have visited many of the localities on the Mississippi and its tributaries, but we know of no one that contains so many advantages.

Aside from the advantages that lie in the rear of it, of which we will speak hereafter, its natural formation—its position to the mouth of the Big Muddy,—the fact that a dry and safe landing must always exist in front of it—renders it one of the most desirable points we know of on the Mississippi for manufacturing purposes. In proximity to the large coal fields on the Illinois shore, coal from which can be floated directly to the manufacturing, and all its other advantages of receiving and shipping at all seasons of the year, give it a preference that no other site can claim.

In the rear of the site of Birmingham are the mines, of the extent and wealth of which no proper estimate can yet be formed, for the reason that they have been but partially explored.

Of the extent of these deposits we can give no better statement than by copying the following extract from the report of J. D. Whitney, United States Geologist, who examined the same hill:

"Our first explorations of the iron ores were directed to the range of hills near Apple Creek, and from one to one and a-half miles directly west of the landing. The surface here is a network of ridges running in every direction, and elevated about 150 feet above the valleys, the whole height above the Mississippi being from 200 to 250 feet. The principal ridge runs nearly east and west, but towards its western extremity, bends to the north. On the summit and sides of the elevation, which is steeper to the south, is found an abundance of loose masses of brown hematite, and the solid ore itself is seen in two or three places, where the surface soil has been removed. The deposit, as seen on the top of the hill, consists of brown iron ore in bands and layers, alternating and interlacing with cherty or silicious limestone. Here, at the place which has been opened, the ore is somewhat intermixed with the rock, and is rather poor, but, from the appearance of masses seen at various points on the hill, which were purer and freer from foreign matters, it is highly probable that good ore will be found in abundance along the ridge. The same appearances present themselves along the ridge for a quarter of a mile or more, and lead to the presumption that a large portion of the hill at this point consists of iron ore. This locality is somewhat more favorably situated than the 'iron ridge' which I shall soon speak of, as it is nearer Apple Creek and the contemplated site of the furnace. I should, therefore, advise the exploration of these deposits by removing the soil, in order to ascertain where the best ore is situated."

In the course of our explorations, we found larger deposits of ore, which those present and most competent to judge, Messrs. Glasby and Palm, pronounced very superior; and the only question to be solved was the quantity. The excavations did not seem to indicate that it extended very far below the surface, and the pockets in which it was found, were generally small. It is, however, right to say, that the explorations were entirely too limited, and the surface not sufficiently examined to form a decided opinion. Where there is so much on the surface, it is reasonable to suppose that there is much yet undeveloped. There has been no shaft or excavation on this hill, sunk below a depth of five feet. In many of its features, it bears the impress of an *up-heaving*, and yet the appearances at the base of the products do not confirm this impression.

We afterwards went to what is called the "Iron Ridge," a distance of about a mile and a half from the first place of examination, and about two miles from the river bank at the town.

This Iron Ridge is so well and faithfully described by Mr. Whitney, whom we have quoted above, that we shall do no more than copy what

he says, only adding, that so far as our explorations went, and we were aided in them by several laborers, his views were fully confirmed. He says:

Iron ore seems to be scattered with liberal hand on the ridges in this neighborhood, but the most important locality at present known to exist upon the company's lands, is that called the "iron ridge," about one and a half miles north from the furnace, and a little over a mile west of the Mississippi. The ground rises by a gentle ascent, from the furnace up the small branch of Apple Creek to the very foot of the ridge, which runs nearly north and south, and is elevated from 125 to 150 feet above the valley. This ridge is made up entirely of more or less pure brown hematite, over an extent of several acres at least. At the southern end the ore is most exposed, but it is not here of as great purity as it is farther along the hill towards the north. The whole surface of the hill is covered over with fragments and masses of ore; that at the southern end is a breccia of hematite and silicious matter. The siliceous matter is in small angular fragments, and is cemented together by a paste of iron ore. This has been worked into near the crest of the hill, and a considerable quantity of this singular material taken out from an open cut. As we approach the center of the hill, going north, the masses of ore which cover it become quite pure and free from foreign matter. Several excavations were made under my direction at various elevations, up and down the hill. The appearance of each of these holes, as the digging progressed was nearly the same. At the surface, masses of ore were thrown out, which were very pure and free from rock, embedded in a fine gravel of ore with a little clay. This continued for three or four feet, when the ore in place appeared to have been reached, although much broken up and disintegrated, so that the passage from the loose fragments to the solid masses was an imperceptible one. The bottom of each of the pits, no one of which went down over four feet, showed pure ore, in mass, though broken and uneven on its surface. In short, the whole ridge is made up of brown hematite, the portions along the centre, and for a perpendicular depth not ascertained as yet, but certainly over fifty feet, being almost entirely free from foreign matter, and such as would yield at least 50 per cent, of metallic iron. My explorations might have been carried farther, but, having satisfied myself of the abundance and purity of the ore, I left the farther prosecution of the work to the company.

From this rapid, though to us satisfactory examination, we left the Iron Ridge with the impression, that there was ore enough there, of a most excellent quality, to keep a number of furnaces at work for half a century. This impression was strengthened by the statement of several countrymen who were present, and who assured us that the same appearances of ore were to be found on other ridges between us and the river, of equal or greater abundance.

The furnaces, forges, rolling mills, &c., could be advantageously located immediately upon the bank of the river. The Iron Ridge could easily, and at a trifling expense, be brought down the valley of the branch we alluded to, by teams or railroad—the stone coal from the Big Muddy is in direct connection by water, and all the country in the rear is heavily timbered with firm oak. Further up the valley of the Apple Creek, there is a rich and productive settlement, many large farms—yielding at cheap rates an abundance of the necessities of life, to supply any amount of laborers and manufacturers.

Some wild and ill-directed efforts have been made to bring these minerals into use. The want of judgment has been apparent, and from this cause it is probable that public attention has been diverted from the natural advantages of the site, but the disinterested observer—as we certainly were, for we have not a shadow of interest in it—will, upon a careful examination, be convinced that there are few, if any, such spots in the West for manufactures, and especially the manufacture

of iron. The company is incorporated by the Legislature, with the power to increase the capital. The stock has we believe, passed into the hands of a few individuals, and the property has been freed from all former incumbrances. It is, therefore, now just in that condition when, if capital and enterprise were applied, it would shortly prove one of the best investments in the West. The only wonder is, regarding the advantages of its location, with coal and mineral so accessible to it, that it has not long before this become a large manufacturing town. We predict that, when it is placed in the hands of proper men to manage, and the requisite capital is furnished, it will be a place of the first importance for manufacturing purposes on the Mississippi.—*Missouri Republican*.

Columbus and Hocking Valley Railroad.

A large meeting of the citizens of Lancaster, Ohio, was held July 23d for the purpose of engaging the public attention upon the subject of the Columbus and Hocking Valley Railroad.

Upon the call of Hon. T. Ewing, Chas. Borland, Esq., stated and explained to the meeting the proceeding of the committee appointed as Nelsonville, with power to effect an organization of a company to construct a Railroad from Columbus, through the Hocking Valley, to the Ohio River, there connecting with the North-western Virginia Railroad. Having stated the various preparatory steps taken to that end, and that the general law upon the subject, had been fully complied with, and that notice had been given for the opening of the books for the subscription of stock, he submitted the following resolutions for the consideration and action of said meeting:

Resolved, That the Columbus and Hocking Valley Railroad is, to the city of Lancaster, the most important public enterprise to which her citizens can now devote their efforts and capital.

Resolved, That the connection of Lake Michigan, at Chicago, with the Ohio River in the City of Baltimore, which it will complete, will give it the character of a great National Work—make it a prominent and commanding for travel, and vastly instrumental in the development of the varied and exhaustless wealth of the interesting section of Ohio, through which it will pass.

Resolved, That the line of the connection is obviously a natural one, and strongly recommends itself to public favor by its directness—by its superiority of grades and route over all competing roads, by its comparative shortness and cheapness; but, above all, by the communication which it will effect, between two great cities, in extreme sections of the Union, characterized by diversity of climate, pursuit and production as citizens of a part of the middle and intermediate section.

Resolved, That we cordially approve of the steps which have been taken for the construction of said road, and pledge hearty co-operation in the speediest measures for its accomplishment, and subscriptions thereto commensurate with our means.

Resolved, That, in our opinion, the country of Fairfield is vitally interested in said road, and that the wealth, liberality and public spirit of her citizens justify the expectation that they will contribute by liberal subscriptions to its early completion.

Resolved, That a committee of thirty citizens of this city be appointed by the chairman of this meeting, whose duty it shall be to devise and carry into effect such measures as may, in their opinion, be best calculated to inspire interest in the enterprise, and procure subscriptions thereto.

Mr. Ewing then stated very forcibly the general importance of the enterprise, showing its great value to the city of Baltimore, at one end, and the city of Columbus and the north-west, at the other end; expressing a strong conviction that investments in its stock would be advantageous and profitable. He spoke with some minuteness and with great confidence of the mineral resources of the Hocking valley. Among the local and special benefits of the road, he gave prominence to our peculiar agricultural advantages, resulting

from our favorable combination of soil and climate, for the production of supplies for the North, and the mineral and other sections south and south-west of us. He strongly urged the enterprise upon the attention of our people, having no doubt, in his own mind, as he left none in those of his numerous hearers, as to the great importance and value of the work.

C. Borland, Esq., being called upon, stated the peculiar advantages of the road, and urged immediate action in its behalf. The question being then taken upon the adoption of the resolutions, they were unanimously agreed to.

The Chairman thereupon nominated the following committee, pursuant to the resolution providing for their appointment to wit: D. Tallmadge, Col. Medill, W. P. Creed, J. Radebaugh, J. D. Martin, H. Springer, S. C. Stambaugh, J. C. Rainey, J. Garaghty, W. L. Jeffries, J. R. Mummugh, O. H. Perry, J. C. Weaver, F. Lilly, F. J. Boving, F. A. Steck, J. Clark, E. Perry, G. Sanderson, J. L. Tuthill, J. Lyons, M. Kagy, J. Reber, Jas. Weaver, J. T. Brazee, S. G. Porter, G. G. Beck, B. McVeigh, C. F. Shaeffer, and N. Sleichi.

Peru and Indianapolis Railroad.

We understand it is in contemplation as soon as practicable to extend this important thoroughfare north *via* Warsaw to Goshen, to intersect the Northern Indiana Railroad, making a great trunk line to the northern boundary of the State. The importance and feasibility of this work may be seen from the following letter of the Chief Engineer to the President of the Peru and Indianapolis Railroad, and which, giving as it does, some interesting statements of the revenue of new works, we publish entire.

INDIANAPOLIS, July 25, 1853.

E. W. H. ELLIS, President Peru and Indianapolis Railroad:

SIR:—In reply to yours of 23d inst., requesting an estimate of the cost and the probable business of the proposed extension of your road to Warsaw, I would beg leave to submit the following.

The distance from Peru, the present northern terminus to Warsaw, is about 35 miles. The only engineering difficulties to be overcome are in leaving the valley of the Wabash, and in crossing that of Eel river.

The elevation to be overcome is probably 125 feet, and may be met by grades not exceeding 40 feet per mile. Comparing this with similar lines in this State, I should suppose the grading and bridging may be done for \$3,000 per mile. The iron and wood superstructure, including chairs and spikes, will cost \$8,000 per mile. Track laying, depots, water stations, engineering, and contingencies \$2,000 per mile. In all \$13,000 per mile, or \$455,000 to Warsaw.

This extension, independent of its intersections and connections with other roads, will add largely to the business of your entire line, particularly in the way of passengers.

The increase of freights would probably be no more than that due to 35 miles of independent road, as the canal at Peru will generally be the point for the reshipment of produce. But when we consider that this extension crosses the Eel river valley and the Fort Wayne and Mississippi roads, and connects at Warsaw with the branch of the Northern Indiana road from Goshen, we have every reason to believe that the increase in both freight and passengers will greatly exceed the amount due to the extension without such connections.

From my observation of the business of roads in the West, I find the daily average of passengers each way, to exceed one to each mile operated. This is so generally true, that I consider it a safe basis in estimating the probable business of new roads.

Your road from Indianapolis to Peru is 72 miles, which, by the rule, is entitled to 72 passengers daily, each way, and who will pay one-half the

distance. Extend your road to Warsaw, and independent of its connection, the increase in the number of passengers due to your road is 35 each way, daily, or 70 in all. But the greatest increase is in the increased distance paid for.

Thus 144 passengers, daily, due to 72 miles at

1½ cent per mile.....\$155.51

214 passengers, daily, due to 107 miles.

at 1½ cts per mile.....343.57

The increase of freights, ordinarily, would be in the same proportion.

The difference may seem too large, and the estimate without a basis, but any one who will take the trouble to examine the statistics of western roads will find their business (all things being equal) increases as the *squares* of the distance operated. In other words, the business due to a road 80 miles in length, is four times greater than that due to 40 miles. This rule holds good in estimating the local business of roads. The only business that, in my opinion, should enter into the estimates of new projects. There are circumstances that will materially affect the working of the rule laid down, but it is sufficiently true to satisfy us in extending a road when, as in this instance, such extension will not add materially to the working cost, and opens up a country unsurpassed in fertility; also forming connexions with other important lines, either completed or in progress.

This proposed extension of your road is the only link wanting in the chain of road extending from the Northern line of Indiana to Mobile and New Orleans on the Gulf of Mexico, and Charleston on the Atlantic. It makes perfect the connection with more than 4,000 miles of trunk lines of roads, and double that amount of navigable water courses.

In view of these facts, I consider it of the greatest importance to your company to secure the extension of your road at the earliest practicable day.

Very respectfully,

E. G. BARNEY,

C. E. P. and I. R. R.

Tunnels of the World.

The following article was prepared by W. L. Dearborn, Esq., Civil Engineer, of Roxbury Mass., for J. M. Keith, Esq., Junior Counsel for the Hoosac Tunnel.

Embracing a large proportion of those structures finished, in progress and projected, in the several States of the world.

Although scarcely any two tunnels are exactly alike, as to the strata through which they pass, the size, length, number and depth of shafts, the quantity of water to be extracted, the climate of locality, and the lining, all of which affect the cost, and the time required for the work, still a near approximate decision can be arrived at by examining the details of those already finished, and comparing them with a proposed tunnel, if the same tools and appliances are to be used for working in both cases. If improvements are introduced, such as steam drills, cutting and boring apparatus, &c., then the cost and time will be modified in proportion to the rapidity and expense with which these machines can be made to do their work.

The machines invented for boring Hoosac Mountain and excavating the mount Cenotunnel, exhibit great ingenuity: the former has been tried, and gives good results, bidding fair to answer the ends proposed—but a longer trial is required to determine its merits. The latter it is said will cut twenty-two feet in solid rock in twenty-four hours but it has not to my knowledge been tested to any great extent as yet, so that we must wait further experiments before a correct opinion can be formed of its ultimate aid in tunnelling.

The tunnels enumerated have been constructed on the usual method of carrying on such works.

The construction of tunnels for aqueducts, mining &c., dates back to the earliest periods of his-

tory. Those mentioned by Strabo, through Mount Platus, for regulating the height of the water in Copais, in Bœotia, are some of them thirty stadia, equal to 3,447 miles in length, and were works of great labor. The tunnels of Egypt, and those of the celebrated Roman aqueducts, and the tunnel at lake Albano, 6000 feet long, cut through lava, in 398 B. C. are monuments worthy of their age.

There is a tunnel reported to have been found under an arm of the sea near Marseilles, from Abbey St. Victoir to Fort St. Nicolas, having an arch of 60 feet span, and being 1623 feet long, supposed to have been of Roman origin. The first tunnel constructed for canal navigation was on the Languedoc canal, in 1666, planned by F. Andreossy.

France has 56 tunnels on her canals and railroads, 36 of which have an aggregate length of 45.40 miles. The longest of small size is 7.45 miles, and that of large dimensions is 3.52 miles long. The Rouen and Havre Railroad has 8 tunnels; Paris and Lyons, 8 also.

That truly grand work, the aqueduct from the Durance to Marseilles, has 3 tunnels, whose total length is 10.56 miles. That through the Taillades had 7320 gallons of water pumped out of it each minute, during a part of the time it was in progress, to keep it free, and required all the genius of M. Montretcher, the Engineer, to carry it on to completion. There was a tunnel projected for the Picardy canal of 8.51 miles in length, but two short ones were substituted for it.

On the German railroads there are 10 tunnels. The Georgia Sulton tunnel, in the Haiz Mountains, is 6.48 miles long. It was begun in 1777, and finished in 1800, and cost £71,172.

Spain has some railroad tunnels. The Sardinian States have a number; one at Mount Giovi nearly two miles long, on the Genoa and Turin railroad. There are on this railroad in 25 miles through the Apennines, 9 tunnels; and the road is considered one of the most difficult pieces of railroad engineering ever undertaken.

The Mt. Cenis tunnel, projected for the Lyons and Turin railroad, is one of the grandest works of this nature ever contemplated. It is to be 7.63 miles long, and 19x25 feet in size. The plans for it, and the machinery to work it, were devised by the Chevalier Mause, the distinguished engineer of this railroad. A board of scientific gentlemen, engineers and geologists, were appointed to examine these plans &c., and they decided unanimously in favor of the project. The estimated cost is \$2,615,000, and the time fixed for its completion is five years. The summit of the post road over this mountain is 2400 feet above the tunnel. The mountain's summit is 2450 feet above this. No shafts are to be sunk.

In Switzerland, in Val Cristallena, the Alps are to be pierced by a tunnel for the Italian and German Junction Railroad, 3.5 miles long.

The Sommering Tunnel through a mountain of that name in Austria, is one mile long.

Hungary has a mineral railroad tunnel 10 miles long, just completed.

England has 48 canal tunnels, of an aggregate length of 40 miles, the longest of which is over 3 miles, on the Huddersfield canal, if we except one reported 18 miles long, on the Bridgewater Canal. She also has 79 railroad tunnels, 49 of which amount to 32.83 miles; the longest is 3.01 miles.

The London and Birmingham Railroad has 8 tunnels; London and Dover 5; Newcastle and Carlisle, 5.

A canal tunnel of 5 miles in length was projected for the Manchester and Bolton Canal, and one 4.5 miles long for the Portsmouth and Corydon Canal, but not constructed.

The United States have 67 tunnels on canals and railroads, the longest of which is about one mile.

The details of these are now difficult to obtain. Many of them are short, however.

Baltimore and Ohio railroad has 16 tunnels; Parkersburgh railroad, 17; Hempfield railroad, 7;

A tunnel of 4.04 miles in length was projected by the celebrated engineer, Gen. Bernard, in 1825 for the passage of the Alleghany Mountains by the Chesapeake and Ohio Canal.

In the foregoing statement there are no doubt many tunnels omitted, as I have mentioned those only that are contained in works in my own Library, with three or four exceptions.

The art of tunnelling has been so extensively practised, that they are not now looked upon by engineers and others, as such formidable obstacles as they formerly were.

Locomotive Factory in Pittsburg.

The following communication has been addressed, through us, to capitalists and others, anxious to establish a locomotive shop at the above point. Our recent article upon the delivery of Locomotives in the Western market has drawn increased attention to this subject, of such vital importance to western people.

MR. EDITOR:

In a late article upon Locomotive Building in the West, you made some statements which may perhaps induce some parties to look to this region for a site for such an enterprise. If there be any such, I beg leave to make to them through your columns, the following offer.

To any responsible company, who will agree to build within a year, I will give, without charge, all the ground necessary for shops and yard. They shall have the choice out of about fifty acres on a level tract, four miles from the center of the city of Pittsburgh, with which it is connected by river, by a level plank road, and soon will be by one of the principal railroads meeting at this place. The situation is every way good, the land lying above the reach of floods. Fuel can be had as cheap as at any other place in or about Pittsburg, and probably below the figures you give in the article referred to. Coal suitable for raising steam can be had at less than half that price. Should the present rate of increase in the city continue, but few years must elapse before this property is thickly populated.

Please give my address to parties wishing more definite information and oblige, A. B.

Pittsburgh, Aug. 4th, 1853.

P. S.—This offer is open to parties contemplating other kinds of manufacturing enterprise.

The Mobile and Girard Railroad.

We yesterday had the pleasure of a personal interview with Col. R. S. HARDAWAY, the enterprising and indefatigable President of this road, from whom we obtained much valuable and interesting information connected with this important link which, on its completion, will connect this city with Mobile, and eventually with New Orleans.

Our readers are already advised that the city of Mobile has subscribed to this enterprise \$1,000,000, and on the 25th ult. her citizens we are happy to learn, by a vote of 425 to 33 ratified and confirmed this subscription; her real estate owners thereby agreeing to tax themselves to pay the interest on this amount. The only condition upon which this subscription is made, is that the Road shall be put under contract in time to have it completed in three years. This subscription by the city of Mobile, together with \$500,000, already subscribed by individuals, will insure the completion of the Road to a point six miles this side of Greenville, where it will intersect the line surveyed for the Montgomery and Pensacola Railroad. It will leave therefore, a gap between Columbus and Greenville to be filled up before either this city or Columbus can avail themselves of a connexion with Mobile. It appears to us very clearly, there-

fore, that it is to the manifest interest of this city, the Central, the South-western and Muscogee Railroad companies, and the city of Columbus, to fill up this hiatus. The citizens of Columbus, impressed with the importance of this measure, we understand, held a meeting on Saturday evening last and authorized the City Council of Columbus to subscribe an additional sum of \$150,000 to aid in building this connecting link. This sum will secure the construction of the road from Columbus to Union Springs during the next year, as the road is now under contract to that point, twenty-two and a half miles of which will be in running order the ensuing winter. The locomotive and cars are already on hand and paid for, and the iron will be ordered, in a few days, as the President is now in this city and will leave to-day for the North, to purchase it with the bonds of the city of Columbus, issued for that purpose.

It is calculated that it will require \$700,000 to complete the road from Union Springs to the point six miles this side of Greenville, a distance of fifty-six miles. New Orleans, we learn, has positively promised an additional aid of between two and three hundred thousand dollars, leaving a balance of about \$450,000 to be made up by the people on the line, who have already subscribed ninety-three miles to be paid for in grading, and \$295,000 in cash, including the Columbus subscription firms made.

It appears clear to our minds, that it is the interest of Savannah and Columbus—the Central, the South-western and the Muscogee Railroad companies to supply the balance of the above amount, so as to enable the directors to say that the road shall be built in three years—for if this road is not built within that time, may not Mobile place her million in the Montgomery charter to run a road from that city to Montgomery? Especially as Montgomery has said to her, "if you are in earnest about subscribing \$1,000,000 to build a Railroad we will meet you more than half way," which, if done, would place Montgomery on the through line of road; and make it the nearest to Augusta by the Montgomery, Atlanta and Georgia Railroads; and Columbus and Savannah will lose the advantage and position of being on the shortest line between the Gulf and the Atlantic; and lose us also at least 70,000 bales of cotton, which will go to Apalachicola and Montgomery.

If this gap between Union Springs and Greenville is not filled up, it will also throw us off of the line of travel between the cities of the Gulf and the Atlantic, and give to Charleston a decided advantage over Savannah. We have recently heard of failures to connect between Columbus and Opelika, which have thrown the travel destined for this city upon the uproute, and if travellers habituate themselves to pass that way, it may be difficult at a future day to divert them from it.

Without reference to any other line of improvement, we regard the early completion of the Girard and Mobile railroad as of the first importance to Savannah. We are already connected with Columbus more than half way to Mobile, and the completion of the Girard railroad will connect us with that city and eventually with New Orleans. The completion of this road will give us great advantages. As has been seen the means are provided for all but 56 miles, and the question now arises, shall not the requisite amount of money be at once raised to enable the president to go on and fill up this gap and complete the entire line of road from Girard to Mobile, in three years as required by the condition of the Mobile subscription? This must be done. The road must be built in 3 years, or the \$1,000,000 subscribed by Mobile may be merged into the stock of the Montgomery and Pensacola railroad, and we be cut off from the bright prospects which are now held to our view.—*Sav. Republican.*

Since the above was in type, we have received the following estimate of the cost and business of this important road.

The company has sufficient means to finish the road from Girard to Colbert, a distance of twenty-

two and a half miles, and has on hand an engine and five cars, all paid for; no debts have been contracted except for work on the road, and the funds are in hand to meet all liabilities heretofore incurred. So far all is safe; and it is understood that the cars will run over this portion of the road sometime during the next season.

The estimated cost of the road from Colbert to Union Springs, a distance of 30 miles, is.....	\$420,000
The amount subscribed on that portion of the line in grading, &c., that can be relied on, is.....	100,000
Contractors will take in stock.....	116,000
Additional subscription of the city of Columbus, almost certain.....	150,000
	<hr/> \$366,000

Leaving a balance of..... \$54,000 which the President is certain he can procure on the line and elsewhere. With the additional subscription, therefore, of \$150,000, the completion of the road to Union Springs is a fixed fact.

The following tables have been furnished us by Mr. George S. Runey, the very efficient engineer of the road:

Estimated cost of road to Mobile including the rolling stock of the road, depots, side tracks, &c.....	4,024,000
Total amount of subscription.....	2,795,000

Amount required to finish the road... 1,229,000

ESTIMATES OF ANNUAL RECEIPTS.

50,000 through passengers at \$5.....	\$350,000
20,000 way passengers, at \$3.50.....	70,000
Mail.....	50,000
25,000 bales of cotton.....	187,000
Merchandise and Groceries.....	175,000
Lumber and miscellaneous products.....	20,000

Gross receipts..... \$852,000

40 per cent for expenses on receipts. \$340,800

Net profits..... \$511,200

Equal to 12½ per cent. on the capital stock.

Estimated cost of road to Union Springs. \$728,000

ESTIMATE OF ANNUAL RECEIPTS.

60,000 bales of cotton.....	30,000
Groceries and merchandise.....	50,000
Passengers each way daily.....	21,000
Mail.....	6,000

Gross receipts..... \$107,000

40 per cent for expenses on receipts..... 43,160

Net receipts..... \$63,840

Equal to over eleven per cent, on the capital stock.

Estimated cost of road from Colbert to Union Springs, (30 miles)..... \$420,000

Amount subscribed on the line that can be relied upon in Grading, &c..... 100,000

\$320,000

Amount that contractors will take in stock..... 116,000

\$204,000

If Columbus will subscribe..... 150,000

The balance of \$54,000 will be obtained by new subscription on the line and elsewhere..... \$54,000

Resignation.

Edwin Noyes, Esq., has resigned the Superintendency of the Androscoggin and Kennebec railroad, and assumes the management of the Michigan Central road. Mr. Redington, the Treasurer of the A. & K. R.R. has also resigned.

Lightner's Patent Axle Box.

We have been shown two letters, which we annex, going to show the superiority of this box over all or any others used for railroad cars.

It appears that the Maine Road are abandoning the grooved axle to which their former patterns of boxes have compelled them to adhere so long.

Boston and Maine Railroad Office, }

Boston, July 5th, 1853. }

Mr. WILLIAM SHERBURN, Agent Lightner Box. Dear Sir:—We are substituting the LIGHTNER Boxes in place of all others upon this road as fast as is practicable, satisfied that they are the best we know of.

Yours truly,

THOMAS S. WILLIAMS, Superintendent.

Office Montgomery and West Point Railroad. }
Montgomery Ala. July 9, 1853. }

Dear Sir:—Your letter was received this morning and I take pleasure in adding my testimony to the mass of evidence which the Patentee must now have in his possession in favor of his axle boxes, for from all the roads on which they have been used (and I believe they have been very generally adopted) I have heard but one expression of opinion and that was of entire satisfaction. From actual experiment. I am satisfied that the Lightner Box is the most convenient and economical in use and that it cannot fail to give satisfaction to any company applying it to their cars.

Very Respectfully,

Your Obedient Servant,
SAMUEL G. JONES, Engr. and Superintendent.

Fort Wayne and Southern Railroad.

This road is designed to run from Fort Wayne to the Ohio river, either at Jeffersonville or New Albany, through Bluffton, Hartford, Muncie, New-castle, Rushville, Greensburg, Vernon, Lexington, and Charleston, the county seats of Wells, Blackford, Delaware, Henry, Rush, Decatur, Jennings, Scott, and Clark counties—all the counties through which the road runs—and is almost a direct straight line. It is now under contract to Muncie, about one third the whole length, and Mr. Holman, the principal engineer, is organizing a corps preparatory to an immediate survey of the remaining portion of the route.

The country through which this road will run, is not excelled in the world for fertility and productiveness of soil; and the road, when completed, will open this productive region to the trade of Louisville or New Albany and by connection with the Louisville and Nashville road, and its connections, establish a direct and rapid communication with the whole south and south-west. The advantage of such a market to the people of that portion of this State through which the road is intended to run can scarcely be estimated.

Central Illinois and Indiana Railroad.

The Springfield, Ill., Journal says: We have received the following information concerning this important road, in which the citizens of Springfield and of Sangamon county are deeply interested:

Two surveys have been made from Decatur to Indianapolis, by which the distance in an air line is ascertained to be 145 miles. The report of the engineer will soon be ready for publication, containing estimates for the entire cost of construction and equipment of the road. A few weeks since, the two companies which were most particularly concerned in the enterprise, were consolidated, and a board of directors appointed consisting of six in this state and six in Indiana. Judge Roach has accepted the presidency of the board, having resigned his seat upon the bench of the Supreme court of Indiana for that purpose. Governor Wright and other distinguished citizens of Indiana, are actively engaged in behalf of this road, and strong efforts will be made to complete it at an early period.

This road will be one of the great highways of the nation. It will be in a direct line with Harrisburg, Wheeling, Columbus, Indianapolis, Springfield Hannibal and St. Joseph, and would meet whenever opportunity is afforded, with the hearty co-operation and assistance of all the citizens in this section of our state.

Railroad Meeting.

On the 25th ult. the citizens of Eutaw, Greene Co., Ala., met for the purpose of taking into consideration the expediency of connecting their region by railroad with the Mobile and Ohio road. Dr. Z. Merriwether was called to the chair, Major S. M. Gowdy appointed secretary. On motion of J. D. Thornton, Esq., the following resolution was adopted unanimously.

Resolved, That the citizens of Greene county be and they are hereby invited to meet at the Court House, in Eutaw, on Tuesday, the 2nd day of August next, to consult and take action in regard to the construction of a railroad through Greene Co., to connect the Mobile and Ohio railroad with the roads projected north-east of us.

Resolved, That the following are appointed as delegates to attend the railroad meeting to be held at Tuscaloosa on Tuesday next: S. M. Gowdy, J. I. Thornton, Moses Hubbard, W. Merriwether, F. M. Kirksey, Z. Merriwether, Jr., J. G. Sheppard, J. W. Taylor, B. Hatter, S. W. Cockrell, James D. Thornton, J. H. Chapman, E. Morgan.

Jackson Branch Railroad.

This important link in a chain of railroads to connect the central and northwestern portions of the State, with the Michigan Southern Railroad, may now be said to be fairly under way. The lettings took place at Clinton last Friday. The grading, bridging and tracklaying of the entire line from this place to Jackson, and the re-laying of the old track south of this, were let to energetic and responsible men, who will push the work through with all practicable dispatch. We understand that it is contemplated by the engineer and contractors to have the road re-laid with T rail to this point, and extended to Clinton and Manchester this fall, and completed to Jackson next winter as early as may be; and we are informed by the agent of the company, that assessments on the new stock for building this branch, have been made, payable the four ensuing months in instalments of 25 per cent. monthly, sufficient to build and equip the entire line.—*Tecumseh Herald*.

Cincinnati and Western Railroad.

This road is to run from Cincinnati to Wabash on the Wabash and Erie Canal, passing through a rich and productive portion of this State and of Ohio. At Cambridge, it will connect with the Indiana Central railroad, by which means it will form a route from this city to Cincinnati not exceeding one hundred and twelve miles in distance. In consideration of the easy grade and the few curves which exist, it is thought, by its friends, to present a very favorable route to Cincinnati. As an evidence of the estimate put upon it by our citizens, we may mention the fact that near fifty thousand dollars of its stock was taken by them during the present week.

We learn, from an authentic source, that the affairs of the company are such as to warrant the speedy completion of the road.—*Indianapolis Journal*.

South Side Railroad.

The Petersburg Intelligencer expresses its gratification at the rapid progress made in constructing the South Side railroad, and informs us that the grading is nearly all done between Farmville and Chilton's, fourteen miles below Lynchburg, while between Chilton's and James River the operations are, in every way, satisfactory. The High Bridge is advancing daily towards completion. Indeed, the whole line, from the present terminus of the rails, near Rice's Station, to Lynchburg, is in such

a state of forwardness as to warrant the expectation of its being ready for use, from end to end, in 12 months, or in less time, perhaps.

European and North American Railroad.

The probable early construction of this road appears to have been secured. We learn from the *State of Maine*, "that a provisional contract has been entered into by the above company with Messrs. Jackson, Brassy, Peto and Betts, the same distinguished and wealthy parties who have created the Grand Trunk railway of Canada.

"The proposal of Messrs. Jackson and als., for the E. & N. A. R. R., is for a first-class road, similar to the Grand Trunk railway, and built upon the same specifications, with iron bridges and a permanent way, equipped to its utmost necessity.

"Toward building this road the contractors propose to raise 80 per cent. of its cost, and to close the contract as soon as the company will raise 20 per cent. of the same amount. They require only a sufficient subscription to ensure, along its line, the good will and the necessary guardianship of the people, who are to use it. Without this assurance, no foreign capitalist would feel at ease in thus liberally expending his money. That the people of Maine will at once become stockholders in the undertaking to the extent of 20 per cent. of its cost, we have every assurance for believing. Such a consummation as is now before us, is what few among us dared, till recently, to hope for."

The directors of the above company, which has just been organized, are A. G. Chandler, and Noah Smith, Jr., of Calais; E. L. Hamlin, S. P. Strickland, and W. T. Pierce, Bangor; Reuel Williams, Augusta; C. J. Gilman, Brunswick; John A. Poor, A. C. Morton, J. M. Wood, Phin. Barnes, and C. E. Barrett, of Portland; Henry V. Poor, of New York.

The officers of the Board are—John A. Poor, President; John M. Adams, Clerk; Henry B. McCobb, Treasurer.

Stock and Money Market.

There has been no relief in the Money Market since our last. If anything, the stringency has increased. There appears to be no cause whatever for it, save in the action of our city banks. The new law has exposed their weakness, and for the purpose of strengthening themselves they now refuse all the usual accommodations to their customers. A sudden paralysis has struck one of the most important items in the machinery of business and every thing has come to a dead stand. The blow falls heavy not only upon *speculators*, but upon the mercantile community. The new law will undoubtedly exert a salutary influence in checking over-issues, and in correcting one of the greatest evils of the Banking system, though the remedy that is to cure the *disease*, will probably prove fatal to a good many that are no way in fault. The Banks will do nothing till they shall have brought their affairs into a sound condition. This is well, but it would have been much better, had they never been in any other.

The general condition of business is sound; every department of industry is prosperous, and we see no reason why money will not soon become sufficiently easy for all practicable purposes. There is but little doing in railroad bonds. Good securities of all kinds are firmly held. The fancy market has suffered severely as will be seen by our tables.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	100
Androscoggin and Kennebec..	55	809,378	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland.....	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth..	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland.....	20	227,981	291,200	In progress	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	41
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	109
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47
Northern	82	3,016,634	.....	.....	328,782	163,075	5	59
Manchester and Lawrence....	24	717,543	.....	.....	.....	.....	6 1/2	96 1/2
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord....	47	.....	1,400,000	.....	.....	.....	none	.....
Sullivan	26	.....	673,500	.....	.....	.....	none	14
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	41
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,639	none	32 1/2
Vermont Central.....	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	17
Vermont and Canada.....	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	ent.	102
Western Vermont.....	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7 1/2	99
Boston and Maine.....	83	4,076,974	150,000	4,092,927	659,001	338,215	7	106 1/2
Boston and Providence.....	53	3,160,390	390,000	3,546,214	469,656	227,434	6	87 1/2
Boston and Worcester.....	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101 1/2
Cape Cod branch.....	28	421,295	171,800	633,906	60,743	30,056	2 1/2	40
Connecticut River.....	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7 1/2	93
Fall River.....	42	1,050,000	none.	1,050,000	229,445	99,589	8	104 1/2
Fitchburg.....	66	3,540,000	112,305	3,623,073	574,574	232,787	6	99 1/2
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7 1/2	117
Norfolk County.....	26	547,015	819,743	1,245,927	67,251	23,415	none	68
Old Colony.....	45	1,964,070	282,300	2,293,534	322,213	101,510	none	92
Taunton Branch.....	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	18
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4 1/2	59 1/2
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	663,194	6 1/2	99 1/2
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	58 1/2
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	125
Housatonic.....	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progress	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	102
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4 1/2	54 1/2
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progress	.....	.....	.....	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	none	130
Canandaigua and Niagara F.. "	50	.....	.....	In progress	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie)... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	69 1/2
Hudson River.....	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	67
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	57 1/2
Long Island	95	1,875,148	516,246	2,446,391	205,068	44,070	none	31 1/2
New York Central	504	22,858,000	2,111,824	.....	.....	.....	.....	115 1/2
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	36 1/2
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland.....	32	297,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston.....	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome.....	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,490	1,388,385	478,413	10	150
Morris and Essex.....	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central.....	63	986,106	1,500,000	2,379,880	260,839	124,740	3 1/2	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East.....	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,982	8	.....
Philadelphia and Reading.... "	95	6,656,382	10,427,800	17,141,297	2,480,626	1,251,987	7	84
Philad., Wilmington and Balt. "	98	3,850,000	2,408,276	6,813,839	667,785	388,501	5	75 1/2

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn. 250	3,768,155	5,000,000	13,600,000	1,943,827	617,625	....	99 1/2
Philadelphia and Trenton.....	" 30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	" 47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio.....	Md. 381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	65
Washington branch.....	" 38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.....	" 57	.....	.....	.....	413,673	152,536	.....	42
Alexandria and Orange.....	Va. 65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	" 27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	" 64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville.....	" 73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg.....	" 22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac.....	" 76	1,000,000	503,006	1,581,238	254,376	113,256	7	105
South Side.....	" 62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central.....	" 107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee.....	" 60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac.....	" 32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N. C. 161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina.....	S. C. 110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.....	" 140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina.....	" 242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester.....	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga. 191	3,100,000	306,187	3,378,132	945,508	508,625	8	122
Georgia.....	" 211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western.....	" 101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee.....	" 71	.....	.....	In prog.	.....	.....	.....	.....
South Western.....	" 60	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River.....	Ala. 55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	" 93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	" 33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point.....	" 88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern.....	Miss. 60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia.....	Tenn. 80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.....	" 125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky. 29	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.....	" 29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	" 65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh.....	Ohio. 100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	96
Cleveland, Painesv. and Ash.....	" 71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.....	" 135	3,027,000	408,200	3,655,000	777,793	483,454	12	132
Columbus, Piqua and Indiana.....	" 61	.....	.....	In prog.	.....	.....	.....	.....
Columbus and Lake Erie.....	" 60	1,694,000	906,000	2,600,000	321,798	200,967	.....	115
Cincinnati, Ham. and Dayton.....	" 40	310,000	550,000	925,000	.....	.....	.....	72 1/2
Cincinnati and Marietta.....	" 20	.....	.....	In prog.	.....	.....	.....	80
Dayton and Western.....	" 36	.....	.....	In prog.	.....	.....	.....	70
Dayton and Michigan.....	" 31	.....	.....	.....	.....	.....	.....	.....
Eaton and Hamilton.....	" 37	.....	.....	In prog.	.....	.....	.....	.....
Greenville and Miami.....	" 84	2,370,784	.....	2,634,157	526,746	314,670	10	119 1/2
Hillsboro.....	" 84	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Little Miami.....	" 167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Mansfield and Sandusky.....	" 57	.....	.....	In prog.	.....	.....	.....	95
Mad River and Lake Erie.....	" 187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio Central.....	" 187	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi.....	" 83	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania.....	" 83	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Indiana.....	" 62	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley.....	" 88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Toledo, Norwalk and Cleve'd.....	" 40	632,387	663,100	1,295,019	105,944	71,446	4	108
Xenia and Columbus.....	" 72	.....	.....	In prog.	.....	.....	.....	.....
Evansville and Illinois.....	Ind. 31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central.....	" 131	.....	.....	.....	.....	.....	.....	.....
Indiana Northern.....	" 83	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine.....	" 62	.....	.....	In prog.	.....	.....	.....	.....
Lawrenceburg and Ind.....	" 88	.....	.....	.....	.....	.....	.....	.....
Lafayette and Indianapolis.....	" 40	.....	.....	In prog.	.....	.....	.....	.....
Madison and Indianapolis.....	" 72	.....	.....	.....	.....	.....	.....	.....
Peru and Indianapolis.....	" 72	.....	.....	.....	.....	.....	.....	.....
Terre Haute and Indianapolis.....	" 72	.....	.....	.....	.....	.....	.....	.....
Rock Island and Chicago.....	" 72	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.....	" 72	.....	.....	.....	.....	.....	.....	.....
Illinois Central.....	Ill. 282	4,000,000	4,067,896	8,614,198	.....	.....	8	109 1/2
Galena and Chicago.....	" 92	1,932,361	500,000	In prog.	473,548	286,152	.....	136
Michigan Southern.....	Mich. 315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	124
Michigan Central.....	" 282	4,000,000	4,067,896	8,614,198	.....	.....	.....	128
Pacific.....	Mo. ....	.....	.....	.....	.....	.....	.....	109 1/2

The receipts of the New York and New Haven Road for July are:	
Passengers.....	\$75,476 11
Freight.....	9,000 00
Total.....	\$84,476 11
Paid Harlem Road.....	5,256 06
Net.....	\$79,220 05
July, 1852.....	70,731 63
Increase.....	\$8,488 42
The receipts of the Long Island road in July, from passengers, are reported at \$25,371. The Harlem receipts are in the neighborhood of \$90,000.	
The receipts of the Ohio and Pennsylvania rail-road for July were:	
July, 1853.....	\$56,731 01
" 1852.....	26,530 66
Increase.....	\$30,200 35
The following is the statement of the New York City Banks, entire, for the week ending on Saturday last, Aug. 6, 1853.	
	Average amount of Loans and Discounts. Average amount of Specie.
BANKS.	
Bank of New York.....	\$3,243,805 \$377,115
Merchants'.....	3,743,683 1,203,074
Manhattan.....	4,024,202 463,418
Phenix.....	2,907,590 357,046
North River.....	1,259,041 39,718
Union.....	2,835,448 311,125
America.....	5,448,370 870,732
City.....	1,907,762 135,475
Tradesmen's.....	1,462,168 70,547
Chemical.....	1,471,902 204,154
Butchers' and Drovers'.....	1,707,422 97,447
Pacific.....	940,284 37,424
Nassau.....	878,697 56,839
Seventh Ward.....	1,218,771 96,552
Bank State of New York.....	4,408,992 548,960
American Exchange.....	6,084,984 773,749
Bank of Commerce.....	9,057,087 925,914
Bowery.....	1,257,227 99,070
Broadway.....	1,887,633 102,980
Dry Dock.....	368,872 31,032
St. Nicholas.....	556,468 32,099
New York Exchange.....	184,108 10,037
Chatham.....	719,91 15,038
People's.....	876,581 32,086
North America.....	1,862,757 157,890
Citizens'.....	819,614 30,078
Republic.....	3,347,058 216,780
East River.....	809,290 32,709
Ocean.....	1,514,352 67,964
Commonwealth.....	903,932 72,990
Corn Exchange.....	727,232 22,253
Shoe and Leather.....	773,540 27,995
Bank of Union.....	178,327 32,405
Oriental.....	149,817 10,748
Mechanics' Bk'g Association.....	1,297,010 74,768
Continental.....	2,337,769 148,927
Market.....	1,124,313 61,639
Empire City.....	342,704 15,452
Mechanics' and Traders.....	506,255 48,467
Metropolitan.....	3,793,429 196,539
Hanover.....	1,237,268 67,948
Irving.....	504,486 28,140
Knickerbocker.....	601,849 41,661
Marine.....	559,996 47,122
National.....	1,739,870 137,737
Central.....	328,888 36,487
Grocers'.....	598,074 34,839
Mercantile.....	1,350,000 147,700
Merchants' Exchange.....	2,841,351 101,468
Leather Manufacturers'.....	2,177,873 144,007
Mechanics'.....	4,125,570 670,373
Fulton.....	2,175,811 199,214
Greenwich.....	385,595 20,554
Total.....	\$97,899,499 \$9,766,441

	Average amount of circulation.	Average amount of deposits.
BANKS.		
Bank of New York.....	\$321,108	\$2,635,647
Merchants'.....	380,012	2,961,664
Manhattan.....	429,924	2,237,193
Phenix.....	317,919	1,552,115
North River.....	319,234	1,077,950
Union.....	353,487	2,155,177
America.....	220,036	2,210,560
City.....	132,541	1,333,860
Tradesmen's.....	257,799	851,640
Chemical.....	322,420	1,228,700
Butchers' and Drovers'.....	15,176	1,022,090
Pacific.....	106,782	645,858
Nassau.....	89,400	554,894
Seventh Ward.....	272,338	553,549
Bank State of New York....	666,692	2,706,007
American Exchange.....	344,835	3,501,652
Bank of Commerce.....	3,340	3,592,801
Bowery.....	202,248	1,004,918
Broadway.....	217,496	1,213,391
Dry Dock.....	133,411	1,019,937
St. Nicholas.....	68,311	262,118
New York Exchange.....	120,732	138,001
Chatham.....	140,902	470,875
People's.....	156,505	500,598
North America.....	91,100	1,487,336
Citizens'.....	160,224	632,804
Republic.....	176,391	1,334,175
East River.....	109,152	514,475
Ocean.....	144,423	922,030
Commonwealth.....	38,833	335,817
Corn Exchange.....	88,044	377,693
Shoe and Leather.....	122,451	365,045
Bank of Union.....	36,430	71,890
Oriental.....	22,963	115,191
Mechanic's Banking Association.....	310,881	932,665
Continental.....	45,141	1,672,418
Market.....	110,400	64,553
Empire City.....	112,663	194,761
Mechanics' and Traders'....	106,350	477,373
Metropolitan.....	82,158	1,544,739
Hanover.....	57,987	588,388
Irving.....	125,320	478,913
Knickerbocker.....	92,411	401,183
Marine.....	89,053	308,182
National.....	183,132	942,161
Central.....	90,895	175,327
Grocers'.....	94,795	576,566
Mercantile.....	130,000	982,000
Merchants' Exchange.....	104,222	1,275,753
Leather Manufacturers'.....	290,639	1,199,908
Mechanics'.....	356,963	3,005,967
Fulton.....	198,579	1,027,734
Greenwich.....	196,390	476,766
Totals.....	\$9,513,063	\$57,995,985

The earnings of the Michigan Southern and Northern Indiana railroad company for July were:—

From passengers and miscellaneous..	\$79,660 70
From freight and miscellaneous.....	36,612 82

Total.....	\$116,263 02
July, 1852.....	77,515 52

Increase (about 50 per cent.).... \$38,847 50

The amount of tolls collected on the canals of the state during the fourth week in July, is exhibited by the following statement and the aggregate amount up to Aug. 1, for a series of years:

	Fourth week in July.	Total to Aug. 1.
1853.....	\$115,170	\$1,386,940
1852.....	115,051	1,337,536
1851.....	120,536	1,520,376
1850.....	105,217	1,233,340
1849.....	82,905	1,335,560
1848.....	84,119	1,307,830
1847.....	136,000	1,700,540

A comparison of the receipts of two years to the

31st July 1852 and 1853, showing the general course of trade is as follows:

On up freight.....	\$332,775	\$369,690
On down ditto from other states.....	582,866	567,848
On down freight from this state.....	421,889	422,394
Total.....	\$1,337,530	\$1,359,931
On up freight, md'se.....	Dec'se '52. Inc'se '53.	
On down do from other states..	\$15,018	\$63,924
On down freight from this state..	505	
Total.....	\$15,018	\$64,429
		15,018
Decrease.....	\$49,411	

Railroad Curves.

We trust we may be pardoned for re-publishing an article on curves from Gillespie's "Roads and Railroads," as its distinctness and value commend it especially to railroad projectors.

WHAT RAILROADS OUGHT TO BE AS TO DIRECTION.

Straightness of direction is more important on railroads than on common roads, for two reasons, the economy of straightness and dangers of curves.

ECONOMY OF STRAIGHTNESS.

From the great cost of the superstructure of a railroad, and the continually increasing expense of keeping it in repair, it is highly desirable that it should be as straight as possible.

As the earthwork of a railroad costs almost nothing for repairs, while those of its perishable superstructure are very great, and proportioned to its length, as is also the cost, in fuel, wages, and wear and tear of the engines, of running the road, it will often be advantageous to make large expenditures for the former element of cost in order to lessen the length of the road, and consequently the annual expenditures for the latter. * Suppose the whole cost of a railroad to be \$30,000 per mile, the interest of which is \$1800; the annual repairs of the superstructure \$1000 per mile; and the expenses of engines also \$1000 per mile. The total annual expense will then be \$3,800 which is the interest of \$63,000, which sum might profitably be expended to shorten the road one mile, or \$12 to shorten it one foot of length. If this single foot gained was the only result of a day's labor of a locating party, it would be a satisfactory equivalent for the expenses of such a day's work.

On these grounds a short route, which has the faults of steep grades, and curves of small radius, may profitably receive an outlay of capital upon it, for the purpose of lessening those defects, equivalent to the cost of the difference of distance between it and a longer line, which has better grades and curves.

From these considerations it is seen that a line ought not to diverge from the direct course between its extremities, and thus increase its distance, for the sake of the trade of a small town, for whose benefit the time and fare of all the passengers and freight on the whole line would thus be taxed. It would be preferable to make a branch track to the town.

EVILS OF CURVES.

Curves are necessary evils on most routes, enabling them to pass around obstacles, such as pro-

* See Amer., Railroad Journal of August, 1839, for an able development of this position, by W. B. Casey, C. E.

jecting-hills, deep hollows, houses too valuable to be removed, etc.

The greatest economy in curving is found when the line is located in a narrow and sinuous valley, with rocky banks, whose windings can be cheaply followed by suitably adjusted curves.

When the line crosses a series of ridges transversely, and nearly at right angles to their general direction, there would be little economy in lateral deviation and curvature.

The evils of curves are the resistances which they offer to the motion of cars, and the dangers to which they expose them.

The following are the four principal causes of the resistance of curves:

1. The obliquity of the direction of the moving power; i. e. the angle which the line of traction, drawn from the engine to each car, makes with the tangent to the curve at the middle of each car, in the direction in which the cars tend to move.

2. The pressure and consequent friction of the flanges of the wheels against the outer rail, due to the centrifugal force.

This is partially obviated by elevating the outer rail, as has been explained.

3. The pressure and consequent friction of the flanges, due to the parallelism of the axles; for the directions of the tangents at the points of contact of each pair of wheels are different, and therefore, if one pair of wheels be perpendicular to its corresponding tangent, the other pair will be oblique to its own tangent.

This resistance is partly remedied by allowing a "play" of an inch or less between the wheels and the rails. It diminishes as the axles are placed nearer to each other; and is therefore much lessened by supporting the cars on two trucks, each resting on four wheels, the two axles of which are very near to each other.

4. The fastening of each pair of wheels to the same axle with which they turn. The wheel on the outer side of a curve must revolve farther, and therefore faster, than the inner one, which must slide (if both are of the same diameter) by an amount equal to the difference between the lengths of the inner and outer rails of the curve.

To lessen this resistance, the wheels are made conical, with their inner diameters greater than the outer, so that on curves, the outer wheels run on their greater diameter, and the inner ones on the less. This cone may be so adjusted that the wheel can run in a circle of 595 ft. diameter without the flanges touching the rail. It is usually 1 in 7.

Without these arrangements, the resistance of a curve of even a mile in radius, at a speed of twenty-five miles per hour, would equal that of an ascending grade of 9½ feet per mile; and one of seven hundred feet radius, a grade of 77 feet, etc.

The actual resistance has been very imperfectly ascertained.

In the experiments of Dr. Lardner, the resistance to railroad trains moving at ordinary speed, produced by curves of a mile radius, was found to be too small to be appreciable.

It has been inferred, from experiments made on the Baltimore and Ohio railroad, that a change in direction equal to an entire circle, or 360°, produced a resistance equivalent, in its effects on the

cost of transportation, to 23-100, or nearly a quarter of a mile in distance.

Another authority states that a curve of 700 feet radius, (81.5°) at a speed of twelve miles per hour, is found in actual practice to cause a loss of power about equal to an acclivity of 18 feet per mile.

On the Utica and Schenectady railroad, an ascent of 20 feet per mile is followed by a level curve of 700 feet radius; and the cars at 15 miles per hour, on reaching this level curve, increase their speed, showing that curve to offer less resistance than the grade.

The amount of mechanical power absorbed in passing around a curve is altogether independent of the radius of the curve, and depends only on the amount of the entire angular change in the direction of the line. When the curve has been run by "angles of deflection," its length in chains, multiplied by its angle of deflection, equals the entire angular change. Thus a curve of $1^\circ 30'$ 30 chains long, offers the same resistance as one of $3^\circ 10'$ 10 chains long.* Sharp curves are therefore not objectionable on the score of loss of power, though highly so from their wear and tear of engines and cars, displacement of rails, danger, etc.

The danger of running off the track is much increased by curves, even of large radius, especially at high velocities. The momentum of the cars impels them onward in a straight line, and they are kept within the rails only by the flanges of the wheels and the firmness of the outer rail, the resistance of which gradually makes them follow the curvature of the road. If the momentum should exceed the resisting force, the cars must obey the former and leave the track. Curves at the foot of inclinations are therefore especially objectionable since the cars will come upon them with excessive velocity. The rocking and twisting motion thus given to the cars, indicates the dangerous tendency which they thus acquire.

When sharp curves are unavoidable they should if possible be located near stopping places. They should not be placed on a steep slope on account of the double resistance which would then be caused to trains ascending, and the increased danger of running off to trains rapidly descending. But if such location on a long slope be unavoidable, the grade should be flattened along the curve, and the difference applied to the straight portions. Curves should not be in deep cutting, where the impossibility of seeing far ahead might cause collisions, but on the parts in embankment or on the surface.

The increased velocities of the more recent railroads have greatly lessened the permissible smallness of the radii of curves. For the usual speeds employed on the English railroads it is recommended that the minimum radius should be one mile. On the Baltimore and Ohio railroad, however, one of the earliest in the United States, there are several curves of 400 feet radius ($14\frac{1}{4}^\circ$) and one of 318 feet (18°) over which locomotives pass without difficulty at a speed of 15 miles per hour.

The minimum in France allowed by "L'Administration des Ponts et Chaussées," is 2700 feet, or about 2° . The minimum curve upon the Hudson River railroad has a radius of 2062 feet, or $2\frac{3}{4}^\circ$.

* The angle of deflection of any curve may be found by dividing 5730 by its radius in feet.

Cost of Locomotive Power.

To treat upon the duration and expense for repairs of a locomotive involves the consideration of its original construction and subsequent management. But supposing in this case that the builder has employed good materials and a judicious and permanent construction, and that the engineer has performed his duties with care and economy, we can enter upon the ground of the actual account of locomotive power, and give our statements a general bearing upon the transportation system of American railroads.

The first cost of a really first-class freight engine is generally \$8,500. The performance of such an engine upon a road having only moderate grades, is about 2000 miles per year. The wages for engineer and fireman are a fixed sum of about \$1100 per year. The expense for fuel depends upon the duty performed by the engine, but when working up to its full capacity, 5 cords of wood, at \$4.50 per cord, will be required for a daily trip of 75 miles. This would be \$6075 for 270 days' service per year. The repairs of such a locomotive, as usually built, will be, for hard work, 8 cents per mile run, or \$1600 per year, which is sufficient generally to cover renewals. With air tight boxes for the tender axles, the oil used will be one gallon per day, or 270 gallons per year.—All expenses incurred upon the account of locomotive power would reach about \$9250 per year, or $46\frac{1}{4}$ cents per mile. Writers upon this subject, from not understanding the difference between a first-class and a fourth-class engine, will often make their estimates of this expense from a mixed business of small passenger and freight engines, as low as 20 cents per mile for freight trains. There is as much difference between the expenses of large and of small engines as between the expense of feeding a horse and a colt.

A first-class freight engine has 17 inch cylinders or upwards, weighs 25 tons or upwards, and should draw a train of 650 tons (on a level) at a speed of 12 or 14 miles per hour.

The most certain and uniform expense for repairs is for renewing the tires of the driving wheels, especially where they are made of wrought iron. 50,000 miles is about the usual duration of the wrought iron and of the chilled cast iron tires, both being used under heavy freight engines. To maintain and renew a set of four wrought iron tires of 5 feet in diameter, for this run in miles, will cost upwards of \$450, and to maintain and renew the chilled iron tire will cost less than \$125. The chilled iron tire has not been so generally used, partly from a groundless fear of insufficient strength and adhesion. But the Baltimore and Ohio railroad (the great physical features of which are more difficult than of any other American road) have used these tires in the heaviest business and in the coldest seasons, and in every case without any failure. They have 141 engines now running upon cast iron tires, 20 of which are constantly at work upon the mountain grades, at an elevation of 3000 feet above the sea, where the cold in winter is most intense. The chilled tire is becoming more popular at the north, while it is already in extensive use at the west, for which country it is most admirably adapted. Its general adoption will tend very much to lessen the present heavy expenses of locomotive repairs, by reducing the repairs nearly one cent per mile.

The furnaces and tubes are subject to much wear. An iron furnace, burning wood, will last, when of sound iron and never allowed to become burnt, for six years. Copper furnaces, burning Cumberland coal, will last about the same time. The iron furnaces upon the Philadelphia and Reading railroad, burning Anthracite, last about eighteen months. The expense of renewing an iron fire-box of 100 square feet of inner surface, and including stock, is not far from \$500. With a copper furnace, burning bituminous coal, not more than two feet or 28 inches above the grate, will need renewing after running six years. This may be done for \$400, including copper. Coal engines have always iron tubes. Wood burning engines have copper tubes, which require piecing, at an expense of one dollar each, every three or four years. A set of grates, burning coal, will last, if kept clean, one year or more.

The heaviest repairs are made upon the wheels and boiler, for there we find the most constant and severe wear. The outer shell of the boiler will, however, outwear any other part of the engine, with the exception of the cylinders. An old boiler, which had run for 13 years, exploded upon the Balt. & Ohio railroad. It was originally 5-16 inch thick, and had not lost 1-16 inch in thickness. To ascertain if long wear had weakened the iron, pieces of the fractured shell were accurately tested, and found to bear, before yielding, an average strain of 60,000 lbs. per square inch of cross section. The boiler exploded from over-heating, or from undue pressure.

The brasses, next to the wheels and furnaces require the most outlay to keep them in repair.

As a general thing twelve years work of heavy engine will wear out all of its parts. By that time the successive renewals will have embraced the whole machine, while many of its parts will have been renewed many times.

The depreciation account of an engine is debited to repairs. The account embraces the interest upon the first cost; and the total depreciation. Thus an engine costing \$8000 is charged with \$510. interest yearly; and \$708 for depreciation;—or \$1218 yearly for interest and depreciation. This account stands upwards of \$4 per day, for working days, and is about the true loss from the detention of an engine from its profit paying labor. Thus allowing a freight engine to lie in the shop 43 days out of the 313, involves a loss of \$172 by reason of such detention. One great economy in the use of the slip tire for driving wheels is found in a saving of nearly two weeks of this detention, every year.

The reduction of expenses for locomotive power must be found in an adaptation of coal for fuel, in building the engines simply and strongly, and in using first class materials for their construction. A large extent of grate furnace will tend to an economical combustion of coal, and with that practical proportion anthracite can be burnt equally as well as wood, although with more destructive effects upon the furnace. Only a few roads in Pennsylvania will however use Anthracite. Bituminous coal from the great Maryland coal district will constitute the staple fuel for locomotives, especially those for the transportation of freight. It has been in use for a long time upon the Baltimore and Ohio road, where it was employed in Wain's heavy engines,

and it is now used very generally in the tonnage engines. One ton of coal is considered equal to 2½ cords of pine wood, and when we recollect that at Cumberland the company pay but \$1 28 per ton for the coal we can at once perceive its vast superiority over wood in point of economy.

Balancing Locomotive Drivers.

FROM D. K. CLARK'S RAILWAY MACHINERY.

[Continued from page 500.]

INTERNAL DISTURBING FORCES—CIRCUMSTANCES WHICH AFFECT THEIR ACTION, RESULTS OF THEIR ACTION, AND THE ORDINARY REMEDIES.

Of the Pitching Movement.—The resistance to pitching, and thereby the stability, is promoted by shifting the driving axle backwards, towards the firebox, principally because it increases the mass of the machine in advance of the axle, or that which is submitted to the oblique action of the connecting rod; the removal of the axle also, in so far as it lengthens the connecting rod, reduces the obliquity which is the source of the disturbance. In Crampton's engine, having the axle behind the firebox, the whole mass lies forward; while, at the same time, the guide bars, where the action takes place, are in the neighborhood of the center of gravity; thus, the oblique action is entirely controlled, and the pitching is extinguished.

Above all, the number and position of the points of support, mostly control the pitching. The springs, also, particularly the fore and hind springs, should be as stiff as is consistent with the preservation of the frame and mechanism, to neutralise the oscillations which may rise from imperfections of the permanent way, such as loose sleepers, open joints, or want of correct gauge; for if these oscillations should coincide with the action on the guide-bars, they increase the straining of the machine, and the liability of the leading wheels to mount the rails. Susceptible springs also, for the same reason, increase the danger from accidental obstructions.

Vertical Action by the Centrifugal force of the Revolving Weight.—This action may be entirely neutralised by the application of suitable counterweights. This question, however, belongs to the more general question of balancing all the revolving and reciprocating masses.

The reduction of adhesion by vertical action, explains the occasional slipping of the driving wheels at high speed. It explains also the extra wear of driving wheel-tyres, when very much out of balance, next the crank-pin, where the pressure on the rail is greatest,—producing "flat places," and in consequence a vertical jolting of the engine while in motion.

Longitudinal Fore-and-Aft Motion.—It was found that in the sample engine, fig. 1 a joint longitudinal action on the driving axle of above six tons, or three tons for each cylinder, was incurred at certain points of the stroke, at a speed of fifty miles, by the crank and the other moving masses. Now, the whole pressure of 100 lbs. steam on a fifteen-inch piston does not exceed eight tons; thus, the inertia of the mechanism alternately adds and subtracts three-eighths, or 40 per cent. of this pressure, reducing the useful pressure to five tons, or 60 per cent., when the crank is at 45° during the first half-stroke; and rising it to eleven tons, or 140 per cent., at 135° in the second half-stroke. This example shows how very greatly the inertia of the machinery may affect the useful work of the engine. And so long as the whole effective pressure in the cylinder exceeds this inertia, the coupling bars between engine and tender remain taut on their pins, though subject to oscillation with the coupling springs. But when the steam-pressure is less, or altogether removed,—with a small train, or going down an incline,—they play fast and loose, owing to the fore-and-aft action, by which the machine is alternately thrown forward, and backward on the tender. This explains the extra racket and jarring which takes place between an unbalanced engine and its tender immediately after shutting off the steam, in approaching stations, particularly where

the nature of the coupling gear permits of some play. The shocks arising from these fore-and-aft vibrations are destructive to the coupling links and bolts, to the framing which carries them, and to the general connection of the whole machine, especially at the axle boxes and guardplates. And the greater the play of the parts of the engine, the more injurious is this action.

To neutralise or soften the longitudinal action, it is usual to employ a traction-spring under the foot-plate of the engine or tender, to receive the shocks; it is either coupled to a draw-bar of a fixed length, under permanent tension between the draw-bolts, or adjustable by a double screw, right and left hand; in either case, buffing blocks of wood are fixed at some distance apart laterally, upon the front beam of the tender-frame, to bear upon the engine-frame, as fulcrums for the action of the spring. With the object of softening the action still further, the buffing blocks are in some cases made elastic within a limited compass, by the use of india-rubber springs. Counterweights, also, are applied to the wheels, and are efficient so far as they go; but they are, for the most part, much too light, as they are estimated for the revolving weight only.

Of the Sinuous Movement.—As this affection of the motion of the engine implies the lateral play of the fore and hind wheels upon the rails, the friction of the tyres upon the rails, due to this lateral displacement, is opposed to the motion, and its tendency is therefore to steady the engine. Accordingly, in practice, at the lower speeds, and when the intensity of the disturbing forces is low, the machine, though unbalanced, runs sufficiently steady in respect of sinuous motion. At speeds above thirty miles, the greater disturbing forces overcome the resistance to their development, and the sinuous motion becomes more violent, the higher the speed. Even in Crampton's ordinary engines, sinuous action becomes sensible when the speed reaches sixty miles.

Many things go to increase the sinuous motion to which engines may be predisposed by want of balance: such as a want of parallelism of the axles, unequal diameters, of the wheels, the wear of ruts or hollows in the tyres, the wear of the axleboxes and bushes, which gives rise to longitudinal and transverse play at the axle-guards and on the journals, the outline of the rails, and sometimes a want of accuracy in the adjustment of the draw-bars. When the axles are not parallel, but incline towards each other on one side of the engine, their disposition is to roll the engine forward in a curved path; and always towards the same side, causing perpetual collisions between the flanges and the rail. This oblique tendency is injurious enough on the straight parts of the line, but it is much worse on curves which diverge towards the other side, and increases the liability to get off the rails. The same tendency is caused by wheels of unequal diameter on the same axle. Again, when the tyre wears hollow, the outer part, originally less in diameter than the middle of the breadth of tyre. This state of wear reverses the action intended in coning the tyres, as the greatest diameter, instead of being next the flange, is shifted to the outside; and, whereas a properly coned tyre constantly seeks to maintain the wheels in the centre of the track, a hollow tyre leads the engine continually astray, and subjects it to constant concussions against the rail. Play of the axles and axleboxes, by giving scope for irregular action, converts what without play would be a simple strain or flexure of the guards, into shocks upon the journals and wheels laterally. And it must be noted that though some degree of flexibility in the frame may be beneficial for the easy working and adjustment of the machine to the rails, when in good order, it is a very dangerous accompaniment for a slack and unsteady engine. That these varieties of tear and wear are all productive of unsteadiness, is proved by the superior stability of a new engine, with all its parts well up to their gauges, and all its bearings taut.

The means employed to reduce the fore-and-aft

movement, operate also in reducing sinuous movement. A great extension of the wheel base has also been employed with benefit, because it reduces the angular play of the wheels between the rails, and increases the command of the leading wheels in controlling erratic movements, by their frictional resistance transversely on the rails. In Crampton's engines, which carry out this principle to its limits, and impose the greatest loads upon the extreme wheels, the mass of matter in advance of the driving axle still further promotes the stability; and these engines, though they may not be balanced artificially, are practically steady at sixty miles per hour. But the great spread of wheels, though beneficial on straight lines, is prejudicial on the curves, and particularly in passing into sidings; for it is plain, that the farther apart the extreme axles, the greater is the angle at which the leading wheel-flange meets the outer rail on curves, and the more severe is the labor of guiding the engine.

The springs between engine and tender, though useful for reducing the fore-and-aft motion, have been introduced chiefly to meet the horizontal oscillation. But, it is clear that, in so far as they and all similar appliances, reduce this movement, they tend to consolidate the engine and tender, and injuriously to increase the length of fixed wheel-base. A draw-spring between engine and tender is no doubt a good thing; but it should be employed rather as a mere carriage spring, to soften the irregular motions of the tender itself. The wheel-bases of locomotives are abundantly long enough for the fair purposes of a carriage, and it is mechanically unsound in principle, and inexpedient in practice, to divert them from their legitimate function; for, as M. Le Chatelier most justly observes, "it is only in a direct manner—by attacking and destroying the cause itself—that we should seek to extinguish the lateral oscillation of locomotives."

To be continued.

Atlantic and St. Lawrence Railroad.

The stockholders of this road held their annual meeting at Portland on Tuesday the 2d inst. The President's report was read, from which we take the following statements.

We have to congratulate you at this time upon the near completion of the great enterprise, in which we have been so long engaged.

The whole of our own part of the joint line was opened for the running of trains in February last, although considerable work yet remains to be done before its final completion and acceptance from the contractor. The track upon the Canadian portion of the joint line is laid to the common junction, and the entire road between Portland and Montreal was opened for passenger and freight trains on the 18th of July current.

For all business and practical purposes, this great enterprise, involving on our part, an expenditure of over five millions of dollars, is now successfully achieved.

It is gratifying to be able to say to you, at the close of our arduous labors, that from the beginning of the work to the present time, the credit of the company has been maintained, its obligations promptly met, and in no single instance has its promise been protested and dishonored.

The work of construction has never been suspended or delayed, for non payment of the monthly estimates. Only a comparatively small amount has been expended for extra interest. With ample cash means the construction account might unquestionably have been somewhat reduced.

The results from the operation of the road as it has been opened from point to point, demonstrate its immense advantage, and fully justify the expectations of the most sanguine in relation to it.

The opening of it through between Portland and Montreal, is too recent to show practically the amount of business to be done upon it.

In pursuance of the authority granted by you, at your meeting held on the 10th of June last, and the power to lease granted by the State, by the act of the Legislature, approved March 29th, 1853, the Directors have entered into an agreement with the Grand Trunk Railway of Canada, to lease the road and all the property of the corporation, from the 1st of July current, for the term of 999 years, and have executed a contract of lease with parties in trust for, and in behalf of, the Grand Trunk Railway of Canada; until the said Grand Trunk Railway company shall be legally authorized to become a direct party to said contract of lease, upon the following terms and conditions. The Lessees covenant to assume and pay all the liabilities of the company, as they become due; pay six per cent. annually on all the shares of the company, from and after the said 1st day of July, in semi-annual payments, and observe and conform to the charters and the laws, applicable thereto, of the several States through which the road passes, and to pay all necessary expenses incurred in maintaining and preserving the organization of this corporation, and this company is bound to keep up the organization required by its charter.

The securities provided, in addition to the covenants of the Lessees, are the right to re-enter and resume the possession of the road, all its property and rights, on failure on the part of Lessees to pay the floating debt of the company, the interest on the funded debt, and the principal thereof, as the same shall become due.

Such are the general provisions of the contract of lease, and the guarantees provided for the security of this company are deemed ample, and are satisfactory to the Directors.

The simple guarantee of the Grand Trunk Railway company of Canada, with its immense Capital, when paid in, independent of our lien upon the property leased, will command the confidence of capitalists, and the stock of this Road, thus secured as a perpetual six per cent. dividend paying stock, must command a high price in the share market, and be sought, both at home and abroad, as one of the best and safest investments that can be had.

During the past year, no serious accidents have occurred to any person in the employment of the road, and none whatever to any passenger.

No injury is known to have happened to any passenger since the first opening of any portion of the road.

Since the last annual meeting, a further loan of the bonds of the city of Portland, to the amount of \$35,000, has been obtained, but none of these bonds have been sold. A few of them have been used as collateral security for temporary loans, and these will be immediately redeemed, and all that have been received from the city will be cancelled and returned, leaving the same amount of indebtedness of the company to the city of Portland, as reported at the last annual meeting.

Pending the negotiation for leasing the road, we have refrained from using the last loan of city bonds, and our floating debt has consequently been very much increased, as will be seen by reference to the accompanying report of the Treasurer.

The report was unanimously accepted. Woodbury Storer, Esq., then offered the following preamble and resolution, which was adopted without a dissenting voice—

Looking back on the years of diligent and laborious efforts of those gentlemen to whom has been entrusted the management and supervision of the great enterprise, upon the successful completion of which we are now permitted to rejoice together—

Resolved, That we, as stockholders, feel constrained to express our deep sense of obligation to them, for the high-minded and honorable course which has uniformly characterized their discharge of the important trusts reposed in them.

The financial condition of the company is stated to be as follows:

There has been expended and charged towards construction, and distributed to the following accounts—

For station houses and lands, and depot lands in Portland, with improvements thereon.....	\$348,580 66
Land damages.....	37,669 31
Fencing.....	25,451 49
Grading, masonry and bridging.....	610,137 86
Superstructure, including ballasting.....	469,330 67
Office expenses.....	32,852 39
Engineering.....	105,571 45
Sundry accounts.....	26,740 71
	<u>\$1,666,334 54</u>

Commercial street, in extension of the road across the city of Portland.....	71,071 95
Less amount received of Portland, Saco and Portsmouth Railroad Co., on account of same.....	36,621 71
	<u>34,450 24</u>

Interest on loans.....	43,106 86
“ on city of Portland bonds.....	254,368 21
“ on company's bonds.....	94,064 81
“ dividends to stockholders.....	190,346 16
Discount on the company's bonds, sold at 15 per ct. discount.....	48,450 00
	<u>630,336 04</u>

Equipment—Locomotives.....	156,816 06
Passeng'r cars.....	42,940 43
Merch'dize do.....	158,328 08
Snow Ploughs.....	4,257 09
	<u>362,341 66</u>

To Wood, Black & Co., on contract of 8th January, 1850, for construction of road from So. Paris to boundary line, subsequently limited to Island Pond, in Vermont.....	2,466,815 25
Total.....	<u>\$5,150,277 72</u>

The sources from which the means to meet this expenditure have been ultimately derived, are as follows:

Capital stock.....	\$1,538,100 00
City of Portland bonds.....	2,000,000 00
Company's ".....	973,700 00
Notes payable.....	352,252 28
“ issued for dividends to stockholders.....	52,382 07
Balance due on int. accounts and coupons.....	29,837 10
Balance due on sundry accounts.....	1,410 01
Net income of road to July 1, 1853.....	407,218 06
	<u>5,354,899 52</u>

Which leaves a balance of assets received, of.....	\$204,621 80
Consisting of am't deposited with Commissioners of sinking fund.....	83,750 00
Notes receivable.....	12,472 62
Freight earnings in hands of freight agents.....	26,015 56*
Due from Post Office Department.....	1,554 25
Wood, oil, &c., working materials on hand.....	38,693 62
Sundry accounts.....	8,239 76
Portland, Saco and Portsmouth railroad stock.....	2,711 75
Cash in Treasury.....	31,184 84
	<u>\$204,621 84</u>

*This amount since reduced by collections \$12,402 74.

The results from operating the road the past

year are exhibited in the following table. That part of the road between Northumberland and Island Pond, was opened for travel in February last, but in an unfinished state, and was run with much irregularity till the opening of Spring. The result was a loss, rather than a gain, to the income account.

Total receipts, From 143,740 1-2 passengers.....	101,048 45
“ 88,371 66-100 tons freight.....	137,210 56
“ Mails.....	6,032 01
“ Rents.....	10,452 02
	<u>\$254,743 05</u>

Expenses—	
For maintenance of way.....	37,756 52
“ locomotive power.....	23,710 64
“ train expenses.....	34,871 34
“ office establishment.....	7,739 24
“ station expenses.....	13,132 26
“ mail expenses.....	607 15
“ general expenses.....	919 04
“ fuel account.....	22,486 87
	<u>\$141,222 66</u>

Net receipts for the year.....	\$113,520 39
Surplus on hand June 30, 1852.....	298,697 67

Net income to July 1, 1853.....	\$407,218 06
Number of miles run by passenger trains for the year, 142,628.	

Freight and other trains, 125,350.	
Total miles run, 267,978.	
Average receipts per mile run, 97c. 6m.	
Expenses per mile, 52c. 7m.	

The report of the commissioners of the sinking fund for the loans of city credit, 1848, and 1850 shows that—

The aggregate of the two funds is ninety-three thousand six hundred and thirty-four dollars, and seventy cents—viz:—

Fund of 1848.....	\$66,610 37
Fund of 1850.....	27,124 33

\$93,634 70

The accounts of the two funds are kept separately, but the present state of the investments can be sufficiently exhibited in the aggregate as follows:

Invested in city scrip of the railroad loans.....	\$64,000 00
Mortgages and real estate.....	28,320 00
Cash.....	1,314 70

\$93,634 70

In December next, the period of five years will be completed from the first issue of the loan under the act of 1848. After that time the law requires that the annual contribution to the principal of the first fund shall be \$15,000—being one and a half per cent upon the amount of loan outstanding.—After February 1856 the same rate of contribution will be required for the second fund. From that period the aggregate contribution to the principal of the two funds, will be \$22,500 yearly, until the maturity or extinguishment of the loans.

The characteristics of the line are given as follows, by the engineer, viz:

Feet per mile.	Miles as'd'g north.	Do do south.
0 to 5	51.55	4.51

Including levels

TABLE OF GRADES IN FEET.		
5 to 10	11.27	6.88
10 to 15	10.70	2.95
15 to 20	5.72	4.19
20 to 25	3.31	0.85
25 to 30	3.50	4.64
30 to 35	5.38	1.42
35 to 40	6.14	3.20
40 to 45	11.46	3.47
45 to 50	3.41	0.00

RECAPITULATION.

Going North from Portland.

Grades to five feet per mile, including levels..... 51.55 miles.
Descending grades..... 31.61 "

Total..... 83.16 miles.
Ascending from five feet upwards..... 65.89 "

Total distance..... 149.05 miles.

Going South towards Portland.

Levels and descending grades to five feet per mile..... 51.55 "
Other descending grades..... 65.89 "
Ascending grades to five feet per mile..... 4.51 "

Total..... 121.95 "
Ascending from five feet upwards..... 271.00 "

Total distance..... 149.05 miles.

From the above table it will be seen that 45 feet is the maximum grade in both directions, with the single exception of one continuous grade of 60 feet per mile for 3.41 miles, going north. As this grade is in favor of the heavy traffic, it is not considered very objectionable.—There being only 8.09 miles of ascending grades going south, exceeding 30 feet per mile, they can all, should the occasion require, be reduced to that standard for a very reasonable sum.

Belleville and Illinoistown Railroad]

We learn from the St. Louis Republican that the directors of the company engaged in building this road, at a session on the 28th ult., located the terminus directly opposite the foot of Market street, St. Louis, on the Illinois shore. They have now two hundred men at work on the two miles next to the river, and will have the embankments thrown up as rapidly as possible.

We learn also, that the directors, in the exercise of the powers conferred upon them by the act of the last legislature have located the road through the county of St. Clair, a distance of three miles in the direction of Alton. We hear that measures are in progress to resist this location, and that the question will probably be tested in St. Clair county by a resort to the courts. If prosecuted immediately, the case, whether decided for or against the company, will be put in a condition to be determined by the supreme court of the state at the Fall term.

It is stated that the citizens of Brighton, a town located some ten miles upon the Mississippi and Chicago road, have held a meeting and invited the directors of the Belleville and Illinoistown railroad to connect that road with the Mississippi and Chicago road at Brighton. This would give a direct communication by railroad from Chicago to St. Louis, without touching Alton.

The Troy and Boston Railroad via Bennington.

A recent ride over a portion of the roads which constitute this route, their civil and communicative Agents, and the interest, and, to most of our citizens, the novelty of the region through which they pass, induce us to warmly recommend them to the notice of our peregrinating readers. Whether the tourist, after leaving the shady and (marvellous to say) the well-cleansed streets of Troy, and having gazed on the memorable field of Bennington stops awhile at Rutland whose airy site is not far Westward from some of the highest of the cloud-capped peaks of the Green mountains,—and proceeds thence to Bellows Falls where the narrowed Connecticut is seen to pitch madly from rock to rock, (Yankee rivers we suppose not liking prison) to Boston by the way of Keene, which some with good reason, regard as the loveliest village of New England,—or whether from

Rutland he goes to Burlington whose College Hill commands a water and island view of surpassing beauty, to Rouse's point jutting boldly into the waters of Lake Champlain and thence to busy Ogdensburg on Lake Ontario, or to Montreal whose glittering spires remind us of old days and the old world,—we think he will not regret having followed our advice.

Alexandria and Lynchburg Railroad.

The Charlottesville Republican states that the board of directors of this company have ordered the necessary surveys for the extension of this important road to Lynchburg, in pursuance of the act of the General Assembly. It is informed that a corps of engineers will be ready to take the field before the close of the present month.

At a meeting of the board of directors on Tuesday, T. C. Atkinson, Esq., was appointed chief engineer of the extension from Gordonsville to Lynchburg, and H. W. Vandegritt, Esq., retained as chief engineer of the "Western Section," extending from Culpepper, C. H., to Gordonsville, in connection with the General Superintendency of the road.

BRANDS' LIQUID,

FOR DISSOLVING AND PREVENTING

INCRUSTATIONS IN STEAM BOILERS,

IS acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel *gratis* to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents, Messrs. BOURRY & ROEDER, Consulting and Mechanical Engineers,

Aug. 10, 1853.

333 Broadway, N. Y.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMullen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.

Aug. 10, 1853.

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Office No. 25 Cliff street, New York.

To Contractors.

NORTHERN INDIANA RAILROAD.

SEALED PROPOSALS will be received at the Office of the Company in Toledo, Ohio, until the first day of September next, at noon, for grubbing and clearing, grading, bridging, superstructure and fencing of that section of the new line of said Road, from its junction with the Auburn and Eel River Railroad, to the town of Goshen, in Elkhart county, Ia., a distance of 51 miles. The line is divided into sections of about one mile containing from 7,000 to 65,000 yards of earthwork each, and in the aggregate about one million yards.—Proposals may be made for one or more sections, Maps and Profiles of the line, and plans and specifications of the work, may be examined at the office of the company in Toledo, on and after the 20th of August inst.

The directors reserve the right to accept or reject proposals, as they may deem the interests of the company to require.

J. H. SARGENT,
Asst. Chief Engineer.

Office of Nor. Ind. R. R. Co.,
Toledo, August 4th, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch. DAVID CHILLAS, 50 South 3rd Street, Philadelphia.

May 1st, 1853.

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana. . .	" 1862
7 per ct.—Catawissa, Williamsport and Erie. .	" 1867
8 per ct.—Peoria and Oklawaha.	" 1863
6 per ct.—Mayville and Lexington.	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co. .	" 1877

1st Mortgage Bonds:	
7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City. . . .	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland. .	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington.	" Troy, N. Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Muscoogee Railroad.	" Savannah, 1862
7 per ct.—Huron and Oxford.	" New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co. . .	" 1865-67
7 per ct.—Township of Portland, Ohio. . . .	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa.	" Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio. Huron, 1861	
7 per ct.—Town of Newark, O.	" New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock	" 1866
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.	" 1862

Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad. Stock in the Western Vermont R. R. Co. Stock in the Mad River R. R. Co. Stock in the Buffalo, Corning and New York R. R. Co. Stock in the Mansfield and Sandusky R. R. Co. Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.

Notice to Contractors.

PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile Railroad, will be received at the Railroad Journal Office, New York, on the 1st of October next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 225 miles; commencing at Girard, in Russell County, on the west bank of the Chat-tahirchu river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.

GEO. S. RONEY, Chief Engineer.

Girard Railroad Office, 6th July, 1853.

Notice to Contractors.

ST. LOUIS AND IRON MOUNTAIN RAILROAD.

PROPOSALS will be received at the office of Company in St. Louis, Mo., for the Graduation, Masonry and Bridging of that portion of the St. Louis and Iron Mountain Railroad included between St. Louis and the Iron Mountain, or Pilot Knob, distance about 84 miles. The preliminary surveys and approximate locations are now complete, and the final location for construction in rapid progress, and may be closed by the 1st Sept. Meanwhile, profiles and plans, now ready, will, with examination of the country, give all necessary data.

The work on this road is heavy, including three tunnels, and much rock work and masonry, about 20 miles of the road, shows "side-hill" work, and the balance heavy through work. The Iron Mountain is 700 feet above the river at St. Louis; but two principal depressions are to be crossed before reaching that height. The country passed through is healthy and well watered.

Proposals will be received (by quantities) for the whole or a part of the road, but contracts will only be made with responsible parties. No contracts will be closed before the 15th of August, and no sooner thereafter than satisfactory offers are received from responsible parties. The road will hereafter be extended to the Arkansas line, to connect with the Cairo and Fulton road, and a branch to the Mississippi River, at Cairo or new Madrid, is also contemplated.

WM. M. MPHERSON, Pres't.

THOS. S. O'SULLIVAN, Consulting Engineer.

J. H. MORLEY, Eng. in Charge.

4w. St. Louis, July 21, 1853.

Notice to Contractors.

BUFFALO & PITTSBURGH RAILROAD.—Sealed proposals will be received at the Engineer's Office, in the city of Buffalo, until the first day of September next, for the graduation, masonry, and for the entire construction of the line of road, (about 20 miles,) between Ellicottville and the Pennsylvania State Line, in the valley of the Tunungwant.

Plans and Specifications will be ready for inspection at the office of the Engineer on and after the 20th day of August inst. The proposals may be made for the grading masonry, ties, fencing and entire construction in a single proposition, or for the same and all items separately and in independent propositions; and proposals as above for a single section or any number of sections will be received; the Company reserving the right to reject such propositions as are not satisfactory. Proposals will also be received in like manner, for the balance of the road from Ellicottville to the city of Buffalo, distance about 50 miles, up to the 20th day of September. Plans and specifications for which will be ready for examination at the office of the Engineer from and after the 10th day of Sept. next.

Any further information desired may be obtained by addressing Hon. Orlando Allen, President of the Company, Buffalo.

Proposals are invited from contractors of ability for the whole road. Buffalo, August 2, 1853.

au4t31 E. R. BLACKWELL, Chief Engineer.

Notice to Contractors.

SEALED proposals will be received by the undersigned, through the Post Office at this place, until noon, Wednesday, August 17th, for the Grading and Masonry of the Flemington Railroad, extending from Lambertville to Flemington, 11½ miles.

The line will be ready for inspection, blanks will be furnished, and profiles exhibited, on and after August 12th.

ASHBEL WELCH, Engineer.

LAMBERTVILLE, N. J., July 28, 1853.

N. York and N. Haven R. R.

NOTICE OF SUMMER ARRANGEMENTS,



Commencing Monday, May 9, 1853.

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	8.15 A. M.—Accommodation to New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation to New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation to New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.
New Haven, May, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO. MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

GREAT WESTERN MAIL LINE.—SIXTY MILES DISTANCE SAVED, by taking the MICHIGAN SOUTHERN AND NORTHERN INDIANA RAILROAD.—Through tickets for Chicago, St. Louis, Milwaukee, Racine, Kenosha, Waukegan, and Sheboygan, by New York and Erie Railroad via Dunkirk, and Buffalo and New York City Railroad; People's Line of Steamboats, Hudson River Railroad, via Buffalo, connecting at Buffalo with the splendid steamers EMPIRE STATE, J. WILSON, Commander, Mondays and Thursdays; SOUTHERN MICHIGAN, D. PERKINS, Commander, Wednesdays and Saturdays; NORTHERN INDIANA, I. T. PHEATT, Commander, Tuesdays and Fridays; leaving Buffalo every evening (Sundays excepted.) These steamers are low pressure, built expressly for the Lake trade, and for finish, speed, strength and safety, have no superiors anywhere.

The connections with the Express Trains at Toledo and Monroe, for Chicago and St. Louis, are perfect, and can be relied upon.

Forty hours from New York to Chicago. Time and money saved by taking this Line.

Passengers preferring it, can take the Lake Shore Railroad to Toledo, the Michigan Southern and Northern Indiana Railroad to Chicago, thence by the Rock Island Railroad to La Salle, forming the only continuous line of Railroad to the Illinois river. For through tickets or freight apply to

JOHN F. PORTER, Agent, 193 Broadway, cor. Dey st.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. York City R. R., without change of baggage or cars; and also for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Susquehanna and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAY, at 3½ p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

\$1,000,000 Loan

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY 6 PER CENT FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW LANIER & Co. }
No. 53 Wall st., June 18, 1852 }

THE LITTLE MIAMI RAILROAD COMPANY offer for sale ONE MILLION of their SIX PER CENT BONDS, with Coupons, Interest and Principal payable in New York, the former half-yearly, 1st of November and 1st of May.

They are in sums of \$1,000 each, payable 1st of May, 1853.

These Bonds are issued under express authority of the Legislature of the State of Ohio; are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station houses, &c., up to this date, \$2,708,109 19.

This Company own stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also in the Hillsborough Road, to the amount of \$11,716.

The receipts of the Road have been as follows: For the year ending—

December 1, 1844.....	\$18,632 26
December 1, 1845.....	46,327 58
December 1, 1846.....	116,052 02
December 1, 1847.....	221,189 52
December 1, 1848.....	280,085 78
December 1, 1849.....	321,398 82
December 1, 1850.....	405,597 24
December 1, 1851.....	487,845 89
December 1, 1852.....	526,746 35
The receipts from Dec. 1 to May 1, (last 5 months).....	260,051 27
For the same time the year before.....	172,281 18

Increase in 5 months.....\$87,770 09

The position of this road being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia road, and runs in connection with the Cleveland and Columbus road, in fact they are now run as one line, greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of five per cent in 1851. In 1852 two cash dividends, each 10 per cent, were made.

The present surplus and reserved fund amounts to \$98,546 16.

The mortgage covers the entire line of road costing to date.....\$2,708,109 19
To be expended on double track, &c. 1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the city of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. Lanier, Esq., of this city, in trust for the Bondholders, with ample power to take possession of the road, its real and personal estate, franchise &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. This mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

city of Cincinnati, and all other debts of the Company, except this loan of \$1,500,000.

SEALED PROPOSALS will be received for any sum not less than \$1,000, until Thursday, the 1st of September next, at 3 o'clock P. M.

Proposals will be addressed to WINSLOW, LANIER & Co., Agents of the Company, No 52 Wall st., New York, indorsed "Proposals for the Little Miami Railroad Bonds."

One-half the purchase money will be required to be paid at the time of accepting the bids, the residue in thirty and sixty days. Any purchaser will be at liberty to pay in full at once.

Interest on the Bonds will run from the day of payment.

The above \$1,000,000 will be sold absolutely and without reserve to the highest bidder.

For further information apply at our office.

WINSLOW, LANIER & Co.

To Contractors.

MILWAUKEE AND MISSISSIPPI RAILROAD.

THE GRADING, BRIDGING and MASONRY for the Milwaukee and Mississippi railroad from Madison, the capital of the state to the crossing of the Wisconsin river—a distance of about 35 miles—will be let on the 22d day of August, 1853, to be completed on or before the first day of April 1854.

The line will be divided into sections of about 1 mile in length, and the proposition may include one or more of them. About twelve miles of this work is quite heavy, averaging some 30,000 cubic yards per mile, which will make good winter work.

It is also the expectation of the railroad company to have the location of the balance of the road to the Mississippi river—about seventy miles—ready for letting by the middle of September, 1853.

Contractors will find this a desirable work, the excavation being mostly sand and gravel, besides it is easy of access, and is through a healthy and well watered section of the state.

Propositions will also be received for 100,000 CROSS TIES, delivered anywhere on the line of the M. & M. R. R., between Milwaukee and the Wisconsin river—to consist of White Burr, Red Oak and Red Elm; to be six inches in thickness and not less than six inches face, and eight feet in length.

The plans, specifications and profiles will be ready for examination on and after August 15, 1853.

A. L. CATLIN, Contractor.
EDWARD H. BROADHEAD,
Chief Engineer.

Railroad Letting.

KENOSHA AND BELOIT RAILROAD.

ON and after the first day of August next, and until the 15th of August, inclusive, proposals will be received, under seal, at the Office of the Kenosha and Beloit Railroad company, in Kenosha, for the construction of the entire road from Kenosha to the Rock River Union Valley Railroad, a distance of about 50 miles.

The proposals may be made for the grading, masonry, ties, and entire construction in a single contract—or for the same and all items separately, and in independent contracts by different individuals. They will likewise be received for the above in parts. The work will besides be divided into sections of moderate length, and proposals, as above, for a single section or any number of sections will be received.

Profiles and specifications may be inspected at the Engineer's Office in Kenosha, on and between the days above specified, and forms of proposals will be supplied to all who desire to take contracts.

ALEX. C. TWINING, Engineer.
Engineer's Office, Kenosha, June 20th.

\$1,250,000 Bonds of the New Orleans, Opelousas and Great Western Railroad Co.

SEALED PROPOSALS will be received until the 15th of September next, at the office of HEWITT, LEES & Co., in the city of New York, for the purchase of 1250 Bonds of One Hundred Thousand Dollars each, all dated 1st August, 1853, and payable at the office of the company in the city of New Orleans, as follows, to wit:

250 Bonds of \$1000 each, on the 1st August, 1854.
250 do do do, do 1st August, 1855.
250 do do do do, do 1st August, 1856.
250 do do do do, do 1st August, 1857.
250 do do do do, do 1st August, 1858.

Sealed Bonds bearing interest at the rate of seven per cent per annum from date, interest payable semi-annually, at the office of the company in New Orleans, with coupons for same attached. Said bonds are issued by order of the Board of Directors, the proceeds of which, to be expended in the construction of the road.

The New Orleans, Opelousas and Great Western Railroad company was organized 1st May, 1852. Its present capital, by act of Incorporation, is \$6,000,000. Its charter provides for the construction of a trunk railway from the city of New Orleans, westwardly, to some point on the boundary between the States of Louisiana and Texas, favorable for its extension across the latter State to the Pacific ocean.

The entire line or first division of road to Washington, in the parish of St. Landry, 173 miles with a branch of 20 miles in addition, is now under contract with parties of the highest responsibility, and is to be entirely completed by the first day of January 1855.

The rails are already laid for 20 miles, and 66 miles will be finished and in operation on the first of January next.

The cost of the division to Washington, complete, with equipments, depots, etc., etc., will be \$3,300,000.

The tributaries to the division of the road under contract, and to the probable line of its extension to the limits of the State, are the Bayous Lafourche, Terrebonne, Black, Teche, Vermillion, ourtaubeau, Becuf, Robert, Rapide, Cotele, Red and Sabine Rivers.

The Parishes traversed by it, embrace portions of the deltas of the Mississippi and Red Rivers, and the magnificent prairies of the Attakapas and Opelousas forming the finest planting and grazing region of the South. Besides other and abundant resources, both for travel and transportation, they produced last year 126,309 huds of sugar, and about 7,580,000 gallons of molasses, being more than half of the entire crop of the State, export annually about 40,000 head of livestock, about 300,000 bales of cotton reach this terminus by the present channels of commerce tapped by this line of road, or grown in the country penetrated by it.

The subscriptions to the capital Stock of the company now amount to the sum of \$4,243,600, as follows, viz;

Individual subscription.....	\$1,063,000
Municipal corporations, payable part in five and part in six annual payments, viz:	
City of New Orleans.....	\$1,500,000
Parish of Orleans.....	75,000
Do St. Mary.....	156,600
Do St. Martin.....	103,775
Do Lafayette.....	33,400
Do St. Landry.....	115,625
Do Natchitoches.....	250,000
Do DeSoto.....	100,000
	\$2,334,400
	\$3,974,000

At the last session of the Legislature the State of Louisiana subscribed one-fifth of the capital stock of the company, viz: \$1,200,000, payable, however, only in the same proportion as other subscribers, consequently the actual State subscription at this time is \$846,200, making our present available subscription amount to the sum of \$4,243,600.

The bonds now offered for sale are secured by special pledge, according to law, of the subscription to the capital stock made by the city of New Orleans, viz: \$1,250,000, due 1st June 1854 to 1858, inclusive, \$250,000 per annum; and the interest on said Bonds is secured by pledge of unmatured installments of the Parishes of Orleans, St. Mary, St. Martin and Lafayette amounting to \$300,240.

The Board of Directors in offering this loan to the public, do so with full confidence that the security offered is of the most undoubted character. No mortgage of any kind now exists upon the property of the company, and the Board do not contemplate to issue any Bonds secured by mortgage upon the Road until the line to Washington is complete and in working order, a distance of 173 miles, and then the amount of funds to be raised by mortgage will be but a very moderate amount compared with the actual cost and value of the Road, and will be employed in its further extension.

The subscription of the City of New Orleans is payable annually, by a tax levied on the whole landed estate of the city, authorized not only by an act of the Legislature, but approved by the tax-payers, and declared legal and constitutional by the supreme Court of the State. The security therefore, for the payment of said subscription, is the entire landed estate of the City of New Orleans, amounting to One Hundred Millions of Dollars. Payers of this tax receive an equal amount in the stock of the company.

For all further information in regard to this loan, apply to Messrs Hewitt, Lees & Co., New York, or at the office of the company, New Orleans.

By order of the Board.

J. H. OVERTON, Pres't.

New Orleans, June 1853.

Notice to Contractors.

JEFFERSONVILLE RAILROAD.

SEALED PROPOSALS will be received at the office of the Company at Jeffersonville, Indiana, until 10 o'clock, A. M., on Wednesday, the 7th day September, 1853, for the clearing, grading and bridging the road between Edinburg and Indianapolis.

Proposals may be made for sections, divisions, or the entire line, about 30 miles, payable in the 7 per cent mortgage bonds of the Company or part bonds and part cash, and also for payments entirely in cash.

The company reserves the right to accept such proposals as in their judgement will best secure the prompt construction of the road, and to reject all, if none are satisfactory.

The route traverses a fertile country, furnishing abundant supplies of all kinds, and the line is easy of access at all points.

Bidders will please give their post office address.

WILLIAM G. ARMSTRONG, President.

Jeffersonville, July 9, 1853.

Notice to Contractors.

SEALED PROPOSALS will be received at the Engineer's Office of the Pittsburg, Maysville and Cincinnati Railroad, in M'Connellsville, until the 20th of August, for the Graduation and Masonry of the line of road (about 35 sections) between the Muskingum River and the Central Ohio Railroad.

Bids enclosing proper testimonials will be received for the whole or any number of the above sections.

Plans and specifications will be ready for examination after the 20th of July.

The division between the Muskingum and Hocking Rivers will be offered for contract as soon as the location is completed.

ROBERT M'LEOD,
Chief Engineer.

M'CONNELLSVILLE, June 4th, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, August 20, 1853.

The Legal Relations of our Railroads.

One of the principal excellencies that characterize the institutions of this country, is the simplicity of their operations. We take the shortest cut to a desired end. This tendency towards simplicity also shows itself in whatever we undertake and particularly in our railroad enterprises. Already in many of the states is the right to build railroads, as open to every citizen, as is that to build ships, or to erect manufacturing establishments. Such a right will soon become the law of every state. To commence the construction of a railroad the observance of certain formalities are required for the purpose of organizing companies, and to vest them with the powers necessary to execute their works, but the choice of route and plan, kind of road to be built, and the system of management to be pursued, is left entirely to the guidance of individual sagacity. We therefore squander nothing in "Parliamentary expenses." A

solicitor is no more necessary as counsellor for a railroad company, than for a ship builder. The objects that each have in view, are sufficiently obvious, and as government allows the parties to take the shortest road to them, the ordinary instinct of a shrewd business man is found in the end to be the safest legal guide.

Entire freedom is allowed in the construction and management of our roads. The only power that government retains over them is to prevent their interfering with the rights of other parties. They are amenable to government in the capacity of a general conservator of society. This object secured the interference of the former ceases. Our railroads, too, are taxed upon common sense principles that govern other transactions. Neither are the roads themselves, nor their franchises, taxed, for reasons that will be readily understood. The value of a portion of a road cannot be estimated apart from the value of another portion, or the whole. A road under the management of one company often traverses several states, and also different towns and counties, and it would be impossible upon any principles of equity, for each state, or county or town, to tax such part of the road as might lie within its limits. There could be no fixed standard of valuation, to which to refer the various parts into which a road might be cut up. The rule adopted, is that the improved property, or property that would be valuable without the road, which a company may own, is taxed where it lies. As the value of the road itself is represented by shares, these are taxed to the person owning them, wherever he may live, provided of course their ownership be ascertained, or the party resides in the United States. If a party residing in New York owns shares in a Georgia railroad, he is taxed for the shares by this city. Upon these shares there are no local taxations. In all cases the taxes are for a certain gross sum. Our roads in no cases are subject to parish or county taxes, nor to poor rates, as is the case with English roads. The shares and bonds of our roads held out of, are not taxed in this country. We presume the owners of such in England would be taxed for them as for so much personal property.

The rights of stockholders are too well known to require notice. Those of the bond holders depend, of course, upon the nature of the contract

between them and the company. A mortgage bond is a lien upon the property of the company. The mortgage may embrace one, or more items of property, or all. When a first mortgage is made, covering the real estate, road bed, franchise and personal property of the company, any additions to the property, such as superstructure and equipment, is held by the same; and should a subsequent mortgage be created, the first takes precedence in all the above particulars. We state these facts, as there has been some uncertainty felt as to the rights of parties holding under two mortgages, and when subsequent additions are made to the property of the road.

In case of the non payment of the mortgage, or of the interest in the same, our courts of equity would place the trustee in possession of the road, and compel him to sell or manage it for the benefit of the mortgagees. The remedy for default in such cases is both simple and expeditious. We now recollect of but one instance where trustees under the mortgage have taken possession of a road, and that was the Vermont Central. We know of only one other instance among all our numerous roads, where default of payment has been made, and that was the Hudson and Berkshire. In this case the creditor was the state of New York, which also asserted its right agreeably with the stipulation of the original contract.

A bond without mortgage is simply a promise to pay, like a note of hand. It carries no lien upon the property of the company. In case of non-payment, a judgment will give the same rights to creditors, as far as the property of the company is concerned, as would a mortgage, but these rights do not vest until after a judgment has been obtained.

New Railroads in Michigan.

Four north and south railroads are in agitation. —First one from Dayton, via Adrian and Jackson to Lansing, and down the Grand river: 2d. The Cincinnati and Mackinaw road, via Dayton, Hillsdale, etc.; 3d. The Fort Wayne and Northern road, via Coldwater, Union City, Battle Creek, Hastings and Grand Rapids, and 4th, the Indianapolis and Grand Rapids road, via Three Rivers Kalamazoo, etc. We are happy to learn that all the roads are to be constructed and put in the best running order immediately.

Manufacture of Locomotives.

The following article, written by the Assistant Editor, some months since, is republished for the useful suggestions it is believed to afford to those interested in or contemplating the prosecution of this business.

The best location for a shop is determined generally by the facility for obtaining the raw material, and delivering the finished machine. An establishment located upon the line of some important railroad, and accessible to the chief points of delivery through intersecting roads or navigable streams, would possess some advantages over another concern established with regard only to the expense of ground, the supply of labor, or established, as many such concerns are, without any special regard for outside facilities of any kind. In some locations water power can be obtained in connection with railroad facilities, but the expense of steam power, would be less than the expense of transport, in the case of a shop located far from a railroad, for the sole purpose of obtaining water power. The machinery of a shop, capable of turning out three locomotives per month, may be driven with from 2500 to 3000 lbs of coal per day. The expense of coal and the pay of an engineer, amounting possibly to \$1500 per year, and the expense of carting locomotives being perhaps \$100 each, for a distance of half a mile, or a mile, would strike the balance against any consideration involving the removal of a shop from the line of a railroad.

In the plan of a locomotive engine shop, the different departments of the business should be so connected as to allow of a ready delivery of the work from one part to the other, so that little labor will be required to get the various parts of the work together. A rectangular building, one story in height, devoted for one half of its length to finishing the bright work, and the cylinders and frames, and for the other half to setting up the locomotives, on two tracks running through the shop on that side of the building, will suffice for the principal shop. One end of the building may stand next to an open court, around which are the boiler and smiths' shops, the carpenters' shop and a separate shop for the heavy wheel lathes. The boiler shop being directly behind the finishing shop, the two "setting up" tracks may be extended across the yard to the door of that building, and the boilers can be delivered on trucks. The carpenters' shop and wheel shop are on a line, and form a range connecting the boiler and finishing shop, on the side of the yard nearest the setting up track. A track is laid through the centre of these buildings, and large doors open from each end. The tender tanks may be delivered from one end of the boiler shop, and placed in the wood shop, where they are mounted upon their frames, the wheels being fitted in the next room, and delivered on the track. The wheel shop has a door opening into the principal shop, and through this the driving wheels and trucks are delivered upon the setting up tracks.

The heavy parts of locomotives, frames, cranks, axles, braces, piston and connecting rods, are generally supplied at some forge or iron works. The smiths' shop therefore will seldom require more than a complement of single forges, and trip hammer, with the usual assortment of tools and formers required for hand forging.

The foundry may be in the rear of the other buildings, and accessible from a track laid upon the outside ground along the side of the whole establishment. This track affords a delivery for all the coal used for the engine and smiths' shop, and the iron used in the smith and boiler shops and foundry.

Over the tracks on which the engines are set up, are laid beams supporting a travelling hoisting apparatus, by which an engine can be raised in any part of the shop, for the purpose of putting under the wheels. Smoke jacks are inserted in the roof to allow of firing up the boiler within the building. The space between the rails of each track is excavated, and bricked on each side, forming a pit along the whole length, two feet or thirty inches in depth. This gives access beneath the engine.

The facilities for doing work economically and successfully, are much extended by adopting a regular system in each department of the business. All the work executed in the shop, should originate in the drawing office, and accurate plans should be made there to form a guide for the finish of every part. The working drawings should be made mostly to a uniform scale, which need not exceed one-fourth the full size of any part, and the sizes should be also laid down in figures. This plan once adopted, and pattern makers once taught to follow it, is a very sure guarantee against errors.

The rules and measures employed in a shop, should be taken from a steel standard, and the squares and levels should be tested to insure accuracy.

It is a system in some establishments to have each portion of the work contracted for by a master mechanic. He hires his operatives, and devotes himself entirely to that part of the business which his contract has allotted him. Under a system of efficient supervision, this plan tends to regularity of production, and uniformity of workmanship. It is the idea of the division of labor, carried to the full extent.

In continuation of the above and for the reference of a large class of western people seeking information upon this subject we will say that we believe a locomotive factory cannot be better organized there than by the influence and subscription of railroad directors and iron manufacturers. The former will secure favorable contracts for the establishment, the latter will supply the best materials for construction, and will contribute also, by their productions, to their share of what must ultimately be the form of a large part of the working capital. The management, upon the character of which, will, after all, depend the reputation of the works, must be confided to a practical engineer, well acquainted with all varieties of engines and who is sound upon all questions of improvements and manufacture. It has been the want of good management that has impaired the success of favorably located shops in Ohio. The same talent that organized the ill-fitted motive power of two or three railroads in the East has been transferred, with inflated expectations, to the West, and new works have yet to learn that to those only who have made the subject of locomotives a study, can they confide the charge of their business.

Nor do we know of any successful locomotive

shops which have been the common property of any large number of proprietors. Of all the large incorporated works in the East the number of corporations is but few, with the exception of the Amoskeag shop which is owned by a large company engaged in cotton manufacturing. But here however the locomotive shop is a distinct department of the works, and is under the sole charge of one man, O. W. Bayley, Esq., and this shop, for the character of its productions, ranks among the very first in New England.

The principal elements of success of a locomotive shop are, a command of good orders, a location favorable for access to the raw material and delivery of work, and an abundant supply of good labor. Capital, influence, location and materials can all be readily furnished in Pittsburgh, Cincinnati, St. Louis or Detroit, but the remaining element,—that of labor,—we should say would, at the commencement, be preferable if organized under the charge of those acquainted with the business, in other words, the most reliable hands should, in starting, be obtained from the East, while a little familiarity with locomotive work would soon make the new establishment independent of outside assistance.

While we press the value of the service of Eastern skill, we would suggest that Western capitalists inviting such aid should provide a proper accommodation for its emigration. Good dwellings, convenient markets, and good schools are important considerations to New England working men.

New York and Erie Railroad.

LONDON, 29th July, 1853.

MR. EDITOR,

SIR:—You know too well to need informing by us, that the parties interested in the stock and bonds of the Erie Road have grounds of complaint of the want of official reports and other proper information of the circumstances and progress of the company. We are fully apprised, on this side of the water, of the recent omission of dividend on 1st July, of the rumours current in New York on that occasion, of the speculation that the news would affright the bondholders in England, and on the continent of Europe.

It is a matter of some surprise to us that the Stockholders seem so inert and passive during all the agitation and discussion of the merits and demerits of the Erie road and its management, for it appears that nearly the whole interest of the much vexed question of the management concentrates upon the Shareholders as a class. As Bondholders we feel secure of an interest from a road of such large resources, even supposing the conduct of the line to be far from excellent—but to the Stockholders it is of vital importance how the road is managed—whether upon prudent or imprudent, upon good or bad system, as upon this entirely depends whether the Stockholders are to have small dividends or large ones, whether their stock is to be worth 100 or 50. Upon the economical working of the traffic, accompanied by a vigorous and masterly arrangement of the finances, or Capital Account, depends the probability of reducing hereafter the amount of the company's annual liability for interest, and the increase of the dividend fund. All this tells with accumulating effect upon the Shareholders. They collect all the good effects and all the bad effects of the mode of management into a focus. How is

it then that they do not stir themselves to some vigilant activity in the company's affairs? The stock is nearly all in American hands. It is an odd thing for plodding money making (and often losing,) John Bull to have to ask his shrewd cousins in New York whether they have gone to sleep on a property of \$10,000,000, which is valuable or otherwise just in proportion as the owners are more or less wide awake.

There can be no question that in a little while the road may be made highly remunerative to the Stockholders; but it is equally beyond doubt that the best resources require good management to develop them. We should much like to hear from New York that the general body of Shareholders are putting their shoulders to the wheel with a vigorous determination that the road shall have the highest character and earn the best profits that can be attained. The needful effort may require a little temporary self-denial on their part, but it would be in the end well rewarded. There should be an end fixed to expenditure; a limit to the loans; close economy in working; dividends honest beyond impeachment, and a sinking fund to reduce somewhat the disproportion between loans and stock.

Yours Respectfully.

HESELTINE & POWELL.

It will be borne in mind that at the last annual meeting of the stockholders of this company, its affairs were believed by them to be in a prosperous condition. Since that time there has been no opportunity for a direct expression of their opinion. This cannot now take place till their next annual meeting, which occurs, we believe, some two months hence. Till then, all they can do is to vent their complaints individually, which is done in no very soft nor gentle terms.

As much as we have disliked and censured, in the *Journal*, the management of the directors, we see no reason to doubt that the revenues of the company will be ample to meet the interest on its indebtedness. Of the future value of the stock we are by no means so clear. But the value of the stock is of but little importance, compared with that of the bonds. The former is almost entirely held in this country. It has never been a stock that any well-informed house in this city, engaged in railroad negotiations, would have ventured to have recommended to its customers, nor any well-informed foreigner thought of purchasing. More than two years since, we repeatedly cautioned foreigners against it, and predicted the explosion that has since taken place. We saw that our own people were running mad upon Erie, and we determined that foreigners, who could not understand the causes of this infatuation, should not suffer by it, and thus get a prejudice, which might be without any good foundation, against other works. Though we consider the bonds of the company entirely safe, they were without those guarantees which a foreigner should always require, which will render him perfectly safe, and at the same time do us a vast deal of good, by rendering it impossible for our people to build roads entirely upon credit;—a stock subscription equal, or nearly so, to the amount of the credit asked.—The value of this rule has been too often insisted upon to need repeating here, and if not adhering to it, foreigners occasionally make a bad bargain, they have only to blame their own improvidence.

As before remarked, the people of New York

have been laboring under an infatuation in reference to the Erie railroad. In 1845, in imitation of the efforts of other cities, particularly Boston and Baltimore, the construction of this work was resumed. It was taken hold by our active business men, under a conviction that it was necessary to the maintenance of the western trade. Under this idea, it became the pet project of the city, and from this fact, no difficulty was found in procuring sufficient funds to carry the project forward with an energy which contrasted most favorably with the dilatory manner in which it had proceeded under former administrations. This apparent success could not fail to beget some self-satisfaction, that a body of inexperienced men could take up, after repeated failures, a work of such magnitude, and carry it on to a successful completion. They secured at the same time the gratitude and confidence of the community. The apparent success which was achieved completely blinded the eyes of the public as to the manner in which it was effected. They forgot that upon a line possessing all the advantages of the Erie even, only a moderate profit on the stock of the company could be expected, and that not a cent could be lost in construction without being felt in dividends. Unfortunately the parties who stood at the head of the management lacked the training necessary to fit them for their places, and that sound judgment which often supplies the want of it. The result was, that vast sums were lost by bad management, both in the construction and operation of the road, a sum no doubt fully equal to the present amount of the capital stock. For a time, there was but little use in pointing out the mistakes that were being committed. In fact, a person could not do so, without being accused either of some improper motive, or wanting in public spirit or loyalty to the best interests of the city. A paper that did not puff *Erie*, was outlawed in public opinion.—The entire city press, with perhaps an exception, daily celebrated the merits of this work and its management. Thus shielded from public scrutiny, and certain of popular support, the directors of this road have pursued a course which would have involved any work in ruin, and which has brought this company to the very brink of it. The public at last listened to a timely alarm that was given, broke from the spell under which they had been so long held, and began to ask whether the management of the company was what they supposed it to be. The result of these enquiries we are all familiar with. They have shown that the dividends had not been earned, that the management of the company had been in the highest degree improvident in almost all important particulars.—Their good effect is also equally conspicuous. Already has a new system of management been adopted; new and more competent persons called into the Direction, and the parties most responsible for the past management of the company, have retired. The great point to be obtained, was to convince the stockholders that the road had been mismanaged. This being gained, the remedy will now follow as a matter of course. If the present parties who have the working of the road in charge are incompetent, they must give place to others that are. The stockholders are now in such frame of mind, that they will not stop short of the most thorough and searching reform. Of this we think all may rest assured. We think, too, that the

rights of bondholders will be maintained inviolable, that no more dividends will be paid, unless earned, and that the most vigorous effort will be made to make the most out of this great work.—Whatever may be the real worth of the stock, it is certainly much more valuable now than it was six months ago. Its value then was in danger of being entirely wasted. Now, whatever it is, it will be saved.

The mistakes of this company will not be without their use in the management of other works. Above all they will show that, no matter how strong may be the route of a proposed road, not a cent can be lost without being felt in dividends.—The Erie people believed they held the key to the trade of the West, and that the prospective business of this road justified any degree of extravagance. The fallacy of such an assumption is not only shown by the results in the present case, but is also proved by reference to other roads having the largest incomes. Many of these have great difficulty in making even moderate dividends.—The profits of a road do not so much depend upon the amount of its revenues, as upon the manner in which it has been built and managed. This fact our people are fast beginning to find out.

Journal of Railroad Law.

LIMITING THE LIABILITY OF RAILROAD COMPANIES AS TO CARRIAGE OF LIVE STOCK.

The English Court of Exchequer, last year decided in the case of *Carr vs. the Lancashire and Yorkshire Railway Co.*, that a party delivering to carriers a horse to be carried from A. to B. the ticket or way bill containing the following notice:—

"N. B." This ticket is issued subject to the owners undertaking all risks whatsoever, as the company will not be responsible for any injury or damage (howsoever caused) occurring to live stock of any description travelling on or in their "vehicles" could not recover damages from the carriers, although the horse was killed by means of a collision occasioned by the gross negligence of defendants. The following authorities were cited by the Counsel for defendant on the argument of the case before the full bench. *Wyld vs. Pickford* (8 M. and W. 443). (*Stuart vs. Cramley* (2 Stark 323.) *Furnival vs. Coombs* (5 Man. and G. 736.) *Shaw vs. the York and North Midland Railroad Co.* 13 B. 347 *Chippendale vs. the Lancashire Railway Co.* (15 Jur. 1106) *Austin vs. the Manchester Railway Co.*, 16 Jur. 763.

In deciding this case, PARKE BARON observed that it was very clear that since the Carrier's Act, 11 Geo. 4th. and 1 William 4th, it was competent for a carrier to enter into special agreement with the person who sent goods to be carried,—and it was also clear that the conveyance on the case before him, was under such a special contract between the plaintiff and the defendants, and the only question is as to their meaning. It was reasonable that carriers should protect themselves by that special contract against all liabilities in such cases, as the present. Formerly carriers carried live cattle very seldom, sheep seldom, horses never. Since the introduction of railroads the case was different, and animals were frequently carried. The carrying of them was a dangerous thing, not merely from the ordinary accidents of Railway conveyance, but also from this, that they were conveyed in a carriage which was it

self a source of much danger. The animals might from fright destroy their own lives. With respect to the contract in the present case, the owner took upon himself all the risks of transit, the company agreeing to furnish carriages for the purpose, and to cause them to be impelled along the line,—but every risk was on the owner himself. And considering the many risks to which the horse was liable the contract was not unreasonable.

A similar opinion had been pronounced in the Court of Common Pleas in the case of *Austin vs. the Manchester Railway Company* in which the words of the contract did not appear to be different in effect from those in the present case. That was an action for negligence in not taking due care against fire, the carriage in which the plaintiff's horse was placed was destroyed by fire. In this case the ticket among other things declared that the company would not be liable for any damage, however caused, to horses, cattle or live stock of any description, travelling upon the said railway or in the defendant's vehicles. The injury was occasioned by the wheels not having been duly greased, and the Court of Common Pleas held that the plaintiff had taken upon himself all risks from that source. It was not for the Court to fritter away the contract and take away the plain sense and meaning of it, because the effect of a different decision might be to make carriers less careful. If contracts of this kind are wrong in themselves it was not for the Court to rectify the mischief by putting an erroneous construction upon them; it was for the Legislature to interfere if they thought proper.

ALDERSON BARON, made the following keen suggestion which is well worthy the notice of railway companies which transport live stock, purporting that although a carrier may by his ticket exonerate himself from any liability for damage done to live stock, he may yet be compelled to pay for the live-stock if stolen from him. For the stock merely changing hands might benefit rather than injure it. Notices should be broad enough to cover the case supposed.

"It might be fairly argued that from the whole of this ticket taken together, the breach of duty must be such as to cause injury or damage to the thing conveyed. That would not affect the decision here, though it might raise a question if the horse had been stolen; for although that would be a risk of conveyance, still it would not be one resulting in damage or injury to the thing or animal conveyed. Here, however, there was injury to the horse conveyed; in which case the defendants had contracted that they were not to be responsible. Such is the plain contract.

MARTIN BARON agreed with his brothers, Parke and Alderson.

Both by common law, and by the carrier's Act, he thought carriers might enter into special contracts. As insurers, common carriers are answerable for the gross negligence of themselves or their servants, and if it was competent for a party to make himself answerable for gross negligence, he surely might contract that he should not be liable for it. If that be so, it was impossible to use language to carry out the intentions of the parties more clearly than the language of the ticket in the present case.

As to public inconveniences that may result

from the contracts, it was for the parties to judge of that, the sole province of a court of law being to carry out the contract. The Baron admitted that from the construction now put upon the contract, a great temptation to carelessness may arise to railway servants carrying valuable articles, by their not being responsible even for gross negligence. But look at the other side. If they are to be responsible notwithstanding such a provision as is contained in this notice, it must be obvious that the company would be in fact insurers of live-stock, for questions of fact are admitted to juries, and they would be very apt to consider every case of negligence as gross negligence. There were therefore inconveniences both ways; although inconvenience should be no test, it being for parties to enter into their own contracts. The true construction of the notice is that defendants were not to be responsible for any damage to the horse from any peril of the carriage.

PLATT BARON, would not oppose the opinion of the majority of the court, but was startled at the proposition that carriers could be exempted from the consequences of gross misconduct. The owner never dreamt of such a thing when he signed the ticket. His view of the matter however might be wrong.

Alleghany Valley Railroad.

We have received the report of W. Milnor Roberts, Esqr., Chief Engineer of this road, upon the surveys made from Kittanning to the New York State line.

Four main lines of surveys have been made, the preference of which is given by the engineer to the "Mahoning and Red Bank route." This route leaves Kittanning and runs across the favorable river bottoms and along the bank of the river to the mouth of the Mahoning, 10 miles, and continues in the valley of that stream, crossing it at one point, and tunnelling 910 feet through a projection at a bend in another. Here the maximum ascending grade of 52.8-10 feet per mile occurs for eight miles. Below Levalley's summit there will be three tunnels besides the one named, 930, 1235, and 495 feet long respectively. Levalley's summit is also passed by a tunnel of 1290 feet long. These are all the tunnels which occur on the entire route and comprise an aggregate length of 4860 feet. Beyond Levalley's the line runs along the left bank of the big Bend of Red Bank, on a descending grade, to its crossing of the stream at New Bethlehem, on the twenty-third mile. From New Bethlehem the line follows the bottom lands on the right bank of the Red Bank Valley, over favorable ground, for eleven miles where it crosses the stream at Heathville. Thence the line pursues its left bank, passing Troy on the thirty-sixth mile from Kittanning. Two miles beyond, it recrosses the stream, beyond a cut 900 feet long and averaging 50 feet deep, and extends to Dowlingsburg on the thirty-ninth mile, and Brookville, the county seat of Jefferson, on the 44th mile. The line then follows the north fork of Red Bank over favorable ground, except at the 49th mile and 50th mile, where heavy embankments and wide culverts are necessary. The line continues in moderate side-hill work, with the exception of a heavy embankment and culvert at the 100th mile, to the middle of the 104th mile, where a cutting commences extending nearly one mile, having an extreme depth of 38 feet, and requiring about 120,

000 cubic yards of excavation. Here is the main summit of the line at the end of the 105th mile, near the town of Teutonia, 1298 feet above low water at Kittanning. The maximum grade of 52.8-10 feet per mile also descends from this summit going north. At a point 11.8-10 miles beyond Bishop's Summit the line crosses Potato Creek, into the level and favorable valley beyond. This portion has an average grade of 49 feet per mile, upon which curves as sharp as 1000 feet radius occur. Beyond this crossing to the state line, the road will have a very favorable location, both as to grades and curvature.

The main route, designated as the "Mahoning and Red Bank route," extends 133½ miles from Kittanning, or 176½ from Pittsburgh; has 3,012 ft. of total ascent and descent, 4,860 feet of tunnels, and is estimated to cost for graduation \$2,565,224.

A revised line of this general route, recommended by the Engineer, will increase it one and a quarter miles in length, and secure more favorable grades.

We give the conclusion of Mr. Robert's report, addressed to Hon. W. F. Johnston, President of the Alleghany Valley railroad:

On an examination of the prominent characteristics of this route, it will be observed that there are comparatively few miles or sections of very heavy work, namely: six between the Mahoning and Red Bank, and seven between Bishop's summit and Smethport. There are but ten others, occurring at intervals between New Bethlehem and Bishop's summit, which can be regarded as heavy work. With these exceptions, the entire route is remarkably favorable for the construction of a first-class railroad, with generally moderate curves and very easy grades. The maximum grade of 52.8-10 feet per mile, is only used in three instances: in ascending from the Mahoning to Lavelly's summit, 7 miles; in ascending the east branch of Clarion, 10 miles, to its head at Bishop's summit, and in descending thence along the Red Mill brook, to Potato creek valley, 11½ miles; and on all the curves, it is reduced not less than 2-100 feet per station of 100 feet for each degree of deflection from a straight line.

It has other features worthy of special attention, taken in connection with the division between Pittsburgh and Kittanning (43 miles). On 53 consecutive miles from Pittsburgh to the mouth of the Mahoning, there is no ascending grade exceeding 26.4-10 feet per mile, no descending grade over 10.56-100 feet per mile, and no curve with a shorter radius than 1432 feet. On 25½ consecutive miles in the valley of Red Bank, there are no grades exceeding 26.4-10 feet per mile. On 23 consecutive miles in the valley of Clarion, there are three grades exceeding 26.4-10 feet per mile; and on 18 consecutive miles extending along Potato creek, and the (upper) Alleghany river to the New York State line, there is no ascending grade at all, and no descending grade exceeding 10.56-000 feet per mile. Thus making 121½ miles, in four sections, each continuous, on which the maximum grade employed is 26.4-10 feet per mile.

From Bishop's summit to the State line, thirty miles, where the heavy coal trade of Western New York and the Lakes will cause a preponderance of tonnage northward, the line is all descending or level; and at the Pittsburgh end on a distance of 62 consecutive miles, where the iron, coal and lumber, from Clarion, Armstrong, Jefferson, and other counties, will yield a heavy tonnage towards the Pittsburgh and river markets, the line is so arranged as to have no descending grade against this trade exceeding 10.56-100 feet per mile.

The profile of the New York and Erie, Pennsylvania Central, Baltimore and Ohio, or Virginia Central railroad, will not present features at all comparable with the line of the Alleghany Valley road; whilst the latter will be much cheaper per

mile than either of the others. These valuable characteristics of your route, cannot fail to have an important bearing, not only on the amount of traffic your road must command, but on the proportion of profit to be derived from its transportation. The line can be advantageously divided into convenient sections for running the road in the most economical manner, and there is no spot on the entire route, where trains may not safely pass at the rate of forty miles an hour.

Regarding it as a main trunk road, which it assuredly is, connecting the extensive net-work of New York improvements by the nearest and best practicable route with the navigable waters of the Ohio and Mississippi, and, by chains of roads through Ohio already far advanced towards completion, extending that connection by railroad from Pittsburgh and Cincinnati, on the most direct route, and to St. Louis, and the fertile States of the south-west, its estimated cost (certainly under \$30,000 per mile,) must seem very moderate when compared with the magnitude of the results which may fairly be anticipated from its completion.

You are acquainted personally with the route, and therefore know that a large portion of it passes through, and in such a manner as to control, a fine agricultural region, even now abounding in the profitable elements of railroad business, and capable of furnishing a large agricultural surplus. The counties in Pennsylvania that will be tributary to it, contained, according to the census of 1850, a population of 363,000; whilst the five counties of Western New York directly interested in connecting with this line, and which are now actively engaged in building three distinct railroads to unite with it, contained at the period a population of 523,000. In three years, or about the contract time for completing your road, the combined population in the counties mentioned, in the two States, will not be less than 1,300,000.

The opinion which has been promulgated, that this road is in advance of the wants of the country, is entirely erroneous. The Bellefontaine and Indiana road, in Ohio, which has been opened within a few weeks, with its stock ten per cent. above par, has a larger proportion of unimproved land upon its borders, and a much smaller local population, without any important town upon its route or at either end, whilst the Alleghany Valley line presents direct and convenient connections between the important cities of Pittsburgh, Buffalo and Rochester, containing an aggregate population at this time of over 200,000. It is well known that it passes through the finest iron region in the State, which also abounds in coal and limestone of the best quality. It will also form an outlet for an immense amount of pine and cherry lumber of the most superior quality, the demand for which is annually increasing.

But I will not attempt to portray in detail what may be termed the great natural advantages of this line; most of these have already been ably described in the pamphlet prepared for yourself in 1852. There is one striking feature in connection with your road which should not be overlooked, furnishing as it does the strongest security of a large local business, which eventually must become on all our great lines the chief source of profit: it is this—that there is a larger local population on the first sixty miles of the Alleghany Valley Railroad, than the same distance on any other route leading from Pittsburgh.

The opening of continuous rail roads from Boston, Albany and New York, by way of the Alleghany Valley Rail Road to Pittsburgh, will constitute an important era in the business history of this city, which cannot now be fully appreciated.

With such a route, and with such connections as the position of your line places at your command, you have the strongest inducement to push forward this great public improvement with the utmost vigor; and, from the well known character and ability of Messrs. Chamberlains, Leech & Co. who have the contract for doing the

entire work,—except furnishing iron,—there is every reason to expect that it will be completed during the season of 1856, as provided in the contracts. They are required to open it for use between Pittsburgh and Kittanning (and this may easily be extended to the mouth of Mahoning,) early in the fall of next year; and, if the iron be promptly furnished, the Board may anticipate a compliance with this stipulation.

The few general remarks introduced will not, I trust, be considered altogether irrelevant to the subject of *Surveys*—which I take great pleasure in stating, have been conducted with admirable skill and perseverance, by my excellent Associate Engineer, George R. Eichbaum, and Messrs. Robert W. Clarke, J. S. Lawrence, Franklin Wright and Charles M. Boyle, principal Assistant Engineers, and their assistants, aided by J. J. Siebeneck, our efficient Draughtsman. Messrs. Clarke and Lawrence are now in the service of other companies. Messrs. Wright and Boyle are engaged with two full parties in revising lines preparatory to final locations.

The work of construction on the division between Pittsburgh and Kittanning is in active progress under the immediate charge of Captain T. J. Brereton and Mr. James C. Noon, Assistant Engineer, and Mr. James Morley, Junior Assistant. It is arranged in three sub-divisions.

To all of the gentlemen connected with the Engineer Department, I beg leave to offer my sincere thanks, for the uniformly faithful and courteous manner in which they have performed their respective duties.

European and North American Railway.

We had the good fortune to be present yesterday, at an informal meeting of several gentlemen friendly to the European and North American Railway, called together by the Directors, for the purpose of advising upon the line of policy to be adopted in view of their pending negotiations with Messrs Jackson & als., for the building of the entire line of said Road, from Calais to Augusta.

On the 5th of August Messrs. Jackson and Betts, for themselves and partners proposed to pay the expense of a survey of the route, and on the information thereby obtained, they would fix upon a price for building said road, based upon said surveys,—the same to be paid for by said company in the manner following, viz:

20 per cent of the cost	in Cash.
30 " " " "	" Stock at par.
50 " " " "	" Bonds "

The character of the road to be equal to that stipulated for in their contract with the Grand Trunk Railway of Canada, with a permanent way, iron tubular bridges, and fully equipped with engine power, equal to 1 engine to every 5 miles of track, &c.

The road to be commenced upon forth with, and completed in 1857, throughout its entire length.

After the surveys are completed, the company are to pay the expense of the surveys, in case no contract is concluded with Mr. Jackson and his associates. If a contract is closed with them the expense of the survey is to be included in their contracts.

These proposals the Directors voted unanimously to accept. Thereupon Mr. Morton was directed to take charge of these surveys, and the money therefor placed in Bank by the contractors.

It is now rendered certain that the cost of the line will not exceed \$6,000,000, and that 20 per cent. of that sum, raised by subscriptions to stock, will secure the immediate construction of the line.

One party of engineers is already in the field and others are to follow shortly.

The question proposed by the Directors was: Can we raise our portion of the required sum.

Assuming the amount to be \$1,200,000, which will cover the entire sum required, we have the whole State to look to for contributions thereto.

Besides this, it is quite apparent that the raising of this amount, at once places the company upon such a footing as will prevent any sacrifice of its stock or bonds hereafter.

Then again the parties holding 80 per cent. of the stock and bonds, who are to sell their securities in the English market, will have every inducement to keep up their price.

We are informed that the principal reason for asking this subscription in Maine is, for the assurance it gives of the confidence and "good will" of our people. If this does not exist, no foreign capitalist would for a moment entertain the thought of coming among us with his money.

Our belief is, that within one year of the completion of this subscription of \$1,200,000, and the consummation of this proposed contract with Messrs. Peto, Brassey, Betts and Jackson, the whole of the European and North American Railway stock, will be made a permanent 5 per cent. stock and sold above par in the London market.

In fact, we have a right to say, that but for the short-sighted policy of our own people in Maine, the European Road might have been made a part of the Grand Trunk Railway scheme, in the English market in April last.

The European and North American Railway is not merely a local line, which has no credit beyond its own locality. It is in fact an international work, which may seek with entire confidence the market of the world. Its name alone is worth a vast sum, in making friends on both sides of the water.

But no scheme, however strong on its own advantages, can go into a foreign market with success, in the absence of strong local support at home. Intelligent foreigners will not invest money in projects that have not the ability to inspire confidence among the monied men of the region where they are built. We should not advise, or consent even, to have the European Road built by foreign capital alone, as much as we suffer for want of capital in Maine. The scheme cannot be a sound one, unless our people are willing to embark a portion of their means in its construction.

In New Brunswick, the Government took 25 per cent. of its cost at the out-set, in stock, and they loan the credit of the Province to the amount of 22 per cent. more. Individuals take a portion of the remaining cost, and the residue of the money required is furnished by the contractors.

It is gratifying to know, that so far as we have heard, there has been but one expression on the subject, and that is in favor of the proposed plan, and no one has to this time supported a doubt of our ability to raise one fifth of its cost.—*State of Maine.*

Mineral Point Railroad

We are indebted to Hon. MOSES M. STRONG, President of the Mineral Point Railroad Company, for a copy of the first annual report of the Directors of that road. We would gladly publish some extracts from this document, did our space permit. The Mineral Point Railroad is a very important one to the Lead Region of our State.—The report of the Directors estimates that the entire road, when finished and fully equipped, including all necessary depot buildings &c., will cost only \$592,950, being less than \$18,000 per mile for 31 7-10 miles. The means of the company are thus stated:

Stock Subscriptions.....	\$135,800.00
Iowa County Bonds.....	150,000.00
First Mortgage Bonds.....	317,000.00

\$602,800.00

Showing a surplus of nearly \$40,000 over the estimated cost of the road.

This road taps the very heart of the lead mines and promises to be one of the best Railroad enterprises, as an investment, in the Northwest. It is perhaps not out of place to say that the Officers of the Company enjoy the full confidence of all in-

interested in the road. Mr. Strong the President, in one of the earliest settlers in the State, having resided in the lead mines more than seventeen years, and has made the geography and topography of our State peculiarly his study.—He has frequently been called, by his immediate neighbors to represent them, in the Territorial and State Legislature. In the former he was twice elected to the office of President of the Senate and under the State government he presided as Speaker in the House of Representatives.—*Milwaukee Sentinel.*

Racine, Janesville and Mississippi Railroad.

From the recent exhibit of this company we have the following statements:

The company was organized under a charter granted by the state of Wisconsin, in Nov. 1852, for the purpose of constructing a railroad from the city of Racine to the Mississippi river. Immediately after its organization, full preliminary surveys were made, and the first division of the line extending from the city of Racine to the Village of Beloit, on Rock River, a distance of 65 miles, was put under contract on the first day of April last. The work of grading was at once commenced and has been vigorously prosecuted by a large force, so that the first sub-division, from the Lake to Fox River, a distance of 26 miles, is in a good state of forwardness, and will be ready for the superstructure in September. By the terms of the contract, this portion of the line is to be in running order and equipped by the 1st day of January, 1854, and the entire line to Beloit is to be completed and stocked ready for use, by the first day of September, following. The contract provides for a first class road, with full equipments and rolling stock of the best quality and most approved kind. The iron is to be of the best quality of the T pattern, and to weigh sixty pounds to the lineal yard. The contract includes everything pertaining to the work, except land damages, depots, and engineering; hence the entire cost of the road when in complete working order will not cost to exceed \$22,000 per mile. By the accompanying map it will be seen that this line of road traverses the richest and best settled portions of the state, and secures most important railroad connections at several different points, furnishing an outlet to the lake for nearly 600 miles of railroad and enjoying an advantage in point of distance of from twenty-six to thirty-three miles over any other road running to Lake Michigan, besides being a straight line.

At Burlington, 25 miles west of Racine, it will intersect the Fox River Valley Railroad and the Racine and Portage City Railroad. At Elkhorn, the county seat of Walworth county, 40 miles west of Racine, it will intersect the Wisconsin Central Railroad. At Beloit it intersects and connects with the Beloit and Madison, and Belvidere Branch Railroads, both of which are now in process of construction, and to be completed in a few months. At Rockton it will intersect the Rock Island and Rockford Railroad, also in process of construction. At Freeport it intersects the great Illinois Central Railroad, and the Savanna Branch Railroad. The Mineral Point Railroad now building intersects the Illinois Central Railroad a few miles west of Freeport, thereby enabling this line to compete for the business of that point also. The vast advantage in point of distance, possessed by this line, at all the above points, must command for it a freight traffic equal to any other western road. This line will also offer good advantages to travellers, to all parts in Wisconsin, Iowa and Minnesota; and from those states to all points on Lake Michigan. At Racine there will be three routes eastward, viz: By steamboat, or the Lake Shore Railroad via Chicago; by the Grand Haven and Detroit Railroad, and by the Lake route through the Straits of Mackinac.

This line also affords the shortest route from the Lake to the Mississippi river, an advantage which, from the natural position of these waters it must

always enjoy. The second division of this road will be from Beloit to Freeport via. Rockton, for which a charter has been obtained from the state of Illinois. The entire line of this road from Racine to Freeport, passes through an agricultural country unsurpassed if equalled in the west; while the roads connecting at Freeport, penetrate the extensive lead mines of Illinois and Wisconsin.

From a careful estimate, based upon data furnished by the United States census of 1850, it is confidently believed and expected, that the local business alone upon the line of this road will afford a net income of at least 8 per cent. upon its entire cost; while the through business and the business thrown upon this line from its connecting roads, may reasonably be expected to equal its local traffic, and the possibilities are that it will greatly exceed it. These results might be easily shown in detail, did space permit.

The entire cost of the 65 miles of road now under contract, estimated at \$22,000 per mile, amounts to..... \$1,430,000

To provide for which the company have the following resources:

Personal subscriptions to the amount of..... \$403,375

Corporate subscription of the city of Racine..... 300,000

Corporate subscription of the town of Beloit..... 100,000

Corporate subscription of the town of Delavan..... 25,000

Bonds of the Co. negotiated to the contractors..... 646,750—\$1,475,125

The bonds of the city of Racine issued in payment of its subscription to the capital stock of the company, are now offered for sale to the amount of \$300,000 with 7 per cent interest payable in the city of New York in twenty years; the interest thereon to be paid annually.

The bonds are issued in sums of \$1,000 and of \$500, and are made convertible into the stock of the company at the option of the holder. They are also guaranteed by the company, and the interest is made payable semi-annually.

The officers of the company are as follows:

Henry S. Durand, President; Chas. S. Wright, secretary; Simeon Draper, New York city, treasurer; H. J. Ulmann, cashier Bank of Racine, ass't treasurer, James R. Doolittle, Esq., attorney; and Leverett H. Clark, Chief Engineer.

Directors.—Elias Smith, Reuben M. Norton, Isaac Taylor, Marshall M. Strong, Charles Herrick, John Dickson, Charles S. Wright, Henry S. Durand, all of Racine; Edwin Hodges, Elkhorn, Walworth county; Wm. C. Allen, Delavan, Geo. B. Sanderson, Beloit, Rock Co.; Wm. A. Lawrence, Janesville, do.; John A. C. Gray, N. York city; Col. R. B. Mason, Consulting Engineer.

Locomotive Manufacturing in the West.

We learn, with much pleasure, from the Detroit Tribune, that O. M. Hyde, Esq., has, in connection with other parties, completed arrangements for the erection of a large locomotive shop in Detroit. The buildings already built and contracted for, will extend above 700 feet in length, by 50 feet in width, and will all be of three stories. Five hundred men will be employed. These will be in connection with a large Foundry and rolling mill working only upon Lake Superior iron which is now acknowledged to be the best in the world. (For an inspection of the appearance of this iron after undergoing the severest tests we would recommend our local readers to call at the office of the Sharon Iron Company, 127 Pearl street, in this city.) We have no doubt, the business of manufacturing locomotives will be successfully carried on in Detroit.

Messrs. Palm and Robertson, of St. Louis, have already constructed the first locomotive west of

the Mississippi, and are now, we learn, filling a large order for the Pacific Railroad Co. The entire train of engine and cars run over the first division of the Pacific railroad at the celebration of its opening, was of St. Louis manufacture.

Buffalo, Brantford and Goderich Railroad.

By the recent report of this company we learn that the eastern division of the road—that portion between Buffalo and Brantford—is confidently expected to be open to the public by the first day of next October. The iron, says the report, is arriving in satisfactory quantities at Quebec, and is being forwarded with dispatch to the Welland Canal Feeder, from which point, with the aid of two locomotives, the permanent road is being laid, east and west. The financial affairs of the company too, are in a prosperous and healthy condition, and the debentures accepted in payment of shares held by the local municipalities along the line, to the amount of £184,500, have been cashed by the Provincial Government at par, under the consolidated Municipal Loan Fund Act for Upper Canada. The following is the exhibit:

STATEMENT OF FINANCES.

Of the Buffalo, Brantford and Goderich Railway Company. June 1, 1853.

To cash paid Masonry, Grading, etc..	\$129,357 54
" " Right of Way.....	23,484 89
" " Interest on Bonds, Discount, Brokerage, Agency, etc.....	60,956 32
" " Office expenses, Salaries, Printing, Advertising, etc.....	16,976 17
" " Engineering and surveying.....	28,915 46
" " Iron.....	361,111 11
" " Plank.....	1,800 00
To amount of municipal debentures negotiated with Provincial Government.....	738,000 00
To balance of cash on hand.....	108,820 96
	\$1,469,422 45
By receipts for stock.....	\$913,556 55
" convertible bonds.....	555,555 55
" sundry balances due.....	310 35
	\$1,469,422 45

The report of Mr. William Wallace, the Engineer of the road, accompanied the statement of the directors, and gives a very favorable account of the progress and prospects of the work. The following is his estimate for the Goderich extension—

Clearing, Grubbing and Grading, including all the necessary bridges and culverts, and also the ties, as per contract.....	\$550,000
Grading and Dockage at Goderich.....	15,000
Right of way and depot grounds.....	25,000
Fencing.....	35,000
Ballasting, cattle-guards, etc.....	60,000
Superstructure, laid in the usual manner, with the heavy rail, including all necessary turn-outs.....	650,000
Depot buildings at Goderich, and all necessary intermediate stations.....	55,000
Engineering and agencies.....	50,000
	\$1,440,000

Eight Locomotives, fifteen first class passenger, four mail and baggage, one hundred freight, forty platform, forty gravel, and ten hand cars..... \$235,000

\$1,675,000

Maine.

York and Cumberland Railroad.—We have received the recent report of Chas. Q. Clapp, Esq., President of this road, from which we gather the following statement of its operations and prospects.

Freight trains commenced running between Portland and Saco river on Feb. 15th last, and passenger trains were run on the 20th of March following.

The equipment now consists of three locomotives, two passenger cars, eighteen freight and twenty dirt cars. One passenger car and ten freight cars in addition will be required during the summer.

The books show the cost of that part of the line constructed to be,

From Portland to Saco River.....\$643,109 52
" Spring Vale to Gt. Falls..... 70,489 99

Total.....\$713,605 51

And for which the company are now indebted as follows—

In Bonds.....\$341,100 00
Floating Debt..... 44,868 98

\$385,968 98

5,157 shares of stock have been issued at \$50.....\$257,859 00

332 shares have been sold at auction for..... 6,035 69

\$263,875 69

Received upon stock partially paid.. 21,871 26
Uncollected subscriptions..... 81,155 20

A large tract of land, for a freight station, has been secured in Portland.

An additional section of the road, from Saco river to Portland, is under contract.

The whole amount received in stock has been—\$285,747 05, and the sum of receipts, bonds and bills payable, and of expenditures, are respectively \$713,605 51. The receipts of the road for the year ending June 30th. 1853, were \$23,946 01, and the expenditures \$12,689 93, leaving \$11,256 08 as net earnings.

Marine Engine Building.

The following, showing the operations of some of our largest machine establishments, is from Appleton's Magazine for August.

Machine-shops every where appear filled with orders; in fact business is too good to make an exhibition of work in the Crystal Palace, as much an object as at ordinary times for American mechanics. Among the large jobs now contracting in this city, the Novelty Works have in hand one side-lever engine, 85 inch diameter of cylinder and 8 feet stroke (for a steamer to run between this port and Charleston); one 85 inch diameter 8 feet stroke, single oscillating engine (similar to the "Augusta," and to run with her between New-York and Savannah); one 38 inch, 11 feet, beam engine; one 36 inch, 8 feet inclined engine (Albany ferry-boat); a number of stationaries, one of which is 36 inch, 5 feet stroke, and a host of quartz-crushers, brick-machines, &c.

The Morgan works, near by, are building no less than 19 large low-pressure steam-engines, and give direct employment to about 713 hands. Two of these are 42 inches diameter and 10 feet stroke for the steamer Jamestown; six are 50 in. beam-engines for vessels being constructed for Messrs. Howland & Aspinwall; two 65 in. by 10 feet, oscillating, for the steamer "San Francisco;" two 65 inch, 10 feet stroke, for the U. S. M. steamer "George Law;" one 80 in. 12 feet stroke, for the "Lake Erie;" one 83 inch, 12 feet, for the "Golden Age" (Howard and Son, Australia line);

one 30 in. cylinder, 6 feet stroke (an additional engine for the "San Francisco"); two 60 in., 11 feet cylinders for the "Vera Cruz;" one 44 in., 9 feet, for the Chicago Water Works; and one 44 in., 11 feet for some place on the river Danube, in Europe.

Cincinnati Wilmington and Zanesville Railroad.

Yesterday morning, the invited guests of the Cincinnati Wilmington and Zanesville Railroad left this city for Wilmington to attend the celebration of the completion of the road to that place. A long train of nearly thirty cars carried an immense crowd over the road in first rate style, who were welcomed to Wilmington in a brief speech by Isaiah Morris, Esq. and by at least eight thousand persons from that and neighboring towns. A table, 1,200 feet in length was spread in a beautiful grove, adjacent to the railway, and covered with a profusion of excellent food. Six head of cattle, thirty sheep, and other provisions in proportion, had been prepared for the occasion, which speedily disappeared under the masticatory power of the hungry crowd. After Phelps' brass band had discovered some excellent pieces, speeches, appropriate to the occasion, were made by Judge McKay, of Wilmington, Dr. Griswold, of Circleville, one of the Directors of the road, Mr. DeGraff, the contractor, and other gentlemen.

The part of the road completed from Morrow to Wilmington appears to be very thoroughly built, and runs unusually smooth for a new road. The complete manner in which this important line has been constructed, is alike creditable to Mr. Corwin, the President of the road, and Mr. Woodward, its Engineer, and Mr. DeGraff, the contractor. The entire road to Zanesville will be finished about the first of November, and will open under the most favorable circumstances for doing a large and profitable business.—*Cincinnati Atlas of the 6th.*

Safety Buffering Apparatus.

The value of any preventative of collisions, or of their destructive results, could not, under the present aspect of railway travelling, be over-estimated. It has been supposed a fruitless endeavor to lessen the effects of railway collisions except by removing their cause, but there are cases where, seemingly, in face of reasonable precautions, accidents have resulted from collisions. In view, therefore, of the evident chances of accident under anything like the present system of passenger transportation, it is well to inquire if the possible occurrence of such events should not be provided for, and, if there are not simple and effectual means of security ready for such provision, We believe there are.

In the first place, we believe the force of collisions is usually far too highly estimated. Many suppose that the force of a concussion is equal to the entire weight of a train multiplied into its velocity, as if the train were a body freely descending in air. Now we regard it, and engineers will see the manifest propriety of our estimation, that the force is equal to the impelling power of a train multiplied into the velocity under which that power is exerted. This impelling power is always measured by the adhesion of the engine, and this adhesion, being at most one seventh of the weight of the engine, we find the power of a concussion is expressed, in the case of a locomotive of say 21 tons weight, moving at 30 miles per hour, by the impact of three tons striking with a velocity of (30 miles per hour,) forty-four feet per second. This would give a result far below that if the weight of the train was improperly considered as an element of the force of concussion.

Having reduced this element to a reasonable limit, how can we overcome it? We believe equal

forces are overcome upon locomotive engines and carriages, by the aid of common springs, which, from their character and method of application, act under very disadvantageous circumstances. If the limit of action of a spring could be increased, and if it could be arranged to have a nearly constant resistance under any deflection; not acting from a minimum to a maximum range of resistance—from no resistance, to the resistance of an immovable obstacle, then we are of opinion that the force of concussion might be absorbed without danger.

It is not our purpose, however, to propose a plan. We have been shown an operating model of an invention of our friend, M. Butt Hewson, Esq., C. E., which appears to us to promise much in the way of security from the results of collisions. It is designed with reference to the principles we have stated, and will soon be applied upon an important scale, and be made the subject of conclusive experiments.

Large Drivers.

It may not be known to the majority of our readers, that there are a number of locomotives now running in this country having coupled drivers as large as seven feet in diameter. The "Columbia" and "Rensaeller," two locomotives on the Hudson River road, have drivers of this size. These are outside connected, 16½ inch cylinder, and 22 in. stroke engines, and were built by the Lowell Machine Shop. On the New York and Erie railroad the two engines "No. 84" and "No. 85" have four coupled, seven feet drivers. These are 14 in. cylinder, 32 inch stroke engines, built at Norris'.—They are but little used on the Erie road, and could hardly be driven, (from insufficient boiler room and disproportionate length of stroke,) over twenty miles per hour. The Reading road has 2 of Millholland's engines, with four 7 feet drivers each. These are the coal-burning engines "Illinois" and "Michigan," and have, we believe, 15 inch cylinders and 30 inch stroke. The Western railroad, of Mass., has one engine, built by Mr. Eddy, their master mechanic, which has four drivers of 6 ft. 10 inches in diameter. This is the "Whistler," with 15 inch cylinders and 26 inch stroke. On the Camden and Amboy road, many of the engines have single drivers of eight feet diameter, but extremely long stroke. The object, with builders in our country, in increasing the size of the driving wheels, has apparently been that of reducing the wear attendant upon quick reciprocations of the piston, for among the engines just quoted, the Erie engines make no faster time, under any given speed of piston per minute, than an engine with 4 feet 4 inch wheels and 20 inch stroke; Eddy's engine the same as a 5 feet 3 inch wheel and 20 inch stroke, while the "Rensaeller" and "Columbia" come much nearer to the standard proportions of quick express engines. In England, a 20 inch stroke is common for a 7 feet wheel, and 24 inches is generally adopted for an 8 feet wheel; equal to a 20 inch stroke for a six feet eight inch wheel.

The speed of the Hudson River engines is often a mile per minute on the straight parts of the road, and fifty miles per hour, as an average of the running time over the entire length of the road, the distance of one hundred and forty-four miles, having been often run in less than 3 hours, running time.

No engine having over 5 feet 6 inch drivers is used on any road running out of Boston.

American Railroad Journal.

Saturday, August 20, 1853.

Stock and Money Market.

There has been a gradual improvement in the money market since our last. The prices of stocks do not rule much higher, but the remedy for the inflation of the currency is being steadily applied, and cannot fail soon to bring about a healthy state of things. With weekly returns, the issues of our institutions will be regulated by the wants of business, rather than by the desire to make money by over-banking. It is something to correct abuses where they are seen, and the promptness with which they were acknowledged and met in the present case, shows the existence of a sound sentiment in the community, and the apparent ease with which the banks have strengthened their position, proves our business and mercantile classes to be in a healthy condition. The rapidity with which we commit mistakes is only equalled by the celerity with which we correct them. We may be depressed but never broken. We may be more likely to commit mistakes, but we retrieve them quicker than another people, for the reason that we have more inherent strength than any other.

The following are the comparative statements of the banks for the weeks ending Aug. 6, and 13:

	Aug. 6.	Aug. 13.	Decrease.
Loans.....	\$97,899,449	94,633,282	3,266,213
Specie.....	9,746,441	10,653,518	*907,177
Circulation....	9,513,053	9,451,943	61,110
Deposits.....	60,579,797	57,451,504	3,122,297

*Increase.

Some of the fancy stocks have shown a considerable improvement. Erie has advanced since our last from 69½ to 72; Hudson River from 67 to 68½; Harlem from 57½ to 58½. The market generally has an upward tendency. Money continues tight, but is steadily and slowly becoming easier, with the correction of the evils that created the present stringency.

So intimate now are the relations of commerce, that our country cannot enjoy the highest degree of prosperity, without a corresponding state with its neighbors. It is much better for the United States that there should be a good wheat crop than a bad one, in England, though we might supply the deficiency at good prices. The wheat grower might profit by such a state of things, but all our other interests would suffer in a much greater degree. A short crop in England is another word for a tight money market in Europe, and we now depend so much upon foreign capital to aid us in carrying out our works of public improvement, that any considerable abatement of the ordinary supply would be severely felt; not so much by our works that are completed, as by those just commenced or contemplated. The present unsettled state of the public mind in Europe, is consequently a general source of regret in the United States. We have no direct interest in the result of the quarrel now going on in the Old World, and it is the ambition of our own people to reduce an unoccupied continent into subjection to our physical wants, rather than to conquer civilized or inhabited ones. As the greater part of our people are landholders, and as every one may purchase a

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for 60.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	100
Androscoggin and Kennebec.. "	55	809,878	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland..... "	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland..... "	20	227,981	231,200	In progres	15,694	.....	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	41
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	109
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47
Northern	82	3,016,634	.....	.....	328,782	163,075	5	59
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	96½
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan..... "	26	.....	.....	673,500	.....	.....	none	14
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	41
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	30
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	16
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	102
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	99
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	106
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	87½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	105
Fitchburg..... "	66	3,540,000	112,305	3,623,073	574,574	232,787	6	99½
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	62
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	92
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	18
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99½
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	57½
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	125
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	104
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	52½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	62½
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	68½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,944	5	58½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	31½
New York Central	504	22,858,600	2,111,824	.....	.....	.....	.....	113½
Ogdensburgh (Northern).... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	34½
Oswego and Syracuse..... "	35	500,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,645	135,017	none	30
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,285	478,413	10	150
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,658,332	10,427,800	17,141,987	2,480,626	1,251,987	7	82½
Philad., Wilmington and Balt. "	98	3,850,000	2,408,276	6,813,889	637,785	388,501	5	7

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	93 1/2
Philadelphia and Trenton.... "	30	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio..... " 47	.....	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... Md.	381	9,188,300	9,827,123	19,542,307	1,325,568	615,384	7	64
Washington branch..... " 38	.....	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.. " 57	.....	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... " 27	.....	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... " 64	.....	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville..... " 73	1,372,324	200,000	In prog.	.....	.....	.....	.....	.....
Richmond and Petersburg.... " 22	685,000	.....	1,100,000	122,861	74,113	none	.....	.....
Rich., Fred. and Potomac.... " 76	1,000,000	503,006	1,531,238	254,376	113,256	7	105	.....
South Side..... " 62	1,328,722	800,000	In prog.	.....	.....	.....	.....	.....
Virginia Central..... " 107	1,400,100	446,036	In prog.	176,485	74,902	none	.....	.....
Virginia and Tennessee..... " 60	3,000,000	1,500,000	In prog.	.....	.....	none	.....	.....
Winchester and Potomac.... " 32	180,000	120,000	416,532	89,776	.....	12	.....	.....
Wilmington and Raleigh.... N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina. S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.... " 140	1,004,231	300,000	In prog.	.....	.....	.....	.....	.....
South Carolina..... " 242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125	.....
Wilmington and Manchester. " 110	.....	.....	In prog.	.....	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	122
Georgia..... " 211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....	.....
Macon and Western..... " 101	1,214,283	168,000	1,596,283	296,584	153,697	9	109	.....
Muscogee..... " 71	.....	.....	In prog.	.....	.....	.....	.....	.....
South Western..... " 50	586,887	150,000	743,525	129,395	71,535	8	.....	.....
Alabama and Tennessee River Ala.	55	.....	In prog.	.....	.....	.....	.....	.....
Memphis and Charleston.... " 93	776,259	400,000	In prog.	.....	.....	.....	.....	.....
Mobile and Ohio..... " 33	879,868	.....	In prog.	.....	.....	.....	.....	.....
Montgomery and West Point. " 88	688,611	.....	1,330,960	173,542	76,079	8	.....	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia. Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga... " 125	2,093,814	850,000	In prog.	.....	.....	.....	.....	.....
Covington and Lexington.... Ky.	.....	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.... " 29	357,218	.....	584,902	87,421	44,250	.....	80	.....
Louisville and Frankfort.... " 65	.....	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.... " 100	1,239,450	1,371,000	In prog.	.....	.....	.....	.....	.....
Cleveland and Pittsburgh.... Ohio.	71	.....	2,963,756	194,429	123,306	6	96	.....
Cleveland, Painesv. and Ash.. " 135	3,027,000	408,200	3,655,000	777,793	483,454	12	132	.....
Cleveland and Columbus.... " 61	.....	.....	In prog.	.....	.....	.....	.....	.....
Columbus, Piqua and Indiana. " 60	1,694,000	906,000	2,600,000	321,793	200,967	.....	115	.....
Columbus and Lake Erie.... " 60	.....	.....	In prog.	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton " 40	310,000	550,000	925,000	Recently opened.	.....	.....	80	.....
Cincinnati and Marietta.... " 20	.....	.....	In prog.	.....	.....	.....	.....	.....
Dayton and Western..... " 36	.....	.....	.....	.....	.....	.....	.....	.....
Dayton and Michigan..... " 31	.....	.....	.....	.....	.....	.....	.....	.....
Eaton and Hamilton..... " 37	.....	.....	In prog.	.....	.....	.....	.....	.....
Greenville and Miami..... " 84	2,370,784	.....	2,634,157	526,746	314,670	10	119 1/2	.....
Hillsboro..... " 167	900,000	1,000,000	1,855,000	.....	.....	.....	.....	.....
Little Miami..... " 167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95	.....
Mansfield and Sandusky.... " 57	.....	.....	In prog.	.....	.....	.....	.....	.....
Mad River and Lake Erie.... " 187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....	.....
Ohio Central..... " 187	.....	.....	In prog.	.....	.....	.....	.....	.....
Ohio and Mississippi..... " 87	552,000	800,000	1,317,140	Recently opened.	.....	.....	150	.....
Ohio and Pennsylvania..... " 54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....	.....
Ohio and Indiana..... " 31	.....	.....	In prog.	.....	.....	.....	.....	.....
Scioto and Hocking Valley.. " 131	.....	.....	.....	Recently opened.	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd " 83	.....	.....	.....	.....	.....	.....	.....	.....
Xenia and Columbus..... " 62	.....	.....	In prog.	.....	.....	.....	.....	.....
Evansville and Illinois..... Ind.	88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Indiana Central..... " 40	.....	.....	In prog.	.....	.....	.....	.....	.....
Indiana Northern..... " 72	632,387	663,100	1,353,019	105,944	71,446	4	108	.....
Indianapolis and Bellefontaine " 92	1,932,361	500,000	In prog.	473,548	286,152	.....	136	.....
Lawrenceburg and Ind..... " 315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	128	.....
Lafayette and Indianapolis.... " 282	4,000,000	4,067,396	8,614,193	.....	.....	8	109	.....
Madison and Indianapolis.... " 282	.....	.....	.....	.....	.....	.....	.....	.....
Peru and Indianapolis..... " 282	.....	.....	.....	.....	.....	.....	.....	.....
Terre Haute and Indianapolis " 282	.....	.....	.....	.....	.....	.....	.....	.....
Rock Island and Chicago.... " 282	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.... " 282	.....	.....	.....	.....	.....	.....	.....	.....
Illinois Central..... Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Galena and Chicago..... " 315	.....	.....	.....	.....	.....	.....	.....	.....
Michigan Southern..... Mich.	.....	.....	.....	.....	.....	.....	.....	.....
Michigan Central..... Mo.	.....	.....	.....	.....	.....	.....	.....	.....
Pacific..... Mo.	.....	.....	.....	.....	.....	.....	.....	.....

hundred acres of land for as many dollars, nearly every person in the community feels a desire for that state of things that shall promote in the highest degree the value of what he possesses. This feeling is the great conservative principle in the United States, and makes our government stronger, and the present status of society more stable, than in any country in the Old World. This fact is beginning to be realized both in this country and in Europe, and we entertain no doubt that capital will continue to flow hither in an increased volume,—the greater the prosperity in the Old World.

The imports for August look better than for previous months, which showed a very large increase over those of 1852. The imports for the week ending August 13, were as follows:

	1852.	1853.	Decrease.
Dry Goods.....	\$2,044,948	2,036,065	8,283
Other Goods.....	2,364,519	1,416,582	947,937
Total imports.....	\$4,409,467	3,453,247	956,220
Total exports.....	571,797	1,047,582	.....
Total specie.....	800,000	833,709	.....

For the two weeks in August the figures are as follows, August 1st to 13th.

Imports.....	\$7,358,098	6,840,891	517,207
Exports produce.....	1,880,084	2,387,938	.....
Exports specie.....	1,720,232	838,939	881,293

The decrease in imports is over half a million, and the increase in exports of produce over \$1,000,000, as compared with the corresponding period of last year.

Should a good demand spring up for our agricultural products, it would increase our exports very largely. The wheat has proved a good average crop for the whole country, and has been well secured. Other grain crops are looking well.

The increased value of the article of railroad iron continues to swell the value of our imports considerably. The following statement will show the amount and value of importation into the port of New York, since July 1, 1853, as compared with the importations for the past year:

	1852.	1853.	Value.
1st quar. 126,792	\$457,114	124,682	\$909,943
2nd. do 76,569	311,146	234,288	1,780,575
To Aug. 13 85,960	366,029	74,162	565,461
Total.....	289,321	\$1,134,286	433,132 \$3,255,979
			289,321 \$1,134,286

Increase..... 143,811 \$2,121,693

The earnings of the Cincinnati, Hamilton and Dayton R. R. Co., for six months ending July, were as follows:

	1852.	1853.	Value.
February.....	\$14,270 50	\$27,389 76	.....
March.....	19,067 29	35,364 68	.....
April.....	20,481 28	36,051 83	.....
May.....	22,701 15	35,061 10	.....
June.....	24,096 15	32,302 93	.....
July.....	26,301 15	34,203 47	.....

\$126,917 52 \$200,373 77

Increase \$73,456 25, nearly 58 per cent.

The earnings of the Ogdensburg R. R. for July were—through freight, \$24,889.08; local freight \$15,425.26; passengers \$13,078.68; miscellaneous \$211.67—\$53,604.64. Increase over July 1851, \$24,152.70; increase over July 1852, \$3,869 28.

The earnings of the Pennsylvania Cent. road for July, were \$157,244, against \$112,879 same month last year.

The revenue of the Baltimore and Ohio Railroad for the month of July has been as follows:

	Main Stem Wash'ton Br'h.	Total
For Passengers....	\$42,313 70	\$21,874 66
For Freight.	121,826 72	5,296 10
		157,122 91

Total...\$164,140 42 \$27,170 85 \$191,311 27

As compared with the receipts of July, 1852, the increase of revenue of the road is \$55,723 66. The whole of this increase is derived from the business of the main stem, the receipts of the Washington branch in July of '52 exceeding by \$1,494 82 those of the past month and thus making the total increase of receipts from the main stem \$57,218 46. The receipts of July, 1852, were as follows: On the main stem \$28,205 20 for passengers, and \$78,716 86 for freight making \$106,922 06; and on the Washington branch \$24,516 77 for passenger, and \$4,148 60 for freight—making \$28,665 67. The gross receipts \$135,587 63.

Baltimore and Ohio Passenger Engines.

The late passenger engines constructed by Mr. S. J. Hayes, master machinist of this road, have the following arrangement and dimensions:

Inside connected; four drivers and truck; adapted to burn coke; have full stroke pumps; center bearing trucks, lap valves, etc.

15 inch cylinder, 20 inch stroke, 5 feet drivers. Diameter of boiler 48 inches, and contains 151 tubes, 2 inches diameter and 9 feet 3 inches long. Grate 48 inches long by 42 inches wide, giving 14 square feet of surface. This extreme width of grate is had without any reduction of the width of the water spaces around the furnace, there being 2½ inches on each side. The frame is quite deep and thin, and there is but a single spring on each side, which is suspended upon the furnace, the thickness of iron being doubled where the spring is attached.

The steam ports are 12 inches by 1 inch. The exhaust pipes 2½ inch diameter each. The weight of the whole engine is 45,000 lbs., of which 29,000 lbs. are on the drivers.

These engines are very strongly built, and have been tested and found to take eight passenger cars, of eight wheels each, and one eight wheel baggage car, up an eighty feet grade at 20 miles per hour. This is an extremely good performance, but is not beyond what an engine of the dimensions specified should do, if in the best order, and operated under favorable circumstances.

A Subject for Steamboat Inspectors.

Riding down from Piermont the other day in the steamboat "Isaac P. Smith" we noticed a little specimen of carelessness deserving the censure of every passenger. The safety valve lever, upon which is a strain of 1200 lbs. at the fulcrum, is secured by a stand, which is held to the flange of the safety valve seat by two bolts, each half an inch in diameter at the bottom of the thread, and passing through but little more than half of the thickness of their nuts, the latter being each half an inch in thickness. The pins also which passes through the lever to secure the valve spindle, has no wires or nuts to hold it and is quite free to become knocked out of place. The steam pipe and safety valve stand look worn and deeply rusted. The life preservers are snugly stowed away over the boiler, in just the least accessible place in case of fire, explosion or collision.

As much indignation is usually shown after the occurrence of accidents, upon steamboats or railroads, we would express a gentle admonition before the possible occurrence of what may prove a serious accident.

New Orleans, Opelousas and Gt. Western Railroad.

We learn that the directors of this road have contracted with Messrs. Hacker & Riker, of Charleston, S. C., to supply all the cast iron work, cars, both passenger and freight, that may be required upon the road. In consequence of this contract, Messrs. Hacker & Riker will erect a branch of their establishment at Algiers, opposite N. O., to be near at hand.

The iron has already been laid some fifteen miles upon this road, and it is expected that ere long the laying of the rails will be prosecuted at the rate of seven miles per month. The road is very favorable for construction, the grade in some two hundred miles not reaching five feet.

Richmond and Petersburg Railroad.

The Richmond Times, says. "We are gratified to learn that the Board of Directors of this company held a meeting yesterday and resolved to contract with Joseph R. Anderson, Esq., for eleven hundred tons of T rails in addition to six hundred tons contracted for at their last meeting—making in all, seventeen hundred tons to be furnished by the Tredegar Works of this city. This is in addition to three hundred and twenty-seven tons of English rails already purchased—making two thousand and twenty-seven tons in all—a quantity sufficient to relay the main track between Richmond and Petersburg, and also the port Walthall Branch Road. The work of laying down this superior rail will be commenced at once, and when completed will render this road one of the best in the country.

We are also gratified to learn that Mr. Thomas Dodamead, the excellent and faithful Superintendent of the road, has been induced to reconsider his determination to sever his connection with it, and will continue in the service of the company. He had been, as has been already stated, selected by the Board of Directors of the Richmond and Danville Railroad Company, to succeed Mr. Osborne as Superintendent of Transportation on that road, but has declined the post."

Balancing Locomotive Drivers.

FROM D. K. CLARK'S RAILWAY MACHINERY.

[Continued from page 524.]

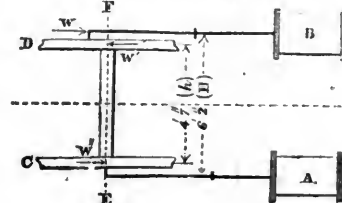
INTERNAL DISTURBING FORCES —METHOD OF BALANCING BY COUNTERWEIGHTS.

From what has been stated, the longitudinal and lateral, or horizontal action of the internal forces, are those alone which materially affect the stability of the engine, and it is to the correct balancing of these forces that we have now to direct attention. The action of the reciprocating masses was found to be identical with the horizontal action of the revolving masses, wanting the vertical action of the latter; therefore happily, the same means may be employed to balancing the whole revolving and reciprocating weights, —namely, Ferris' method of counterweights attached to the wheel, and opposed to the cranks, and weighty enough to balance not merely the crank, pin, and one half the connecting rod, but also the other half with the piston and appendages. That part of the counterweight which balances the piston, develops of course, a superfluous vertical action in virtue of its centrifugal force; but vertical action, we have seen, harmless to the stability.

Were the balance to be applied at the same part of the axle as the center of the crank-pin and cylinder, the same counterweight would exactly destroy both the erratic movements, longitudinally and laterally, caused by the mechanism. In practice, however, while the weight works in the center line of the cylinder, the counterweight is for convenience, applied to the wheel, between the spokes; and as sinuous motion is caused by and increases with the leverage of the swinging masses, which is measured by the distance of their line of action from the middle of the axle, it follows that, to have perfect equilibrium laterally, the counterweight for outside cylinders must be greater, and for inside cylinders less than the moving weights referred to the crank-pin. Whereas, to neutralise exactly the longitudinal action, which is independent of leverage, an equal counterweight, referred to the crank-pin, must be applied in all cases. It will be shown that some latitude may be admitted in practice, for the mutual adjustment of these claims, after investigating the conditions of lateral equilibrium for different classes of engines.

Conditions of Lateral Equilibrium in Outside-Cylinder Single Engines.—Let A, B, fig. 12, be

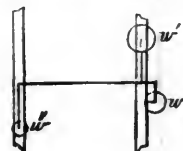
Fig. 12.—Scale 1-96th.



Outside Cylinders.—Diagram to show the Action of the Internal Disturbing Forces.

the cylinder of our sample engine, fig. 1, c, D, the wheels, and A, F, the centre line of the axle; let w be the weight of the piston and appendages, a connecting rod, and half the crank-pin, which act in the centre line of the cylinder B; and w' the weight of the inner half of crank-pin, and the crank referred to the pin, acting in the body of the wheel C. Then, w , overhanging the wheel D, acts partly on the wheel C, and for perfect balance, must be met by suitable counterweights, w' , w'' , on opposite sides of the two wheels as illustrated in fig. 13. The arrows w , w' , w'' , fig. 12, show the action of the axle in resisting the three centrifugal forces developed by the counterweights in motion, and which also balance at all speeds. The counterweight w' , fig. 13 referred to the crank-pin, is greater than the weight w , by as much as w'' , referred to the crank-pin; that is

Fig. 13.



Outside Cylinders.—Internal Disturbing Forces and Counterweights.

$w' = w' + w''$, and therefore $w'' = w' - w$.

Also, the product of the weight w' , by its distance along the axle line from w , is equal to that of w'' into its distance from w ; or putting the width a part of the cylinder centres = h , and that of the wheel centres = k , we have

$$\frac{1}{2} (h+k) w' = \frac{1}{2} (h-k) w''$$

doubling both sides, and putting for w'' its value as above, we have

$$(h+k) (w' - w) = (h-k) w';$$

therefore

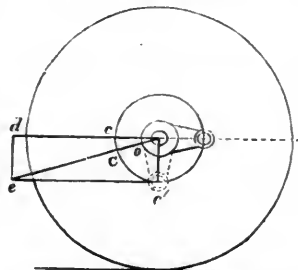
$$w' = \frac{h+k}{2h} w, \text{ and } w'' = \frac{h-k}{2h} w;$$

that is, the weight w' , referred to the crank pin, is

equal to w multiplied by the sum of the widths of the cylinders and wheels, and divided by twice the width of the wheels; w' , likewise is equal to w multiplied by the difference of widths, and divided by twice the width of wheels. It may be noted, also, that the two weights w' , w'' , on the near and off wheels, are to each other as the sum and the difference of the widths of cylinders and wheels. Adding the weight of the crank and half the pin v , as above, we have $w'+v$, for the whole counterweight on the wheel d .

Reasoning in the same way for the cylinder, a , we should find for each wheel two counterweights, the greater $=w+v$, to meet the action from the near cylinder, and the less $=w''$, at right angles to it, to meet the action from the off cylinder, referring everything to the crank pin. Thus in fig.

Fig. 14.



Outside Cylinders.—Diagram to find the counterweight in the wheel.

14, showing the right hand wheel d , from the inside, the larger weight would be located at c , opposed to the crank, and the smaller at c' at right angles to it, and coinciding in end view with the left hand crank. These two weights may be replaced by a single weight at c , of which the magnitude and position are given by the diagonal oe of the rectangle formed on the two sides od , oc' , proportioned by any convenient scale, to represent by their lengths the respective weights c , c' .

Applying this process to the engine before us, the total weight is 540 lbs., of which $w=423$ lbs., and $v=117$ lbs.

Then

$$w = \frac{(74-55)}{2 \times 55} 423 = 496 \text{ lbs.}; w' + v = 613 \text{ lbs.};$$

and

$$w'' = \frac{(74-55)}{2 \times 55} 423 = 73 \text{ lbs.}$$

Thus we have 613 lbs. and 73 lbs. for the elementary counterweights in each wheel, for which the single equivalent counterweight is found by the process of the rectangle to be 617 lbs., referred to the crank pin, placed at an inclination of 7° with the line oe , nearly opposite the near crank, and towards the off crank.

In practice, as shall afterwards be found, it is not necessary, for outside cylinders, coupled close to the wheel, to take account of the greater width apart of the cylinders with respect to the wheels; nor of the small angle of divergence of the counterweight from the center line of the crank produced across the wheel-center. It is sufficient to apply to the wheel directly opposite the crank, a weight to balance the sum of the reciprocating weights, at the crank pin, which is, in the example before us, 540 lbs. It is only in cases of extreme difference of widths, that the foregoing method of investigation need be employed.

Outside-Cylinder Coupled Engines.—These machines, with coupled wheels, are the most unstable of all, when unbalanced, as the coupling rods increase the usual revolving and reciprocating mass for a single engine, to double the amount; and the cylinders are farther apart than in single engines, to admit the coupling rods inside the connecting rods. Moreover, the wheels are of smaller diameter, and demand more rapid reciprocations of the piston for given speeds. The counterweights are consequently enormous.

In the goods engines made by Gouin & Co., for the Lyons railway, with four wheels coupled in front of fire-box, the masses to be balanced, referred to crank pin, were, for the respective wheels on each side, as follows:—

	Driving wheels.	Loading wheels.
Crank	66 lbs.	88 lbs.
Pin	73	22
Connecting rod	238	..
Piston	401	..
Coupling rod, 209 lbs., distributed between the two wheels.	121	88
	899 lbs.	198 lbs.

Total for each side of engine, $9\frac{3}{4}$ cwt.

With wheels only 5 feet 3 inches, and large naves, more than three spaces between the arms are required to contain the balance necessary to meet the load on the driving wheel; it is better to relieve the wheel by transferring one-half of the counterweight for the reciprocating masses, to the leading wheel. The reciprocating weight is as follows:

Piston and appendages	401 lbs.
Half the connecting rod	119

Total

One-half of this, or 260 lbs., is to be balanced at the fore wheels; and the modified loads for the respective wheels, are

Driving wheel (899—260)	639 lbs.
Leading wheel (198+260)	458 lbs.

Total, as before

This transfer of duty only increases the labor of the coupling rod to a small extent; and it has the advantage of distributing the vertical action of the counterweight between the two wheels, and reducing the local wear of the wheel-tires.

The outside cylinder goods-engine, Crewe, with four coupled wheels, contrasts very favorably with the engine now discussed, as the total weight of the disturbing masses is 546 lbs., or 4 cwt. 98 lbs.,—only one-half of the other. This shows what can be done by a careful study of proportions, and attention to the real necessities for strength of parts.

Six-coupled-wheel engines involve still greater disturbing masses than those with four wheels coupled. In the goods-engines of the Northern railway of France, with six-coupled 4 feet wheels, all forward of fire-box, by Derosne & Cail, the weights were, for each side of the engine, as follows:

Driving	695 lbs.
Leading	165
Trailing	176

Total

In this, as in Gouin's engine; the balance for the reciprocating mass must be distributed equally between the three wheels, to secure the most favorable action.

Memphis and Granada Railroad.

We learn that the organization of a company to construct a railroad between these points, to be called the Mississippi and Tennessee Railroad Company has been completed. This will form a connection in a through line from Memphis to New Orleans.

A board of Directors was elected on July 4th, consisting of J. M. Patrick and Henry C. Walker of Memphis; Gen. J. C. N. Robertson and Dr. Henry Dockery, of De Soto; Maj. Bradford, David S. White, and Franklin White, of Panola; Judge Bennett and John C. Broadie, of Yallobusha county.

Railroad Accidents.

"It is stated that orders have been given by the Camden and Amboy Railroad Company, that in approaching bridges where draws are used, the train shall be stopped so that the fireman can get out and walk over the bridge ahead of the train, and get on again."

In view of the recent accident on this road we would ask why a person is not employed to walk over the length of the road, in advance of each train, so as to report danger. Had the firemen of the New York train, at the time of the recent melancholy accident, been walking ahead of the engine, we are sure the accident could not have happened. It is true, were this custom observed, the trains would be nearly 24 hours in passing between New York and Philadelphia, but all should acknowledge that the system of safety relied upon at draw bridges is none too cautious for the most part of the entire road.

We hear the question daily, as one sad catastrophe succeeds another, "are there no means of stopping this work of destruction? Must railway travelling become an even chance of life or death?" We do not believe however, that the mass of our people, those who are carried daily on our railroads, are ignorant of the means of safety. A novice in railway management, the passenger planning methods for his own safety, would say, give us a double track, an electric telegraph accessible at each station, signals that can be seen and understood, and sober men, and we will venture the risk of accidents. Any one can understand that if danger threatens a train, it may be averted by timely information. There would be no risk if two trains were approaching each other at great speed on a single track, provided both trains are apprised of it while half a mile apart. The idea of despatching a train, at forty miles an hour, over a single line of rails, without any further knowledge of the state of the road than it can learn in passing each successive portion of it, is a manifest and wicked absurdity. It is an insane idea, and yet distinguished railway managers of reputed sanity, adopt it. Their precautionary measures for safety, consist of such lame regulations as the Camden and Amboy and the New Haven railroad companies have adopted. Their whole system of conducting a train is deficient, and yet they show surprise when an accident follows, and frame a regulation of extra stringency for the special case under which that accident occurred. When the Camden and Amboy train ran off at Rancocas draw they fixed the regulation quoted at the head of this article, but now their eyes are opened to another calamity from which that regulation could not save them. It is only showing them another weak point in their management.

When public opinion, aided by the weak verdicts of a coroner's jury (appreciating only indirect causes) shall freely absolve the great monopoly from the responsibility of a double track between the two greatest cities in the western hemisphere, communicating in ninety miles with a local population of upwards of one million of inhabitants; when the same company are told indirectly that signals and telegraphs are no means of safety, but that the whole cause of the death of some half dozen beings, "was owing to conductor Somebody's watch being twenty minutes slow,"—can we then wonder at the appalling frequency of accidents?

North Carolina.

There are in North Carolina, about 400 miles of railroad, made as follows:

The Wilmington and Raleigh, 162 miles, the Raleigh and Gaston, 84 miles, and the portion of the Wilmington and Manchester lying within the State, over 60 miles—being, of themselves, over 300 miles in operation. Besides these, there are the roads connecting Gaston with Weldon, and with the junction on the Petersburg road—amounting to about 30 miles—and the portions of the Portsmouth and Roanoke, the Petersburg and Roanoke, and the Charlotte and South Carolina, which fully bring up the miles of roads in operation within the State to the figure named. The number of miles in course of construction, or proposed to be made, also exceed the 500 miles given—220 miles of the Central far advanced to completion, and of which between 50 and 60 will be finished by April next—the laying of the iron having been commenced, —its proposed extension east to Beaufort, and west to the Tennessee line, the surveys for which were authorized by the Legislature, which will considerably exceed three hundred miles; and the Fayetteville and Western railroad—for which the stock is all taken—and which, with its branches, or extensions, will certainly go over 50 miles—making, in all, much nearer seven hundred than five hundred miles.

When these facts are taken into consideration with the large amount of plank roads made and being made, it will be seen that North Carolina is far from being so backward in the race of improvement as is generally supposed. The single town of Fayetteville has more miles of plank road connected with her, than almost any other State in the Union can boast.

Kenosha and Beloit Railroad.

We have a copy of the report recently made by Alex. C. Twining Esq., Chief Engineer of this road, containing reports of the surveys made for its location. Of the three routes surveyed the shortest and most favorable is 46.57 miles in length, has 1213.50 feet of total ascent and descent, a total curvature of 633.9° of which 5.55 miles are of 1° curves, and 3.22 miles of 2°, leaving 37.8 miles of straight line. The estimate for grading, masonry, bridging and ballasting for this route is \$288,171 43 or \$5,956 07 per mile, while the entire cost of road equipment, and stations is put down at \$1,057,131 83.

The distance by this route from Kenosha harbor to the Southern Wisconsin Railroad at Janesville is 68.12 miles.

Wisconsin.

Mineral Point Railroad.—From the recent report of this company we learn the length of the road under contract, from Mineral Point through Darlington and Gratoit to the connection with the Illinois Central Railroad is 31.7 miles. Under present contracts and estimates the road will cost, completely equipped, \$522,568. The shortest curves will have—1146 feet radius, the heaviest grades will be 53 feet per mile.

The means for the construction of the road are, in Stock subscriptions.....\$135,800
Iowa County Bonds.....150,000
First Mortgage bonds on whole road and equipments, \$10,000 per mile.....\$17,000

\$402,800

Railroad Items.

At a meeting of the Directors of the Whitehall and Plattsburgh Railroad, recently held at Troy the report of the engineer was read. The cost of the road is estimated at two and a half millions of dollars. The Port Kent route was reported as two miles less in distance, and 16 feet more favorable grade than the Keeseville route. Messrs. Schuyler of New York, Ferriers of Montreal, Myers of Plattsburgh, Richards of Troy, Hammond of Crown Point, and Green of Keeseville, were appointed to examine and report on this question. The Committee will meet at Keeseville in two or three weeks.

The Terre Haute and Alton Railroad Company have just put forth their Annual Report, in pamphlet form. Six members of the Board are of the State of New-York—Messrs. E. C. and E. B. Litchfield, John B. Jervis, F. C. Durant, John Stryker and Henry Ten Eyck. The line of the Road is 170 miles. The whole cost estimated at \$4,025,000. Two sections, amounting together to 98 miles are stated to be nearly completed. They have cost in construction and for iron \$1,788,549. The further sum of \$390,000 will open them. The first section, 60 miles, is a highly important one, opening an immediate Railway junction with the Chicago branch of the Illinois Central; the other section, 38 miles, is from Alton to Hardinsburg.

The work on the line of the Cleveland and Pittsburgh railroad, from Wellsville to Rochester, was let to contractors on Tuesday last, who will commence the work without delay. It is expected that the cars will be running from Pittsburgh to Wellsville, Steubenville and Bridgeport within the year.

The Oakland and Ottawa railroad company of Michigan have closed contracts with English parties for 9,000 tons of railroad iron. It is to be delivered in New York, 3,000 tons on the first of October next, and 600 tons on the first of each succeeding month until the whole of the contract is fulfilled.

Indiana and Illinois Central Railroad.

We are informed that a contract, which is regarded by the parties interested, as highly favorable, has recently been negotiated by Judge Rouche, the newly elected President of the company, for the construction of this road. We are highly gratified in being able to announce that another link in the great chain between the Atlantic and the Far-Far West, is thus placed beyond a doubt. This road connects on the West, at Decatur Illinois, with a series of roads, now under construction, and extending continuously to St. Joseph on the Missouri River. Between St. Joseph and Indianapolis, where this long line, connects with the great system extending to all the Atlantic Cities, lie the most fertile regions of the west, abounding in Coal and Iron. Where the road crosses the Wabash, at Montezuma, coal and iron of the first quality are said to be found in the greatest abundance and of easy access. Between that point and Decatur, 84 miles, the Western terminus of this road, neither coal or iron has been found, it being for four fifths of the distance an unbroken Prairie, almost in a state of nature.

We are informed, that the Board of Directors have with entire unanimity ratified the contract negotiated by Judge Rouche, and that vigorous measures were at once set on foot to secure the amount of stock necessary to build the road.

It is understood that the work on the road will be commenced during the ensuing fall, and that the road is to be completed by the first day of December 1855.

Hawksworth's Valve.

Many recent English engines have been arranged to have a double exhaust port to each cylinder, and have the valve so adapted thereto as to commence the exhaustion of the steam, in each, at the same instant. At Paterson, several engines have been built with this alteration. At Manchester, N. H., also, the "double exhaust" has been introduced. Its object is a quicker exhaust, as the motion of the same valve opens two ports, in the same time as it would otherwise open one. The valve we saw on one of the Amoskeag Company's engines had the same width of "throat" or cavity as the distance between insides of induction ports, viz: 6 inches. Upon the cylinder face there were two exhaust ports, each $\frac{3}{4}$ in. wide, $1\frac{1}{2}$ in. apart, and $1\frac{1}{2}$ inch each from the induction ports. Bars were cast across the "throat" of the valve, so as to cover each of these ports during the period while the valve is nearly midway of its stroke, or travel. These bars were each $1\frac{1}{4}$ inch wide, and to have equal lap on each exhaust were, of course, one inch apart. The main or induction ports were one inch wide, and the valve had 7-16 inch outside lap, so that, deducting the inner lap, the exhaust was 3-16 inch open on each port, or $\frac{3}{8}$ inch open in all, at the commencement of the steam admission.

As this arrangement involves but a slight extra expense in fitting the valve faces, and must, to a certain extent, reduce the back pressure in the cylinder, we consider it an improvement worthy of general introduction. At Paterson it has been generally applied in most of the quick passenger engines.

Peoria and Bureau Valley Railroad.

We learn from the *Peoria Press* that final and satisfactory arrangements have been made for the early completion of this important road. Messrs. Sheffield, Farnham & Co. recently entered into contract with the company for the construction and equipment of the entire road, upon the terms and conditions before submitted. The work will be commenced at an early day; and from the well known energy and perseverance of the contractors, we think that we are safe in saying, that by the opening of navigation next season Peoria will have a railroad connection with Chicago.

William Jervis, Esq., has been appointed chief engineer of the road; and Azariah C. Flagg, Esq., of New York, formerly comptroller of that State, has been appointed Trustee for the bond-holders.

White's Suspension Bridge

We would call the attention of railroad engineers and others interested in the construction of Bridges to the principle of White's Suspension Bridge of wood or iron. Its application in the case of wide spans promises much economy of material and consequent reduction of cost. It combines the chain and the arch, besides the application of the level truss. The inventors and proprietors are ready to apply it to any reasonable span and guarantee its success, and will most willingly furnish full information, including estimates of its capacity and cost, on application to their address. We believe the design of their bridge contains a principle which may be applied to wooden or iron structures, and with satisfactory results. Ammi White and Joshua P.

Thayer, Cambridgeport, Mass., are the proprietors, to whom all communications on the subject should be addressed.

New Screw Cutter.

The screw cutting machine, which we noticed in a recent number as having been designed by D. M. Robinson, of Piermont, N. Y., has been completed and operated. The jaws holding the dies are compressed around the bolt to be cut, by a sliding cone, worked by a simple cam on a cross shaft, passing through the bed piece. The dies revolve always one way, and complete their work at one operation, four dies being used together.—The point of each die acts on a true tangent to any radius of the bolt. The machine we saw in operation would cut from $\frac{1}{2}$ to 1 inch in diameter and would cost, fitted with back gears and three cone speeds, about \$125, exclusive of dies and taps. As this appears to be a novel and useful machine, we would recommend machine builders to examine it, with a view of engaging in its manufacture, under the direction of the inventor. Mr. Robinson has also designed and completed a substantial and handsome punching press, worked by an eccentric and eccentric link. A novel application of it has been made to punching the leather washers used in the Lightner axle box. One thousand of these leathers are used per month at the Piermont shops, and they are now cut by this machine as fast as they can be laid under the die, and with a saving of half the leather otherwise used. We would like to see both of Mr. Robinson's machines at the Crystal Palace.

Knoxville and Charleston Railroad Company Organized.

The Memphis Eagle and Enquirer says: A sufficient amount of capital stock having been subscribed the company was organized under the direction of the Commissioners, at Knoxville, on the 28th of June by the election of the following gentlemen as directors:

Blount.—Wm. Wallace, Asa Watson, R. I. Wilson, J. E. Toole, James Porter, Samuel Pride, Alex. Kennedy.

Knox.—C. H. Coffin, J. A. Mabry, J. G. M. Ramsey, C. Wallace, C. M. McGhee, James C. Moses, D. H. Cummings, Wm. G. Swann.

Wm. G. Swann, Esq., was elected president of the company; Charles H. Coffin, Esq., secretary; and Dr. Samuel Pride, treasurer.

We learn from the Knoxville Register that the stock taken by citizens of Knox and Blount counties, amounts to \$117,000. The counties of Knox and Blount have already subscribed \$220,000 for ironing and equipping the road. This makes \$700,000 toward the construction and equipment of the road.

Change of Name.

The Logansport and Crawfordsville railroad company have changed their title to "Crawfordsville, Logansport and Northern Indiana Railroad Company," in pursuance of the act approved Feb. 22, 1853, authorising railroad companies to change their name.

Atlantic and St. Lawrence Railroad.

The lease of this road to the Grand Trunk Line of Canada has been consummated. The Grand Trunk assumes the indebtedness of the former, and agree to pay a dividend equal to 6 per cent. upon its stock. The lease is for 999 years.

Steamboats.

During the warm season, when every steamboat arrives and departs with more than its proper full load, we are surprised to see that the entire crowd of passengers, waiters and coachmen, besides all baggage must be received at one narrow gangway. Such crowding and confusion as is seen at the departure of one of the Fall River, or first class Albany boats is beyond description. The whole process is extremely unpleasant and should no more exist than at a railway station. A very little in the way of system would save much of this confusion.

The ticket window, too, is always a small hole to which all anxious to secure a berth must crowd at once. We see no reason why this place must be the most difficult of access for those who must do business in it. A window for deck passenger's tickets, one for berths, and another for state rooms would relieve the pressure of the crowd at either place.

The open berths are little better than a nuisance, without ventilation, open to thieves, and opposed to decency. We should suppose that every two or three passengers, at least, could be placed in cabin state rooms, which should have a good ventilation from above. If the owners of steamboats are as enterprising in behalf of the comfort of their guests as the railway managers, or the proprietors of our large hotels, we will see a more comfortable manner of steamboat travelling within no great lapse of time.

Railroad Opening.

The Philadelphia and Sunbury Railroad company will open, on the 18th of August, that portion of their road extending from Sunbury to Shamokin, a distance of twenty-one miles.

Baltimore and Ohio Railroad.

The Board of directors of the Baltimore and Ohio railroad, at their meeting yesterday, adopted a resolution for laying a double track from Piedmont to Baltimore, two hundred and sixty miles, and authorized the President to negotiate for a loan to effect this object.

Broad Gauge in Ohio.

We understand that the contract for constructing the broad gauge railroad from the Pennsylvania line, in Trumbull County, to Dayton, Ohio, was awarded to Henry Doolittle, Esq. The contract is for \$7,000,000, the largest, it is supposed, ever taken by one person in this country. Mr. Doolittle takes \$1,000,000 in stock.

Chicago and Mississippi Railroad.

The work on this road, says the State Register, is progressing very rapidly. The iron is laid down over twenty-five miles towards Bloomington. It is the company's intention, as soon as the iron is laid down to Postville, to run their trains to that point, which is about midway between this city and Bloomington. There will then be but about thirty miles of staging between Alton and Chicago. The iron will be laid to Postville within a fortnight from the present time.

At the annual election for directors of the Maysville and Big Sandy railroad, the following gentlemen were elected to serve the ensuing year: Harrison Taylor, Hamilton Gray, Wm. H. Wadsworth, Charles F. Coons, John P. Dobyons, John B. Poyntz, Henry R. Reeder, Samuel Stevenson, Geo. W. Darlington.

Railroad Bridge Completed.

The great iron railroad bridge across the Monongahala river, about one mile above Fairmount, Va., is completed. It is stated that it cost four hundred and ninety-six thousand dollars.

The Effects of Railways.

In 1845, when the St. Lawrence and Atlantic railway was first projected, the value of property in Portland was little over \$7,000,000. It is now \$17,656,612.

W. M. Stockton, Esq., chief engineer of the Carrollton Railroad has been appointed General Superintendent on the South Carolina Railroad, in place of Mr. Lythgoe, resigned. Mr. Lythgoe has received the appointment of Superintendent on the Blue Ridge Railroad.

New Orleans and Opelousas Railroad.

The \$1,250,000, of the bond of the New Orleans Opelousas and Great Western Railroad Company which have been advertised for sale by bids to be received up to 15th September next have been withdrawn from the market. The agents of the company having negotiated \$500,000 of the Bond sufficient for their present wants, with Messrs. Thuslow Lawrie and Co.

The remainder will be held for the future action of the company.

Kentucky.

The citizens of Barren co., on the 8th inst authorized the subscription of \$300,000 to the Nashville and Cincinnati Railroad, by a large majority.

Mobile and Girard Railroad.

Contractors will do well to notice the advertisement of this company in another column, offering nearly the whole of this line for contract. The route of the above road traverses a very healthy country, and the company have ample means for vigorously carrying forward their work.

Cast Iron Driving Wheels.

Henry A. Chase, foreman of the pattern making department in Vankuran's wheel foundry at the Boston Locomotive Works, has invented an improvement in cast-iron driving wheels, which consists in casting the "counterbalance" in a double-plate chilled wheel opposite the crank-pin in the inner face of the tread, between the two sides, but not touching them. It is cast on the thread, and stands up from it in the hollow part of the wheel, like a plate but is not attached to the hub. The plates of the wheel, therefore, are made of equal thickness throughout, and consequently when cast they contract equally. The counterbalance, or solid plate, cast opposite the crank-pin, inside of the wheel, is therefore free to contract without affecting the side plates after being cast.

Topographical Drawing.

Capt. B. Blandowski, late in the service of the Prussian Government as a topographer, is desirous of an engagement with some engineer, for employment in that profession. Capt. Blandowski has completed for us a very excellent Railroad map of the United States, and it gives us much pleasure to express our entire satisfaction with his services and to recommend him to all in need of the assistance of such a man. Communications addressed to him may be directed to this office.

Car Seats.

The arrangement of our passenger cars is undeniably better than those of other countries, but in the details of their finish we believe with good reason that the English first class coaches excel ours in the particular of comfortable seats. A comfortable car seat is by no means a plain square sack with a hard filling of curled hair, but is a combination of many useful arrangements, by which the body has an easy support in any position and has room for any movement. The requirements of a good seat should be a subject of study among those who make cars.

We have rode many a weary mile incars, where we could find no rest for our arms except to let them drag in silent pain by our sides. The finish of the window frame was that of an unevenly sloping surface, affording no place of rest. On the other end of the seat the arm rest might have a width, possibly, of two inches of hard wood. The seat backs also would swing so low as to cramp the occupant in a confined position like setting in a basket. There are many cars on different roads having no foot rests, and their absence is painfully regretted by a weary traveller approaching the end of a journey of perhaps 500 miles. They should always be placed where the feet may have a natural support upon them; neither too high nor too far distant from the seat.

A continuous rack should always be laid over the window, instead of occasional hooks from which valises and reticules hang so low as to strike the heads of the passengers. The windows also should be held by permanent latches, instead of friction catches.

Repudiation Repudiated.

Some two or three years since, the Legislature of Mississippi passed a law conferring upon the highest tribunal of that State, jurisdiction in actions in which the State might be a party, brought to test the validity of the *Union Bank Bonds*.—Such actions have been brought, and the Court has decided, *unanimously*, that the State is bound to pay the Bonds, and that no vote of the people, nor any law of the Legislature can affect the question.

We regard this decision as settling the question in favor of the payment of the bonds. The people of Mississippi have never made it an issue that they would not pay the bonds, *provided* they were legal, but took the ground that they had no binding validity. They had too much respect for fair dealing to say that they would not pay an honest debt, so they assumed that the claim made upon them was not an honest one. The Court of Appeals has now decided the claim to be valid, and the State has now got to face the music; either go for repudiation square out, or pay up. That she will do the latter, we have no doubt. Repudiation is no more popular on this side of the water than in England. The people of Mississippi will be anxious to wipe off a stigma which each citizen is beginning to feel as a personal disgrace. There is no doubt that a very large proportion of propertyholders are decidedly in favor of resuming payment, and this policy, we are assured, will soon become the popular sentiment of the State.

There is another cause operating powerfully towards this result. Until the credit of the State is re-established, the construction of railroads within her limits, except with the means of her people, will be out of the question. No road, claiming to

be a Mississippi road, can hire money in this, nor in a foreign market. A restoration of state credit, therefore, is indispensable to promote the best good of the State, in a pecuniary point of view.—To continue a repudiating State much longer is a matter of impossibility. If the creditors of Mississippi will wait patiently a little longer, they will receive ample, though tardy justice.

First Alabama Locomotive.

We observed, at the railroad depot, a splendid new eighteen ton engine, the "Edgar Thompson," constructed at the machine shops of the Montgomery railroad. It was a beautiful specimen of mechanism, and contrasted pre-eminently with one of Baldwin's best and latest engines placed beside in finish and perfection of construction. It was designed by Mr. Freeman, the superintendent of that department, and is the first locomotive built throughout in Alabama, or south of Richmond, although Mr. Freeman has often rebuilt others almost wholly on their original models. It is constructed by Southern mechanics, and is a most creditable and beautiful specimen of the perfection to which this section is progressing in the mechanical arts.—*Montgomery Journal*.

A fine portable, stationary steam engine, from Montgomery, is now running in the Crystal Palace.

Railroad Convention.

A railroad convention was held at Richmond, Ky., on the 25th ult. Besides numerous delegations from Kentucky, it was attended by delegates from North Carolina, Virginia, Ohio and Tennessee. Col. J. Speed Smith was the president. Judge Breck, from a committee appointed for that purpose, reported a series of resolutions setting forth the necessity of railroad connection between the valley of the Ohio and South Atlantic seaboard, and with a view of carrying out this object, recommending the construction of a railroad from Lexington to Cumberland Gap uniting with roads from Virginia, Tennessee, North Carolina, South Carolina, and Georgia. A committee was appointed to solicit a charter from the Legislature of Kentucky, and twenty delegates were appointed to attend the convention at Ashville, N. C., on the 25th of August.

Cheraw and Darlington Railroad.

"We are gratified to be able to announce," says the Darlington Flag, "that the section of this road, between Darlington C. H. and the terminus on the Wilmington and Manchester railroad, was on the 6th inst. let out for grading, &c. The entire contract was let to three or four of our wealthiest and most energetic citizens, who have had great experience in similar work on the Wilmington and Manchester railroad, and who, we are assured, will speedily accomplish the job as soon as the crops are laid by.

Warsaw and Rockford Railroad.

This company was chartered by the Illinois Legislature, February 10th 1849, and received, June the 21st 1852, an amendment to their charter, by which the time in which they were allowed to construct their road was extended to February 10th 1861. Their capital stock was fixed at \$1,000,000.

By the recent report of the Engineer of this road, W. R. Kingsley, Esq. we learn the length of line surveyed, from Warsaw to Oquawka, is sixty miles. The distance between Warsaw and the upper landing at Nauvoo is eighteen miles, and the fall of the river 23 10ths feet.

The line is ultimately to extend to Port Byron and Janesville.

The estimate of Mr. Kingsley, for the cost of the first sixty miles of the road, completely equipped is \$1,119,068.50, or \$18.651,16 per mile.

T. S. O'Sullivan, Esq., the consulting engineer, estimates the entire cost to Port Byron, one hundred and ten miles from Warsaw, at \$2,665,000 equal to \$24,250 per mile.

An important object of this road is the means of transportation, at all seasons and stages of water, around the upper and lower rapids of the Mississippi, and the consequent benefit to the towns on the line and the city of St. Louis.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for **BOOK AND JOB PRINTING**; which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
60 South 3rd Street,
Philadelphia.

May 1st, 1853.

SIMEON DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana.	" 1862
7 per ct.—Catawissa, Williamsport and Erie.	" 1867
8 per ct.—Peoria and Oquawka.	" 1863
6 per ct.—Mayville and Lexington.	" 1870
6 per ct.—Danphila and Susquehanna Coal Co.	" 1877
1st Mortgage Bonds:	
7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City.	" 1866
7 per ct.—Mansfield and Sandusky.	" 1860
7 per ct.—Toledo, Norwalk and Cleveland.	" 1861
7 per ct.—Vermont Valley.	" 1861
7 per ct.—New Jersey Central.	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1867
7 per ct.—Troy and Bennington.	Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	" 1864
7 per ct.—Muscoogee Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford.	New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	" 1855-57
7 per ct.—Township of Portland, Ohio.	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock.	" 1866
7 per ct.—State of California.	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.	" 1862
Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad. Stock in the Western Vermont R. R. Co. Stock in the Mad River R. R. Co. Stock in the Buffalo, Corning and New York R. R. Co. Stock in the Mansfield and Sandusky R. R. Co. Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.	

OFFICE CINCINNATI, HAMILTON and DAYTON Railroad Company.—Cincinnati, Aug. 9th, 1853.—The directors of this company have this day declared a dividend of five per cent. on their capital stock, payable to the stockholders registered in Cincinnati on demand, and to those registered in New York, on and after the 25th inst., at the office of the Ohio Life Insurance and Trust Company, in New York.

Im.

FRANK S. BOND, Sec'y.

Notice to Contractors.

PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile railroad, will be received at the Railroad Journal Office, New York, on the 1st of October next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 225 miles; commencing at Girard, in Russell County, on the west bank of the Chat-hirchu river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.
GEO. S. RUNEY, Chief Engineer.
Girard Railroad Office, 6th July, 1853.

Notice to Contractors.

ST. LOUIS AND IRON MOUNTAIN RAILROAD.

PROPOSALS will be received at the office of Company in St. Louis, Mo., for the Graduation, Masonry and Bridging of that portion of the St. Louis and Iron Mountain Railroad included between St. Louis and the Iron Mountain, or Pilot Knob, distance about 84 miles. The preliminary surveys and approximate locations are now complete, and the final location for construction in rapid progress, and may be closed by the 1st Sept. Meanwhile, profiles and plans, now ready, will, with examination of the country, give all necessary data.

The work on this road is heavy, including three tunnels, and much rock work and masonry, about 20 miles of the road, shows "side-hill" work, and the balance heavy through work. The Iron Mountain is 700 feet above the river at St. Louis; but two principal depressions are to be crossed before reaching that height. The country passed through is healthy and well watered.

Proposals will be received (by quantities) for the whole or a part of the road, but contracts will only be made with responsible parties. No contracts will be closed before the 15th of August, and no sooner thereafter than satisfactory offers are received from responsible parties. The road will hereafter be extended to the Arkansas line, to connect with the Cairo and Fulton road, and a branch to the Mississippi River, at Cairo or new Madrid, is also contemplated.

WM. M. MPHERSON, Pres't.

THOS. S. O'SULLIVAN, Consulting Engineer.

J. H. MORLEY, Eng. in Charge.

4w. St. Louis, July 21, 1853.

BRANDS' LIQUID,

FOR DISSOLVING AND PREVENTING INCrustATIONS IN STEAM BOILERS,

It is acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel *gratis* to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents, Messrs. BOURREY & ROEDER, Consulting and Mechanical Engineers, 333 Broadway, N. Y.

Aug. 10, 1853.

N. York and N. Haven R. R.

NOTICE OF SUMMER ARRANGEMENTS.



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk, and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Supt.
New Haven, May, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD, runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New York and Erie and Buffalo and New York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey St., N. Y.

GREAT WESTERN MAIL LINE.—SIXTY MILES DISTANCE SAVED, by taking the MICHIGAN SOUTHERN AND NORTHERN INDIANA RAILROAD.

Through tickets for Chicago, St. Louis, Milwaukee, Racine, Kenosha, Waukegan, and Shelbyville, by New York and Erie Railroad via Dunkirk, and Buffalo and New York City Railroad; People's Line of Steamboats, Hudson River Railroad via Buffalo, connecting at Buffalo with the splendid steamers EMPIRE STATE, J. WILSON, Commander, Mondays and Thursdays; SOUTHERN MICHIGAN, A. D. PERKINS, Commander, Wednesdays and Saturdays; NORTHERN INDIANA, I. T. PHEATT, Commander, Tuesdays and Fridays; leaving Buffalo every evening (Sundays excepted). These steamers are low pressure, built expressly for the Lake trade, and for finish, speed, strength and safety, have no superiors anywhere.

The connections with the Express Trains at Toledo and Monroe, for Chicago and St. Louis, are perfect, and can be relied upon.

Forty hours from New York to Chicago. Time and money saved by taking this Line.

Passengers preferring it, can take the Lake Shore Railroad to Toledo, the Michigan Southern and Northern Indiana Railroad to Chicago, thence by the Rock Island Railroad to La Salle, forming the only continuous line of Railroad to the Illinois river.

For through tickets or freight apply to
JOHN F. PORTER, Agent, 193 Broadway, cor. Dey st.

New York and Erie R. R.



PASSENGER TRAINS

leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. York City R. R., without change of baggage or cars; and also for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Susquehanna and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAT, at 3½ p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7 p. m. for Dunkirk and all intermediate stations. On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Supt.

\$1,000,000 Loan

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY 6 PER CENT FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW LANIER & Co. }
No. 53 Wall st., June 18, 1852 }

THE LITTLE MIAMI RAILROAD COMPANY offer for sale ONE MILLION of their SIX PER CENT BONDS, with Coupons, Interest and Principal payable in New York, the former half-yearly, 1st of November and 1st of May.

They are in sums of \$1,000 each, payable 1st of May, 1853.

These Bonds are issued under express authority of the Legislature of the State of Ohio; are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station houses, &c., up to this date, \$2,708,109 19.

This Company own stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also in the Hillsborough Road, to the amount of \$11,716.

The receipts of the Road have been as follows: For the year ending—

December 1, 1844.....	\$18,632 26
December 1, 1845.....	46,327 58
December 1, 1846.....	116,052 02
December 1, 1847.....	221,139 52
December 1, 1848.....	280,085 78
December 1, 1849.....	321,398 82
December 1, 1850.....	405,597 24
December 1, 1851.....	487,845 89
December 1, 1852.....	526,746 35

The receipts from Dec. 1 to May 1, (last 5 months).....260,051 27

For the same time the year before.....172,281 18

Increase in 5 months.....\$87,770 09

The position of this road being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia road, and runs in connection with the Cleveland and Columbus road, in fact they are now run as one line, greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of five per cent in 1851. In 1852 two cash dividends, each 10 per cent, were made.

The present surplus and reserved fund amounts to \$98,546 16.

The mortgage covers the entire line of road costing to date.....\$2,708,109 19
To be expended on double track, &c. 1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the city of Cincinnati) on the Company's Road, Stations, Branches, net income, &c., to J. F. D. Lanier, Esq., of this city, in trust for the Bondholders, with ample power to take possession of the road, its real and personal estate, franchise &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. This mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

city of Cincinnati, and all other debts of the Company, except this loan of \$1,500,000.

SEALED PROPOSALS will be received for any sum not less than \$1,000, until Thursday, the 1st of September next, at 3 o'clock P. M.

Proposals will be addressed to WINSLOW, LANIER & Co., Agents of the Company, No 52 Wall st., New York, indorsed "Proposals for the Little Miami Railroad Bonds."

One-half the purchase money will be required to be paid at the time of accepting the bids, the residue in thirty and sixty days. Any purchaser will be at liberty to pay in full at once.

Interest on the Bonds will run from the day of payment.

The above \$1,000,000 will be sold absolutely and without reserve to the highest bidder.

For further information apply at our office.

WINSLOW, LANIER & Co.

Notice to Contractors.

BUFFALO & PITTSBURGH RAILROAD—Sealed proposals will be received at the Engineer's Office, in the city of Buffalo, until the first day of September next, for the graduation, masonry, and for the entire construction of the line of road, (about 20 miles,) between Ellicottville and the Pennsylvania State Line, in the valley of the Tunungwant.

Plans and Specifications will be ready for inspection at the office of the Engineer on and after the 20th day of August inst. The proposals may be made for the grading masonry, ties, fencing and entire construction in a single proposition, or for the same and all items separately and in independent propositions; and proposals as above for a single section or any number of sections will be received; the Company reserving the right to reject such propositions as are not satisfactory. Proposals will also be received in like manner, for the balance of the road from Ellicottville to the city of Buffalo, distance about 50 miles, up to the 20th day of September. Plans and specifications for which will be ready for examination at the office of the Engineer from and after the 10th day of Sept. next.

Any further information desired may be obtained by addressing Hon. Orlando Allen, President of the Company, Buffalo.

Proposals are invited from contractors of ability for the whole road. Buffalo, August 2, 1853.

au4131 E. R. BLACKWELL, Chief Engineer.

To Contractors.

NORTHERN INDIANA RAILROAD.

SEALED PROPOSALS will be received at the Office of the Company in Toledo, Ohio, until the first day of September next, at noon, for grubbing and clearing, grading, bridging, superstructure and fencing of that section of the new line of said Road, from its junction with the Auburn and Eel River Railroad, to the town of Goshen, in Elkhart county, Ia., a distance of 51 miles. The line is divided into sections of about one mile containing from 7,000 to 65,000 yards of earthwork each, and in the aggregate about one million yards. Proposals may be made for one or more sections. Maps and Profiles of the line, and plans and specifications of the work, may be examined at the office of the company in Toledo, on and after the 20th of August inst.

The directors reserve the right to accept or reject proposals, as they may deem the interests of the company to require.

J. H. SARGENT,

Asst. Chief Engineer.

Office of Nor Ind. R. R. Co.,
Toledo, August 4th, 1853.

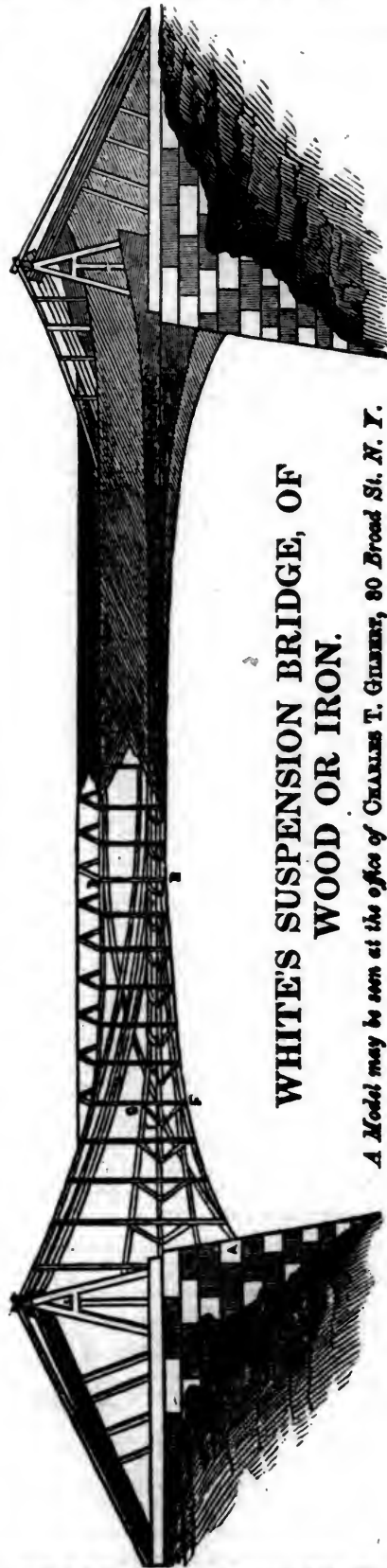
India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMullen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.

Aug. 10, 1853.

3m

New York.



WHITE'S SUSPENSION BRIDGE, OF
WOOD OR IRON.

A Model may be seen at the office of CHARLES T. GILBERT, 80 Broad St. N. Y.

Length of span, anything short of 1,000 feet with perfect safety for every kind of travel. The above cut represents a Wooden Bridge with a roof. The arrangement for the Iron Bridge is such as to avoid all the bad effects of changes of Temperature. For a full description, see pamphlets; for further information, respecting models, rights, &c., apply, by letter or otherwise, to AMMI WHITE, or JOSEPH F. THAYER, Proprietors, Cambridgeport, Mass.

Office next door to the Athenaeum.

To Contractors.



MILWAUKEE AND MISSISSIPPI RAILROAD.

THE GRADING, BRIDGING and MASONRY for the Milwaukee and Mississippi railroad from Madison, the capital of the state to the crossing of the Wisconsin river—a distance of about 35 miles—will be let on the 22d day of August, 1853, to be completed on or before the first day of April 1854.

The line will be divided into sections of about 1 mile in length, and the proposition may include one or more of them. About twelve miles of this work is quite heavy, averaging some 30,000 cubic yards per mile, which will make good Winter work.

It is also the expectation of the railroad company to have the location of the balance of the road to the Mississippi river—about seventy miles—ready for letting by the middle of September, 1853.

Contractors will find this a desirable work, the excavation being mostly sand and gravel, besides it is easy of access, and is through a healthy and well watered section of the state.

Propositions will also be received for 100,000 CROSS TIES, delivered anywhere on the line of the M. & M. R. R., between Milwaukee and the Wisconsin river—to consist of White Burr, Red Oak and Red Elm; to be six inches in thickness and not less than six inches face, and eight feet in length.

The plans, specifications and profiles will be ready for examination on and after August 15, 1853.

A. L. CATLIN, Contractor.

EDWARD H. BRODHEAD,
Chief Engineer.

Notice to Contractors.



JEFFERSONVILLE RAILROAD.

SEALED PROPOSALS will be received at the office of the Company at Jeffersonville, Indiana, until 10 o'clock, A. M., on Wednesday, the 7th day September, 1853, for the clearing, grading and bridging the road between Edinburg and Indianapolis.

Proposals may be made for sections, divisions, or the entire line, about 30 miles, payable in the 7 per cent mortgage bonds of the Company or part bonds and part cash, and also for payments entirely in cash.

The company reserves the right to accept such proposals as in their judgement will best secure the prompt construction of the road, and to reject all, if none are satisfactory.

The route traverses a fertile country, furnishing abundant supplies of all kinds, and the line is easy of access at all points.

Bidders will please give their post office address.

WILLIAM G. ARMSTRONG, President.
Jeffersonville, July 9, 1853.

Notice to Contractors.

SEALED PROPOSALS will be received at the Engineer's Office of the Pittsburg, Maysville and Cincinnati Railroad, in M'Connellsville, until the 20th of August, for the Graduation and Masonry of the line of road (about 35 sections) between the Muskingum River and the Central Ohio Railroad.

Bids enclosing proper testimonials will be received for the whole or any number of the above sections.

Plans and specifications will be ready for examination after the 20th of July.

The division between the Muskingum and Hocking Rivers will be offered for contract as soon as the location is completed.

ROBERT M'LEOD,

Chief Engineer.

M'CONNELLSVILLE, June 4th, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1821.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
SECOND QUARTO SERIES, VOL. IX., No. 35.] SATURDAY, AUGUST 27, 1853. [WHOLE No. 906, Vol. XXVI.

The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, August 27, 1853.

Railroad to the Pacific.

The subject of a railroad to the Pacific is exciting a constantly increasing attention in every part of the country. The necessity for such a work is felt by all, while the desire to secure its construction over some one of the numerous routes proposed, gives rise to a very warm local interest in the Southern and Western States. To be placed on the great route of commerce between the Atlantic and Pacific coasts, and, as some believe, between Europe and Asia, is too great an advantage not to be the object of the most strenuous effort. While the general interest in this subject, therefore, is becoming stronger and stronger, in particular sections of the country, it is fast getting up to a fever heat. This interest will soon manifest itself at the next session of Congress, and the above project will undoubtedly become the most exciting topic that will come before that body.

There are no doubt several practicable routes for

a railroad across the continent. Those chiefly claiming public attention, are the *South Pass* route, the more *Central*, advocated by Mr. Benton, which penetrates the mountains near the head waters of the *Arkansas*, and the *Southern* route through Texas, and New, and perhaps through a portion of Mexico, proper. All these routes have their advocates, by whom they are claimed to be superior to the other. A fourth route may be shown to exist through the explorations of Gov. Stevens of the new Territory of *Washington*, by the head waters of the *Missouri* river. His researches will be very likely to show a favorable route as far as grades are concerned, as upon the high northern latitudes pursued by him, the whole country seems to expand into one vast plain. But however it may be as to the extreme northern route, we believe it to be pretty well settled that three feasible ones exist, one of which must be selected for the proposed road.

The route eventually to be adopted will, we will assume, be the one best adapted to accomplish the objects chiefly in view:—the convenience of the commercial classes, and cost of construction.—These are the considerations that alone should influence the question of *location*. We are yet without the evidence necessary to determine this point, and to claim superiority for one route over another, is simply begging the question. The most extensive and thorough explorations, accompanied by the most accurate surveys, are necessary to decide the question of superiority between the several routes proposed. When this point shall be settled others of paramount importance, perhaps, will still have to be disposed of, involving the question of convenience of travel and commerce—to accommodate which is the great end and aim of the road. It may by no means follow, that because a route is the shortest and least expensive, it is to be preferred. Other objects may entirely outweigh considerations like these.

As before stated, we have no sufficiently accurate knowledge of the physical characteristics of the various routes, to determine which are entitled to the preference. This knowledge is to come from the results of future explorations. Our information thus far, rests chiefly upon the observations of *voyageurs*, whose impressions exact sur-

veys may prove to have been very erroneous. Mr. Benton even goes so far as to argue in favor of the route proposed by him, from the fact that it is the one pursued by *wild* animals in their migrations from east to west. Till we have better evidence, our opinions must be made up upon such as we can get. We are soon to have something more tangible than mere *conjecture*. Engineering parties, under the direction of the general government, are now actively at work, and by the commencement of the next session of Congress we shall probably have a large and valuable accession to our present stock of information.—These surveys will undoubtedly be prosecuted with vigor till their object shall be fully attained.

When the physical characteristics of the various routes shall have been settled, the more difficult question of commercial consideration will then come up. In the former case there is no room for *opinion*. In the latter we have little more than opinion upon which to base our conclusions; for although the present routes of commerce and travel may be well determined, it will be claimed that their direction has been given to them from the necessity of the case, and from the want of suitable avenues, the construction of which will entirely change the existing order of things; In deciding the question of route, therefore, based upon the argument of commercial uses, or convenience, a real or fancied interest in the *result*, will probably exert a paramount influence. What is for the interest of the representative, by a very natural process will be believed to be the interest of the *constituent*, and the question of route will be much more apt to be decided upon the principle of the *majority*, than upon the real merits of the case.

In the discussion of this subject before congress, the following will be likely to be insisted as the immediate termini, or starting places for the proposed road; viz: *Chicago*, *St. Louis* and *Memphis*, or more probably *New Orleans*, for the extreme southern route. Should the *South Pass* be adopted the interests of the two former may be made to coincide. As far as the great eastern commercial cities, and a majority of our railroads, are concerned, *Chicago* would seem to be the convenient point of starting for the Pacific. Toward this city tend all the great lines of railroad running west from Boston, New York, Philadelphia and Balti-

more. It has the advantage of being accessible from the sea for a large class of sailing vessels, and freight can probably be laid down there cheaper than at any other point in the interior, at equal distance from the seaboard. But these are merely thrown out as suggestions, which may be entirely outweighed by considerations in favor of the other points named.

It is at present supposed that the general government must in some way become party to this work, from its national importance, and vast cost, which is regarded as too great for individual enterprise. The greater portion of the line of the road will run through territory belonging to the United States, and which are uninhabited. There will certainly be a strong opposition to the government aiding the project, except by grant of lands, from constitutional objections. But these we are satisfied must come from a small minority. Such an obvious necessity for the action of government generally is apt to override all theoretical or technical objections.

We question the expediency of having the general government directly connect itself with such a work upon other grounds; for the reason that it can be built without its aid, and having purely a commercial character, it should be left entirely to private enterprise. In the first place, the general government is incompetent to properly construct and to superintend a railroad, and particularly one of such magnitude as the proposed, and as only one line of road would be attempted to be constructed by it, its action would undoubtedly create great dissatisfaction in other parts of the country, not equally favored. We are satisfied that at least one road would be constructed by the private capital of the country, with such aid as the general government might properly bestow in liberal grants of land, and contracts for the transportation of government property and mails. The task is not so formidable as might be supposed. The distance from the Mississippi to the Pacific coast must be something less than two thousand miles. Now this is less than three times the length of the Illinois Central railroad, a work which is being entirely built upon a credit based upon the value of 2,500,000 acres of wild land. It is expected that in this instance the proceeds of the lands will reimburse the debt of the company, leaving the stock of the road a bonus to its owners. Estimating the Pacific road to cost six times as much as the Illinois Central railroad, let congress grant, if necessary, ten times as much land as was granted to the Illinois road, and here is at once a basis for a credit sufficient to build a railroad to the Pacific. We have no doubt that should government make an appropriation of 20,000,000 acres of land to a responsible company who would undertake to construct a railroad from some point on the Mississippi river, in the state of Iowa, for instance, that in six months the means necessary for this purpose could be secured. We name some point in Iowa, assuming a route substantially based upon Lake Michigan to be the route best adapted to the commercial wants of the country. Such however may not be the case. The selection of route should be left to the judgment of private interest, having in view the physical characteristics of the various ones proposed. If more than one road can be built at the same time, let government extend the same encouragement to more than one, or to all that are

proposed. Treat all with the same partiality, and then leave the choice of route to the sagacity of private interests. We feel assured in such case that there would be little danger of an unwise choice of route, or that the road would not be much better and more economically built, and managed in a manner more conducive to the interests of the public, than it would be in the hands of the government. The rates of charges may be regulated by law, but we should be content to leave them to the discretion of the company, believing that their interests and those of the public exactly harmonize, and would be made to do so in time.

We have in this country nearly 15,000 miles of railroad in operation, and by the first day of January, 1855, we shall have more than 20,000; all of which, with one or two exceptions, have been the work of private companies. To say, therefore, that with our vastly increased means, with the strength that \$600,000,000 invested in our roads would give, with the aid in lands that government might extend, and above all the *clat* that would be thrown around a work which was to carry us forward to the Pacific, a work of only 2000 miles, and involving an outlay of not more than \$100,000,000, less than three times the cost of the Erie railroad, is beyond the ability of our whole people in their private capacity, so to term it, is what we are not disposed to admit. In fact we believe its accomplishment to be an easy task. It was impossible five years since; but the progress we have made, and the confidence which we have acquired during that time, now renders the achievement a comparatively easy one. It is practicable by private enterprise, and we never desire to see government attempt any work which is possible for private enterprise to accomplish.

We hope in the execution of the above project, wise councils will prevail. The people have been equal to the work of covering the country with railroads. They certainly are no less able to repeat what they have already done, and much more, to construct a railroad to the Pacific, the magnitude of which, measured either by its length or cost, will not equal a *tithe* of what they have already achieved.

Indiana and Illinois Central Railway.

The Board of Directors of this Company met at Decatur, Ills., on the 10th of August, and confirmed a contract for the construction and equipage of the entire line from Indianapolis to Decatur, with Messrs M. C. Story & Co., of New York. The contractors furnish 70 per cent, of the entire amount necessary to construct and equip the road, only requiring the company to raise 30 per cent. Twenty-two thousand dollars per mile includes every thing, except ballasting, and the work is to be completed by the 1st of December, 1855. Before the work can be commenced, however, about \$300,000 of additional stock must be raised at home.

The Oakland and Ottawa Railroad.

The iron for this road is bought—the right of way for most of it is secured, and the contract for its construction entered into. These things make the completion of the road certain. The necessary stock has been taken, and we are informed that the laborers to build the road will in a few days be at work at different parts along the line.

Banks and Banking.

The object and office of money is to assist in the transfer of other kinds of property from one person to another. Familiar illustrations are used to show this office:—a *hatter* wishes to purchase a barrel of flour; but as the flour merchant does not want hats in return, the former will look about for some article that he does want. If he cannot get the exact thing, he will endeavor to exchange his hats for something that the merchant can exchange for the object of his desires; and as gold and silver are proved by universal experience, to be more common objects of desire than any other values whatever, and as it is found that men, as a general rule, stand ready to exchange whatever they have for them, the hatter, whom we make to represent all who have anything to sell, will naturally seek to turn his products into the precious metals, because he is certain with these to straightway possess himself with that of which he stands in need.

We have briefly stated the causes that led to the adoption of gold and silver as a circulating medium. It was not the result of a conventional agreement. The custom which prevails is based upon natural laws, which precede all conventions. Gold and silver, from their uses, are regarded, and properly, as the most valuable of all material substances, and their use as money results from a desire to convert what has a limited and circumscribed, into more general and universal values; into articles that every body is sure to want, under all circumstances. A hatter with a basket of hats under his arm, might starve for the lack of a customer; but as soon as he has exchanged his wares for gold and silver, he has the key that unlocks every body's treasures, to his desires.

It is easy to see, however, that where gold and silver are employed as a medium between buyer and seller, they are in one sense so much dead capital. So employed, they are not productive property. This will be seen from the fact, that could we dispense with their use, and send the amount now employed as money out of the country, and bring back in return provisions, and instruments of labor, we should in this way convert unproductive into productive capital, and be so much richer by the transaction.

By the use of credits we are enabled partially to achieve such a result; to dispense with the use of gold and silver in many of the transactions of business, and effect a large saving by their disuse. The saving effected by the use of credits may be well shown by the following illustration. A Cotton manufacturer in Massachusetts sends his fabrics to a jobber in New York for sale, who parcels them out to smaller dealers all over the United States. Before they finally reach the consumer they may have passed through a half a dozen hands. These different persons are the mediums for conveying the goods from the manufacturer to the consumer. Were each of the several transfers which are made accompanied by the delivery of an equal value of gold and silver from one party to the other, it is easy to see that values, exceeding five or six times that of the property sold, must be used to effect its various transfer, adding largely to the cost of the transactions, and diminishing the profits of the manufacturer, and increasing the cost to the consumer. But supposing in each case a credit to be extended to all the parties, till the one immediately in contact with the consumer shall have

collected from him the value of the article, and shall have returned it through the same channels through which the goods had been received; a very considerable saving, it is plain to see would be effected.

Now in business, the reason of credits is founded upon the saving effected in the manner stated. When *legitimately* used they are confined to transactions of the character described. Their *abuse* consists in extending them to parties who are not the mere channels of communication between the producer and consumer, but to persons who use these credits as *property*, and make them the basis of business operations.

Many of the most important transactions of business are not only effected by the use of *credits*, but even when the interposition of money becomes necessary, we use the *symbol* instead of the *substance*, and in this manner dispense almost entirely with the actual use of gold and silver. We use the *symbol* because it costs less than that for which it stands. Paper money is supposed to be a mere representation of actual value which stand behind it, and into which it can be changed at the option of the party holding it, and it is the belief that it can be instantly converted into gold and silver that causes it to be taken as money.

Now without going into a discussion as to the ratio that should exist between the amount of gold and silver held by a bank, and the amount of *paper* money in circulation, or issued, and questions of a similar character, which might well fill volumes, instead of columns in our *Journal*, we would state that the expediency of issuing symbols of value is sanctioned by experience, and is one of the most marked characteristics of modern commerce, and is one of the principal causes of its wonderful progress and expansion. To dispense with its use would strike a serious blow on the prosperity of our country would be felt alike by all classes, by the consumer as well as the producer, by the poor and laboring man as well as the rich one.

With these remarks we come to the leading object of this paper, which is to show the *legitimate* office and duty of *Banks* of discount. They supply a *credit* which takes the place of gold and silver, in the purchase and sale of property. Their issues therefore should bear a precise ratio to the extent of the business operations of the community in which they are situated; or to speak more directly, to the healthy or necessary movement of *property* from one person to another. Money has no other object than this, and should there be at any time an amount of the precious metal existing in the shape of money, in excess of the wants of business, the surplus would be either exported, or turned to other uses equally beneficial. When there is an *excess* of paper money, on the other hand, we treat it for the time being, as we do our excess of gold and silver, and make it the *basis* of, when it is only fitted to serve as an *instrument*, in business operations. When therefore, the issues of banks are in excess of the wants of business, an *apparent* value is created, which, treated as a substantial one, becomes the basis of other transactions not warranted by the condition of the community or individuals, and which often ends in ruin to both. The *credit* which was treated as *capital*, is suddenly withdrawn, and men who supposed themselves rich to day, find themselves poor

to-morrow, and all suffer more or less by a general depreciation of property. Should there be an excess of gold and silver currency, we send it abroad, and import in return other values; but an excess of paper money only leads us to contract debts without supplying the means of payment.

For the reasons enumerated it is considered a fundamental principle of good banking to discount none but business paper; paper that represents a regular business operation; a transfer of property from one hand to another. So long as this rule is pursued, banks harmonize with, and advance the general prosperity of the country. They are in fact one of the great causes of its prosperity, promoting the advantage of the poor as well as rich. They supply a credit which enables us to dispense with an equal amount of *real* value, which we use for other purposes. So long, therefore as banks confine themselves to discounting paper taken in the regular and ordinary course of business, they are exercising their proper and legitimate function. The moment they exceed this limit they become the great promoters of speculation and extravagance, and may, as they did in 1837, involve the entire business community in ruin.

There is no doubt that in this community the principles of sound banking are but little understood. Our banks loan, and loan all they can, for the sake of making money. Many of them as readily loan on a *fancy* stock as upon a note taken for a cargo of sugar. The consequence is that speculators being able to get money "on easy terms," as the phrase is, blow their bubbles to an enormous extent. By and by the banks themselves cannot keep up their *credits*, are forced to take in their issues, to make good their promises by redeeming the *symbols* of, with *real*, money. For a period longer or shorter they find themselves unable to grant any facilities or *credits*. Business relations of all kinds are disturbed. *Fancies* collapse, and the value of the aggregate property of such a community as New York, may be reduced \$20,000,000 in a day; all from a vicious principle in banking. Witness the recent pressure for money and the decline of stocks in the New York market, under the curtailment of the excessive issues of our city banks.

We hear a great deal said in praise of the New York Free Banking Law, which is a general object of imitation by other States. It may have its excellencies, but we believe it peculiarly calculated to promote the abuses we have pointed out. It is generally supposed that because the bill-holders are made safe by it, the business of banking cannot be over done. This is a grand mistake. The security which the law requires to be deposited in the archives of the State is one of the principal reasons why banking is overdone.—The banks feel compelled to make large loans to enable them to pay a good interest on the amount invested. They therefore issue and keep in circulation as many bills as possible, irrespective of the wants or demands of business. Had the law required all the banks in the State to have made their bills *par* in the city of New York, it would have effected a greater good than any provision in it. It would have been impossible for country banks to have kept up a circulation in excess of the wants of the community in which they were situated. As it is, their issues are not even *paper*

money, and can be made such only by a large discount. The bills of a country bank 20 miles from New York are at double the discount in this city, as are the bills of the most remote bank in New England, for the redemption of which there is in fact no legal security, and about whose affairs nothing whatever is known. The cause of this singular state of things is, that by a mutual arrangement, *all* the New England banks make their bills *par* in Boston, and they are received by all the banks in the payment of notes with equal favor as their own bills. This arrangement renders it impossible for any country bank to keep in circulation a larger number of bills than are needed to meet the immediate business wants of the community, as all excess is immediately sent to Boston, and in the natural course of trade goes into the city banks, and those issuing them are at once called upon to take them up. In this manner the issues of banks are restrained to the limits of the business wants of the community. A sound system of banking is the result, with complete safety to the bill holder, as experience proves, by the operations of business, rather than by any legislative enactment, and which renders the bills of the New England banks a much more desirable circulating medium to our people even, than the bills of our country banks, which are secured beyond a peradventure.

Excursion.

New Jersey Locomotive and Machine Company.—Last Friday, 19th inst., the proprietors of the New Jersey Locomotive and Machine Company went with their operatives, numbering some 300, men and boys, on an excursion to the Crystal Palace.

They left Paterson in the regular train at 7 40 A. M., after marching in procession through the streets with a band of music and several appropriate Banners and also a miniature Locomotive and Tender, a very neat little thing, made and presented to them by Mr. Lane, of Paterson.

The Engine "R. L. Colt." which drew the train, was built by their company for the New York & Erie Railroad, in the incredibly short space of 18 working days after they received the order. She was built in a great hurry for a freight engine, to run on the narrow gauge between New York and Paterson. She is, however, run with the passenger trains and makes her time with perfect ease. The Railroad Company are much pleased with her, she having proved an excellent engine in every respect and very economical, having cost but little for repairs since she was built, which was in March last.

The men having arrived in Duane street marched to the 6th Avenue cars, prepared for them in College Place, and proceeded to the Crystal Palace. Here they spent five hours in a quiet and orderly manner, being known by the badge which they wore upon the occasion. They scattered themselves about the Palace and proved themselves by the interest they manifested in the works of Art of every description there collected from every quarter of the Globe, a very intelligent body of men, and capable of appreciating works of a high order of talent and skill.

At 3½ o'clock they returned by the 6th Avenue cars to Chambers street and thence marched to the Ferry. After landing in Jersey City they marched in procession through several of the streets giving an example of what might be ex-

pected of the Jersey City folks when they get their Locomotive works in operation. If Jersey City turns out as fine a body she need never be ashamed of them.

They all went up to Paterson at 5½ o'clock and arriving there partook of a most excellent dinner prepared by Mr. Luce, proprietor of Congress Hall, which gave general satisfaction, and was abundantly tested by the men who lacked no appetite after the fatigue of a very long day of enjoyment.

The whole expense was borne by the Company, and they deserve much praise for their disinterested act of kindness and magnanimity. The whole affair was got up in a spirit of good will and without any taint of selfishness.

After dinner several appropriate toasts were given, and several neat and appropriate speeches were made, of which Labor of course was the theme. It would indeed seem as though things had wonderfully changed since the days of Henry VIII and the Field of the Cloth of Gold.—Then Nations and Monarchs met for the display of Pride and Extravagance; now they meet to build and fill Palaces with works of Industry and Art, and Labor is honored before all things. Labor is becoming honorable and respected, instead of being regarded as mean and degrading.

The New Jersey Locomotive and Machine Company went into operation under their charter in April 1851. Since that time they have built 52 Locomotives. The works have been under the management of Mr. John Brandt since the fall of 1851, and it is no more than fair to say that all the Engines built under his management are of the very first order. Mr. Brandt has been connected with several railroads as Superintendent of Motive Power, and having entire control of that department for about 19 years, or almost from the first introduction of Railroads into the country.—He left the New York and Erie Rail Road in September 1851 and was presented by the "employees" of that road with a splendid service of plate costing about \$800—as a testimonial of their esteem.

The Engines built by this Company are models of durability, being built in the most serviceable manner to stand the wear which they must necessarily receive. They are always built of the best materials, selected and tested with the greatest care, no cheap materials are ever used, and any inferior articles invariably rejected.

The various roads which have their engines in use always give them the highest encomiums and say they have no superiors. They will turn out 30 engines this year.

Paterson has four Locomotive shops turning out among them all some 13 or 14 Engines a month, and the Engines made there, for service, economy and beauty, will compare well with the whole world.

The oldest establishment in the town of the kind is that of Rogers, Ketchum & Grosvenor, which commenced making locomotives about 15 years ago. The next is the New Jersey Locomotive and Machine Company, having been in operation under a partnership, since 1845. Wm. Swinburne & Co., and Danforth, Cooke & Co., are of more recent date, having been established one and two years.

Paterson has now a population of about 16,000,

and owes its present prosperity mainly to this branch of business.

The New Jersey Locomotive and Machine Co., made five superior, large, full crank Engines, for the Ontario, Simcoe & Huron Railroad Company of Canada, this year. They are almost the only engines which have yet crossed the Lakes or St. Lawrence into Canada. There is now a Locomotive shop in Toronto but it is limited in capacity and will not be able probably to make anything like the number of Engines which will be needed in Canada the next few years, especially should the Grand Trunk line be successfully carried on. The duties of 12½ per cent are however greatly in favor of such establishments there, and with the freight, a great impediment in the way of American builders. The English builders, however, have more freight and the same duties to pay, so that Canada must get many of her Engines here for years to come. They have a great inducement to do so in those they have received from this Paterson Company, as they are of very superior workmanship, built on scientific principles, and strong, serviceable machines.

One thing, it is to be hoped, this Company will adhere to, and other Companies follow their example, which is to give their engines at the time they contract to deliver them. We believe they are never behind their time, and this is a matter of great importance, much more so than people are generally aware of, in all business transactions, except paying notes. In that every business man is up to the mark. If Rail Road Companies cannot get their Engines in time, they cannot build their roads in the time promised, they cannot do their business promptly any more than the monied man can fulfil his promises if his papers be not cashed at maturity. Let "Promptness" be the universal motto in every business.

Another Connection with the Mobile and Ohio Railroad.

We learn, says the Mobile Advertiser, by a letter from Hickman, Kentucky, that a company was formed at that place on the 20th ultimo, for the purpose of constructing a branch railroad from Hickman, Kentucky, to intersect the Mobile and Ohio Railroad in Obion county, Tenn., at the point where the Northwestern Railroad from Nashville to the Mississippi river intersects or crosses our great trunk railroad. We learn that a sufficient amount of stock has been subscribed, to grade the whole line of route, and prepare it for the iron, and there can be no doubt of its early construction.

The following named gentlemen have been chosen Directors of the Company: S. Burrows, President; O. F. Young, Joseph Keith, E. B. Fugua, Gen. Robert Matson, U. D. Kingman, A. J. Thomas, J. Edmonston, and Gen. G. W. Gibbs.

It is understood to be the ultimate design of the company to make an early extension of this road to St. Louis via Iron Mountain, thus connecting by railway the South and Southeast with the great Northwest.

Every additional connection with the Mobile and Ohio Railroad increases its prospects of business, and of course by so much appreciates the value of its stock. Our readers will see at a glance that the construction of the road above described will be not only a benefit to the railroad, but to the city also, by making a large additional area

of rich and productive territory measurably tributary to this port. We hope the enterprise may be carried forward to successful completion.

Illinois Central Railroad.

The president of the Illinois Central railroad company has made a communication to the board of directors of that company, detailing the present condition of the company and its progress, from which we give the following extracts:

Receipts and Expenditures to Aug. 1, 1853.

RECEIPTS,

<i>Capital Stock.</i>	
Cash applicable to stock	\$1,625 00
\$20 per share on 10,000 shares.....	\$200,000 00
\$10 per share on 10,000 shares.....	100,000 00
\$5 per share on 89,293 shares.....	446,465 00
	<hr/> \$746,465 00
<i>Construction Bonds.</i>	
To contractors and others at par.....	650,500 00
To subscribers, \$4,000 000 loan.....	1,289,000 00
To subscribers to \$3,000,000 loan.....	322,500 00
To parties on special contract.....	436,000 00
Installments on \$4,000,000 loan, for which bonds are to be issued.....	158,839 89
Installments on \$3,000,000 loan, for which bonds are to be issued.....	425,300 00
Installments on \$5,000,000 London loan...	2,912,977 74
	<hr/> 6,195,117 63
<i>Exchange.</i>	
Premium on bills, etc.	85,241 27
Bills and accounts payable.....	812,076 78
	<hr/>
Total receipts.....	\$7,840,525 68

EXPENDITURES.

<i>Charter Expenses.</i>	
Prior to organization of company.....	\$51,299 00
<i>Company Expenses.</i>	
Salaries, counsel fees, etc., etc.....	106,745 82
<i>Land.</i>	
Land damages, right of way, etc.....	507,010 70
<i>Engineering.</i>	
Surveys, maps, profiles etc.....	219,387 81
<i>Construction Account.</i>	
Graduation, masonry, bridging, etc., etc..	3,344,283 47
<i>Iron Rails.</i>	
Including transportation to Illinois.....	1,839,859 03
Equipment of engines, cars, etc.....	87,791 05
Commissions.....	202,323 71
Balance of interest account.....	99,516 36
Total expenditures...	<hr/> \$6,458,216 45

ON HAND.

Cash deposits and bills receivable.....	1,382,309 23
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WAYS AND MEANS.

Capital.. \$17,000,000	Assumed cost. \$17,000,000
<i>Capital Stock.</i>	
First instalment of \$5 per share on 60,382 shares.....	\$301,910 00

Construction Bonds.

To be issued at par for rails on contracts.	464,500 00	
For earth work and other contracts....	670,000 00	
		1,184,500 00
Remaining instalments on subscriptions to loan on 7 per cent. bonds for.	4,000,000 00	
Paid to Aug. 1, 1853....	1,447,839 89	
		2,552,160 11
Remaining instalments from London loan on 6 per cent. bonds of.....	5,000,000 00	
Paid to Aug. 1, 1853....	2,912,977 74	
		2,087,022 26
Remaining instalments on loan of June 15, 1853, 7 per cent bonds of.....	3,000,000 00	
Paid to Aug. 1, 1853....	747,800 00	
		2,252,200 00
Remaining payments on bonds sold by special contract of..	900,000 00	
Paid to Aug. 1, 1853....	436,000 00	
		464,000 00
		8,489,882 37
Exchange.		
Premium on Foreign Bills.....	41,740 44	
Premium on Domestic Bills.....	110,000 00	
		151,740 44
Cash.		
On hand in deposit and bills receivable.....	1,882,809 23	
Less bills & accounts payable..	812,076 78	
		570,232 45
Less Illinois state deposit appropriated to interest fund of...	200,000 00	
		370,232 45
Total means now provided.....	\$9,313,765 26	
Add expenditures to Aug. 1, 1853..	6,458,216 45	
Total provision for cost of road..	\$15,771,981 71	

It is assumed that the total cost of the road and equipment, when complete, will be \$17,000,000, which includes, in addition to the detailed estimates of the Engineer, a liberal allowance for interest on the bonds during the construction of the road, and also for contingencies not anticipated or estimated. Nothing has occurred in the progress of the work to induce a belief that this estimate will be exceeded, unless the development of the business upon the portions of the road before its full completion, shall demonstrate the necessity of a more extensive equipment, or larger outlay for station accommodations than was originally contemplated.

Our work is now in a state of rapid progress. A large force is employed upon it, and materials of all kinds for the superstructure are in readiness.

Sixty miles from LaSalle to Bloomington, and fifty-five miles from Chicago to the Kankakee River, are in operation. Parties are now laying track at four or five different points on the line.

We have received more than 40,000 tons of Iron since the commencement of the work, all of which has gone to Illinois or is on its way there. The remainder due us on our contracts, amounting, with what is already received, to 67,000 tons, we have good reason to believe will arrive as fast as it shall be needed.

It is assumed that the road will cost completed..... \$17,000,000 00
The means are already secured, as appears by the foregoing statement, to the amount of. 15,771,981 71

Leaving yet to be provided..... \$1,228,018 29

We are at liberty to issue, by the terms of our mortgage, in the whole, \$17,000,000 of Construction Bonds. There are consequently more than \$2,300,000 of these Bonds not yet disposed of or appropriated.

We have more than 250,000 acres of land in the vicinity of the road, unincumbered by the mortgage, and subject to early sale if thought advisable, the avails of which are unappropriated exclusive of an equal number of acres appropriated to the interest fund.

And, in addition to all this, we shall have 150,000 shares of stock on which will have been paid only \$5 per share, 10,000 shares on which has been paid \$10 per share, and 10,000 shares on which has been paid \$20 per share, all subject to call for further instalments, in case any possible contingency should render such a resort necessary, though the existence of such contingency can hardly seem possible.

New Discoveries of Iron Ore.

Messrs. Lansing & Thurber have at their office, adjoining the Post Office, some fine specimens of Iron taken from a mine recently discovered in the Lake Superior country, within two miles of the Lake. They also have some specimens of wrought Iron made from this Ore which is of a quality equal to the best that has been made from any of the ore in that region. It has been submitted to such tests as no other iron except when heated to a "welding heat" has ever successfully endured. While cold it has been twisted and bent in every possible manner, with as much apparent ease and without showing any more indications of cracking or breaking than the purest lead. If this mine shall be found to be inexhaustible, as seems to be the case, being ten or eleven miles nearer to the Lake than the iron mountain beds of ore, it will prove a most invaluable discovery, as it can be brought to this city at so small a comparative cost. In addition to the Iron Ore, it is believed that an abundant supply of Red Ochre exists in the same mines. Specimens of the ore have been submitted to the inspection of Dr. Terry, who is of opinion that the substance exists there of an excellent quality, as we are informed. We also learn that a company is about being formed, partly of Eastern and partly of Detroit capitalists, for the purpose of working this Iron into blooms, &c.

We trust that such is the case, and that Michigan in general and Detroit in particular will begin to reap some of the benefits of the rich and inexhaustible mineral resources of the Lake Superior Iron mines.—*Detroit Tribune.*

Cost of Locomotive Manufacturing.

There are two things which especially interest western manufacturers of iron, in regard to the expediency of organizing locomotive works in their section of the country; one is the cost of manufacturing an engine at home, another the cost of moving an engine from the east, the demand for either being supposed to be dependent on a certain price. We will give an estimate of the whole business of making locomotives as far as we can do in a general case.

To commence with the locomotive shop, we will say a desirable plan will be found described in the last number of the Journal—desirable for its convenience for conducting the different departments, with the means of a ready communication between the whole. By that plan a convenient delivery of one part of the work to the hands of the department of the next is easily had. The shop can be cheaply built, and those operations requiring *fit* are conducted entirely by themselves. A good light can be readily had and a good distribution of shafting can also be made. The plan admits of any future extensions in any department without interfering with the others—The business too would be conducted wholly upon one level, avoiding the loss of room and labor occasioned by stairs.

To contain the following list of machinery, sufficient for the manufacture of three engines per month, a main shop building of 160 by 65 feet would be required; a wheel shop and wood shop in one range of 40 by 100 ft, a boiler shop 50 by 100 feet, and a blacksmiths' shop 60 by 40 feet. The following estimate embraces a full list of tools necessary, and their whole cost under present prices of machinist's labor and of materials.

LIST OF TOOLS FOR BUILDING THREE ENGINES PER MONTH.

Three lathes,	18 feet long, swing 6½ ft.	\$6300
One boring "	12 " " " 4 " "	1000
Six lathes	12 " " " 2 ft. 8 in.	2250
Two "	12 " " " 2 " 2 "	725
Two "	16 " " " 2 " 8 "	920
Eight "	10 " " " 2 " "	2600
Four "	8 " " " 1 " 7 "	1100
Five "	6 " " " " "	900
One Planer	16 feet long.....	1150
Two Planers	10 " ".....	1350
Five Planers	6 " ".....	2250
Three polishing lathes.....		345
Two upright drills.....		700
Eight upright drills.....		760
Two bolt cutting machines.....		340
One Key way cutter for axles.....		175
One 42 inch blower.....		80
Sixty vises.....		600
Ten anvils.....		115
Power saws and frames.....		150
One power punch shears.....		600
One travelling hoisting apparatus.....		250
One trip hammer.....		300
Three cranes.....		200
Taps, Dies, Chucks, Drills, &c.....		500

Total for tools.....\$25750

One steam engine, 14 inch cylinder, 42 in. stroke, with two flue boilers, 42 inches in diameter, and 32 feet long..... \$3200
4000 lbs. of shafting at 11 cents..... 440
15000 lbs. or 800 feet of cast iron pipe 5½ c..... 828

\$4468

Grand total for machinery.....\$30,218

The above estimate includes no allowance for a foundry, which would require two cupolas and two

or three cranes, with flasks, ladles, etc., costing perhaps \$1500 more.

The shops and lands will cost from \$10,000 to \$12,000. The working capital should be a command of \$100,000, and should be made up of good orders, and good credit, with \$10,000 cash, and a good stock, say enough for one month's operations, of castings, copper, bar iron, etc.

The next thing is the cost and the profit of making locomotives. For this purpose we shall assume the case of a first class outside connected engine, built west of the Alleghenies, and allow as nearly as we can the prices paid for materials, and an advance of ten per cent. on the prices paid in Boston for labor. We will give our estimates upon a 15 inch cylinder engine, having four six-foot drivers with Bowling tires, and four truck wheels; 46 inch boiler, weighing, without tubes 6100 lbs. and containing 3200 lbs of solid brass tubes, equal to 775 square feet of tube surface; solid forged frame, link motion and full stroke pumps. Tender to carry 1½ cords of wood and 1600 gallons of water.

IRON CASTING.

Two 15 in. cylinders cast in loam.....	2500 lbs a cts.	\$100,00
Two 15 " pistons all iron castings for do.....	325 "	
Four 15 " cylinder covers.....	550 "	
Two steam chests and covers.....	800 "	
Two cross heads.....	200 "	
Four driving wheels.....	6800 "	
Twelve truck wheels.....	5600 "	
Other engine castings.....	4500 "	
Other tender castings.....	1750 "	
	20,525 " a 3¼ cts.	\$667,06

\$767,06

BRASS CASTINGS.

For pumps, valves, etc.	320 lbs	
For cocks.....	40 "	
For oil cups.....	20 "	
For letters and ornaments.....	300 "	
	680 " a 30	\$204,00

Brass castings are 35 cts. per lb. in the Eastern markets.

Brass castings, Bab-bitt lined.....		
One set packing rings.	75 lbs	
Connecting rod boxes..	100 "	
Truck and tender axle boxes.....	100 "	
Other boxes.....	100 "	
	375 " a 34 cts.	127,50

\$331,50

FORGING AND BAR IRON.

Frame in forged bars	2200 " a 6½	\$143,00
Truck and tender axles	1600 " a 5½	88,00
Driving axles.....	1300 " a 6½	84 50
Forged braces, piston rods, slides and crank pins.....	800 " a 7½	60 00
Connecting rods.....	600 " a 8½	51 00
Four 6 feet tires.....	3200 " a 11½	368 00
Driving and Truck springs.....	900 " a 12½	112 50
Bar Iron not included above.....	6500 " a 4½	292 50

\$1199 50

BOILER AND TENDER TANK.

2800 lbs. common iron in shell a 6 cts.	\$168 00
2500 " shapes, extra quality and size.....	6½ " 162 50
2500 " tank iron.....	4½ " 112 50
3200 " solid brass tubes.....	30 " 960 00
(Copper tubes will cost 39 cts. per pound.)	
Angle iron and rivets.....	50 00

\$1453 00

LABOR

Finishing cylinders and steam chests.....	\$125 00
" Pistons, packing and rods.....	22 00
" Connecting rods.....	85 00
" Driving and truck wheels and axles.....	125 00
" Frame and jaws and setting up same.....	175 00
" Other running work.....	550 00
" Brass work not included above	45 00
Setting up engine.....	400 00
Setting 160 tubes.....	35 00
Making Boiler.....	330 00
Making tank.....	100 00
Setting up tender and making frame....	100 00
Other wood work.....	60 00
Painting.....	60 00
Forgings.....	275 09

\$2487 00

MISCELLANEOUS.

Coppersmith's labor, including stock for pipes and sheet iron work; stock for lagging boiler and making sparker....	350 00
One 5 inch steam whistle.....	18 00
One bell, 120 lbs. a 34 cents.....	40 80
480 lbs. tender springs a 12½ cents.....	60 00
Making water hose.....	8 00
Lumber.....	40 00
Tools furnished.....	40 00

\$556 80

RECAPITULATION.

Iron Castings.....	\$767 06
Brass Castings.....	331 50
Forgings and bar iron.....	1199 50
Boiler and tender tank.....	1453 00
Labor.....	2487 00
Miscellaneous.....	556 80

\$6794 86

Under a proper organization of labor, machines could be completed in Detroit, Chicago, St. Louis, Pittsburgh or Cincinnati, for \$6,800 each, and which would command a ready sale at \$8,500, leaving a net profit of \$1,500, after deducting expenses of carrying on the business and of delivering the engine to the purchaser.

Thus we find that with a direct first outlay of \$50,000, and a credit of from \$90,000 to \$100,000, the total value of the machines built will be \$306,000, produced at a cost of \$252,000, leaving a profit of \$54,000.

The difference in the price of eastern machines does not arise so much from differences in the price of materials and labor, as from the different ways of building engines. The Boston style of engine has generally been built with a boiler of simple and cheap construction, cheaply built frames, cheap truck frames, and in some cases from materials imported at a low price. The Baltimore engines which are sold for \$9,500, are very cheaply built, and command their extraordinary high price only by the protection of patent monopolies covering many parts of their construction. The Paterson engines combine the most thorough construction and effective proportions of any engines of our acquaintance, and it is upon an imitation of their successful workmanship and material that western shops will be able to compete with outside builders in the western market. The good quali-

ty of materials in the west, such as iron and copper, will reduce the amount of stock used in engines, and insure a better article when completed. We would not be afraid to use Lake Superior iron of ¼ inch thickness in the furnaces and shells of locomotive boilers, in place of common English iron of ⅜ inch thickness, and consequently of half as much more weight. The soundness of this and of the Missouri iron would prevent any necessity for using copper in the furnaces by which a large amount would also be saved yearly. It might also be found better adapted than any other iron for the manufacture of tires, and might therefore be successful in the place of the Lowmoor or Bowling tire.

The annual saving in fuel would be, for a shop of the capacity of three engines per month, \$2,500, less at Pittsburgh and other towns accessible to coal, than in Boston.

It will be an object with western manufacturers to secure the services of experienced engineers and designers, for unless they succeed in producing a first class, acceptable style of work in the beginning, their efforts will be crushed, and railroad companies would patronize eastern shops. We dare say that unless they build better engines than are sent to many their roads from eastern shops, they will fail of success. They must take advantage of the excellence of their materials and of the best experience they can procure in any market.

The whole success of a western shop will depend upon its management. The business of building locomotives cannot be carried on with any success by men unacquainted with it.

The protective tariff which the western builder will enjoy, is the cost of delivery of Eastern built engines on Western roads. The materials necessary to build a locomotive could be shipped in a rough state at a cheaper rate than the finished engine. The delivery of engines built at the East is, and must continue to be, very much embarrassed by the break of gauges at Buffalo, Cleveland and other important shipping ports on the lakes, and also by the very necessity of lake carriage, as locomotives can only be carried on the decks of vessels at great risk and at a large expense for handling. The cost of shipping a locomotive, of \$9000 value, from Boston to Detroit, when made over a disturbing gauge and vessels on Lake Erie, will be for the month of October, as follows:

Railroad truckage of Engine from Boston to Buffalo, 530 miles at 20 cts.,.....	\$106 00
Railroad freight of Tender, drivers &c., say 15 tons at \$10,.....	150 00
Cartage of Engine through Troy,.....	24 00
Freight of trucks and ponies from Buffalo back to Boston,.....	25 00
Changing drivers at Buffalo,.....	6 00
Railroad dockage at Buffalo,.....	10 00
Putting Engine and tender on ship,.....	20 00
Forwarders commission,.....	25 00
Lake freight to Detroit,.....	135 00
Insurance \$9000 at 2½ per cent.....	225 00
Two weeks time and expenses of man to go with engine,.....	42 00
Use of trucks and ponies, (fitted at an expense of \$250 per sett),.....	10 00

\$778 00

With an engine built for a gauge corresponding with the Western and the New York Central roads, the cost of delivery would be, in the spring or

fall, full \$600. Under no circumstances, nor at any time, could it be less than \$400. Any engine shipped to St. Louis would be for a 5 ft. 6 inch track, which is the gauge west of the Mississippi, and would require truckage over either or all of the 4 ft. 8½ inch, the 4 ft. 10 inch or the 6 feet gauges intervening, and could not be delivered for less than \$1200, or 15 per cent. on its whole value.

Let western manufacturers consider these facts. They can compete successfully with eastern manufacturers in the quality and cheapness of materials. They possess the requisites of cheap land, cheap food and cheap fuel, and can deliver their engines directly from their shops into the tracks of their roads, an advantage not possessed by the Boston or the Paterson builders, who pay from 50 to 100 dollars for trucking each machine in the streets before it reaches any railroad track.

These advantages in comparison with eastern shops may be stated as follows. A Massachusetts shop turned out nineteen locomotives in a certain period, during which the consumption of coal at the shop reached \$1900 in value which sum in Pittsburgh could not have exceeded \$250. Every engine had ¾ inch iron, worked into the boilers, which had it been of best iron, partly ¼ and partly 5-16 inch thick would have saved 1300 lbs of iron on each boiler, or over twelve tons of useless weight on the whole number of engines. Copper tube sheets costing \$1425, or \$1175 more than iron ones would cost, were put in from the want of confidence in the thick iron used. Of these machines twelve were trucked to neighboring depots or docks at an expense of \$50 each, and seven were trucked to a greater distance at \$100 each, or \$1300 in all for truckage. Here, without regarding the loss from using poor, cheap and thick iron, we have the sum of \$4125, or \$217 per engine, clearly in favor of the western shop.

The labor upon eastern built locomotives, including forge and foundry work, does not exceed \$3000 per engine, and to secure the best and most experienced hands the western builders can draw upon a sum of from \$400 to \$1200, otherwise charged to the delivery of eastern engines. It would be greatly for the interest of Missouri and of her railroads, and in the same manner of Michigan, if some of their great railroad companies would become silent partners to the extent of \$50,000 each in large shops of this character, to be located on their lines. The capital and patronage of a large railroad company would bring labor, wealth and independence to any community among whom it was thus bestowed, and would revert to their own benefit, in the benefits arising from the manufacture of engines, the saving on their own contracts, and the trade it would create over their own lines.

Belleville and Illinoistown Railroad.

The Belleville Advocate says, "we are much pleased to learn that the two locomotives designed for our road are built and shipped at Paterson N. J., for Illinoistown by the builders. The iron is expected daily. This is quite encouraging.—Meanwhile the work is steadily advancing to maturity. The unwholesomeness of the American Bottom has been a drawback on the work, and an expense to the county. We are glad to see the road proceeding as well as it does.

Journal of Railroad Law.

INSURANCE ON GOODS DELIVERED FOR CARRIAGE.

Common carriers being liable for goods which they have undertaken to carry have such an interest therein that they can procure policies for insurance upon them, in their own names. And this insurance interest of the carriers will continue notwithstanding the goods are transported by the carriers in vessels belonging to other persons, chartered by them for this purpose. In such a case the charterers of the vessel and not the owners are the proper parties to insure the cargo as common carriers.

DELIVERY OF GOODS FOR CARRIAGE BY LEAVING THEM ON DOCKS &c.

In order to charge a common carrier for goods delivered to him for carriage, it is of course necessary that there should be evidence of due delivery of the goods. But if a carrier agree that goods may be deposited for carriage in a particular place, and with any special notice thereof, such deposit without notice will be a sufficient delivery. And such an agreement may well be inferred if, it has been the constant practice and usage of parties to deposit goods, intended to be carried, upon the private dock of the carrier,—without any other notice than the marks affixed to the goods.

Merriam vs. Hartford and New Haven Railroad Co., 20 Con. 354.

WHAT IS IN A LEGAL SENSE AN ACT OF GOD?

If it be necessary for a common carrier to avail himself of transportation by water, and his boat be stranded upon a recently formed bar of whose existence he was before wholly ignorant,—he is liable for all damages. Such an incident is not what Law regards as an act of God,—which will exonerate the carrier from liability. An act of God is some direct and violent operation of physical causes, like a tornado, an earthquake, a flash of lightning, for example. 6 Grattan 189.

LIMITING A CARRIER'S LIABILITY BY MEANS OF A NOTICE AFFIXED TO TICKETS.

In the case of *Brown vs. the Eastern Railroad Company*, decided in the Massachusetts Supreme Court, last spring, Dewey J. observed.

The doctrine is gradually being incorporated into the jurisprudence of the times, that limitations of the liabilities of common carriers, for securing due notice to the traveller, or the parties for whom goods are to be transported, are to be held operative and binding upon the parties. It is so in England. Also in some of the States of this Union. *Bingham vs. Rogers* 6 Watts & Sag. 495; *Laing vs. Calder* 8 Barr 484. *Swindler vs. Hillard*, 2 Richardson S. C. 286.

Without questioning the right of common carriers to make reasonable limitations as to the extent of their liabilities for luggage or merchant dize to be transmitted by them, and conceding the decisions to that effect to be sound, we are of opinion, nevertheless, that they furnish no ground for denying the plaintiff's right to maintain this action.

In the foregoing case it was accordingly held by the Supreme Court of Massachusetts that notice that a Railroad Corporation, "would not be liable for the luggage of passengers beyond a certain amount unless &c." printed on the back of the passage ticket, and detached from what ordinarily contains all that is material to the passen-

ger to know, does not raise a legal presumption that the party at the time of receiving the ticket and before the train leaves the station, had knowledge of the limitations which the carrier had attached to the transportation of baggage.

It may be added that in the *Camden and Amboy Railroad vs. Bauldell* it was held that a notice in English to a German ignorant of our language was held of no effect 4 Harris 67.

Also in *Butler vs. Heane* 2 Campbell 415, where the limitation was printed in small type, the will generally being in larger type, the notice was held invalid.

In some English cases limitations on the face of tickets have been held to be sufficient. *Austin vs. M. S. Railway Co.*, (11 English Laws and English R. 506. *Shaw vs. York and North Midland Railway Company*, 16 Railway cases 87.)

Knoxville Railroad.

The Survey of the line of this road from Knoxville to Dandville has just been completed. Mr. Barker, the principal assistant engineer under Col. Pritchard, with his whole corps, reached this place on Monday last. The result of the survey shows that the country is eligible for a railroad and no serious obstacles in the way. The line surveyed passes through the counties of Knox, Anderson and Chapman in Tennessee; and Whitley, Laurel, Pulaski, Rockcastle, Lincoln and Boyle, in this state. We are informed by Mr. Barker that the line through these counties measure 162 miles, but by connecting and running more directly from the point in Whitley, that sixteen miles of the distance are saved, and the entire line reduced to 146 miles. The engineer expresses the confident opinion that a perfectly accurate survey for location will reduce the distance to 143 miles, with fair ground to construct a railroad over, in easy grades. The maximum grade on the line run in 52 feet. In passing the Cumberland mountain at Elk Gap, the grade on the Kentucky side is 50 feet, and on the south, or Tennessee side, it is 34 feet. The entire line is represented as a very favorable one as to grades, curves, and magnitude of work. The cost of construction, it is confidently believed by the engineers, will range between \$20,000 and \$25,000 per mile. So much of the line being side cutting, right of way granted, timber, gravel, for ballast, and other material obtainable without charge, the work can be constructed at a low figure.—*Dandville Tribune*.

The company has been organized. An efficient board of directors has been elected, who have chosen Cyrenius Wall, Esq., President.

Alabama and Tennessee River Railroad.

We are gratified to learn that the energetic officers of this road, are shoving things along rapidly. The entire section of the road between Montevello and the Coosa river, is now under contract for the grading, and the work is being shoved on with great energy. The bridge over the Coosa will soon be completed. The grading beyond the river has been completed for some time past, to within the vicinity of Jacksonville. It is expected that contracts for laying the cross-ties and iron to Talladega, will soon be effected. Thus we see, as little as is said about it, that this great work is progressing finely. It is the earnest desire of all, to have the road in operation and the iron horse snorting in the town of Talladega, by the next 4th of July. Amen, say we.

Col. Philips, the President of the Company, and Col. Troost, the Chief Engineer, deserve great credit for the energy and determination they have evinced in sending the road forward. As soon as the road crosses the Coosa river, the business of the road will necessarily increase largely. The additional trade and business brought to Selma, will undoubtedly be largely beyond the expectations now made by many of

our business men.—All should entertain a lively interest for the progress and early completion of the road.—*State Sentinel.*

American Railroad Journal.

Saturday, August 27, 1853.

Covington and Lexington Railroad.

This work is making rapid and very satisfactory progress. The road is now opened about 28 miles from Covington, and regular freight and passenger trains have been put on for this distance. By the first of September the road will be completed some 20 miles further, to Falmouth the shire town of Pendleton county. At this point the center of a large trade will be reached. The grading of the road to this point is completed, and is nearly so to Cynthia, 64 miles from Covington. The entire work of grading is so far completed that the whole line will be in readiness for the rails as fast as they can be laid. This is being done at the rate of one half mile per day, and which will be continued, with good weather, till the road is completed. The cost of the work thus far is within the last estimates of the company.

New Orleans and Opelousas Railroad.

The \$1,250,000 of the bonds of the New Orleans, Opelousas and Great Western railroad company, which have been advertised for sale by bids to be received up to 15th September next have been withdrawn from the market. The agents of the company having negotiated \$500,000 of the bond sufficient for their present wants, with Messrs. Winslow, Lanier and Co.

The remainder will be held for the future action of the company.

Stock and Money Market.

There has been a marked improvement in the Stock Market since our last. Erie Railroad has advanced from 72½ to 75. Hudson River from 68 to 70. Reading from 82½ to 85. Other fancies not embraced in our last, also show a marked improvement. The Cumberland coal stock has advanced 4 per cent. Nicaragua Transit, nearly as much. All kinds of stocks are buoyant. Money is steadily becoming more abundant though the Banks continue to contract their loans. The new law in reference to Bank exhibits, will undoubtedly exert an excellent effect in securing a greater uniformity in their discounts and in confining them to a more legitimate business. The following statement will show the comparative condition of the Banks for the last two weeks.

	Aug. 13.	Aug. 20.	Decrease.
Loans.....	\$94,663,283	94,074,717	588,566
Specie.....	10,653,518	11,082,274	* 428,756
Circulation...	9,451,943	9,387,727	61,216
Deposits.....	57,451,504	57,307,223	144,280
Prop. Spec. 15 cts. 9 miles		16 cents 6 miles.	

* Increase.

Money is yet too tight to allow much demand for bonds. Orders that have to come out for a few weeks past could hardly be filled from the difficulty of selling bills. Exchange is now at a fraction under 100½. The increasing ease in the money market will bring up the rates and at the same time render the means of our Bankers available. We see no reason why money should not become abundant in Sept. and October with a good demand for Railroad securities.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Total cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for yr.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	100
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland..... "	72	876,141	800,000	2,180,000	133,328	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland..... "	20	283,747	311,100	713,605	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	108
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47
Northern	82	3,016,634	.....	.....	328,782	163,075	5	57
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	97
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,500	.....	.....	none	12
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	40
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	30
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	14½
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	101
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	98
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	650,001	338,215	7	105½
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	87
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	104
Fitchburg	66	3,540,000	112,305	3,623,073	574,574	232,787	6	99
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County	26	547,015	819,743	1,245,927	67,251	23,415	none	62
Old Colony	45	1,964,070	282,300	2,293,534	322,213	101,510	none	94
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	164
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	58½
Western	155	5,150,000	5,319,520	9,963,759	1,339,873	683,194	6½	99½
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	57½
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	125
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill. "	50	.....	.....	In progress	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	104
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	52½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progress	.....	.....	none	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progress	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Eric, (New York and Erie).... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	72½
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	69½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	57½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	32½
New York Central	504	22,858,600	2,111,824	.....	.....	.....	.....	115
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	28
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	287,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,000,000	.....	4,327,409	1,388,385	478,413	10	150
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	312,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	83
Philad., Wilmington and Balt. "	98	8,850,000	2,403,276	6,813,839	667,785	333,501	5	79½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip'm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	98
Philadelphia and Trenton..... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio..... Md.	381	9,183,300	9,827,123	19,542,307	1,325,563	615,384	7	62
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna..... "	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg..... "	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac..... "	76	1,000,000	503,006	1,531,238	254,376	113,256	7	105
South Side..... "	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee..... "	60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac..... "	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh..... N. C.	161	1,338,878	1,134,098	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina..... S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia..... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	122
Georgia..... "	211	4,000,000	1,214	.....	934,424	456,468	7½	.....
Macon and Western..... "	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	60	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River..... Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston..... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point..... "	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia..... Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga..... "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington..... Ky.	29	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington..... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort..... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh..... Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	96
Cleveland, Painesv. and Ash..... "	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus..... "	135	3,027,000	408,200	3,655,000	777,793	483,454	12	132
Columbus, Piqua and Indiana..... "	46	.....	.....	2,000,000	.....	.....	.....	98
Columbus and Lake Erie..... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton..... "	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	115
Cincinnati and Marietta..... "	.....	.....	.....	In prog.	.....	.....	.....	72
Dayton and Western..... "	40	310,000	550,000	925,000	.....	.....	.....	80
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	70
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	.....
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,370,784	.....	2,634,157	526,746	314,670	10	119
Mansfield and Sandusky..... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie..... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	97
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley..... "	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd..... "	87	552,000	800,000	1,317,140	.....	.....	.....	150
Xenia and Columbus..... "	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern..... "	131	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine..... "	83	.....	.....	.....	.....	.....	.....	103
Lawrenceburg and Ind..... "	.....	.....	.....	In prog.	.....	.....	.....	75
Lafayette and Indianapolis..... "	62	.....	.....	.....	.....	.....	.....	78
Madison and Indianapolis..... "	88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Peru and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	70
Terre Haute and Indianapolis..... "	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago..... "	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	.....
Illinois Central..... Ill.	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago..... "	92	1,932,361	500,000	In prog.	473,548	286,152	.....	124
Michigan Southern..... Mich.	815	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	128
Michigan Central..... "	282	4,000,000	4,067,396	8,514,193	.....	.....	8	108
Pacific..... Mo.	.....	.....	.....	.....	.....	.....	.....	.....

New Safety Brake.

We have heretofore expressed our opinion that under the present aspect of railway travelling, nothing like security can be expected, and that until a public feeling is aroused which shall force railroad owners and railroad directors into providing double tracks, signals and telegraphs, we must urge the best preventive against the results of collisions. If trains are to be run towards each other, upon a single track, until they are about to meet, the means should be had for stopping them instantly, as we believe the passengers would suffer less in the shock from the momentum of their own bodies than from the momentum of the trains.

It is in this view that safety brakes, safety buffers and similar preventives are desirable, and should be patronized by as high authorities as railroad superintendents, car builders, repairers, and inspectors. More effectual means, those which will remove the source of accidents, can only be adopted by those higher in authority.

We are led to these observations by an examination of a model of an invention, the property of J. G. Gilbert, 216 Pearl street, in this city, which we believe will be found to afford security from the results of collisions, run offs, etc.

Its ready application to the common form of passenger cars, its simplicity and cheapness, together with the confidence which its owners possess in regard to its efficiency and success, induce us to recommend it to superintendents and car builders as being well worthy of a fair and conclusive trial. It involves a principle which has been but seldom applied for arresting the motion of trains, and which but one trial would demonstrate to be valuable or otherwise.

Mississippi and Missouri Railroad.

We learn from the correspondence of the Davenport Bee, that Mr. Farnham Chief Engineer on the Mississippi and Missouri Railroad has made a contract with responsible parties to build the first division of this road from Davenport, to Iowa City. The entire amount of stock required was not raised on the route but substantial parties in Davenport have pledged it rather than have the work delayed. This great work is fairly under way. Every thing is now in such shape that the parties who have built more railroads within the last two years than any other company of men can say that it shall go through immediately. In one year the iron horse will run to Iowa City.

Coke.

We have been shown, says the Chicago Journal, a specimen of Coke, manufactured from Illinois coal, by Mr. James Watson, at Morris, which, to all appearances, and as far as its qualities have been tested, is equal to any in use in the country, —either the product of the mines and labor of this country, or the imported article.

Mr. Watson is an experienced gentleman in the business of converting coal into coke, as the samples he furnishes will bear ample testimony, and we trust that sufficient encouragement will be given him upon a fair trial, to introduce the material extensively, as an article of fuel for general use in the "Prairie Land."

Illinois, as it is well known, is one vast bituminous coal bed, and although the raw material is of excellent quality, it only needs a little rectifying to bring it still more generally into use—particularly in furnaces, and as food for the Iron Horse, as the animal darts across our prairies.

St. Louis and Iron Mountain Railroad.

The Board of Directors of this company recently appointed a committee to solicit a subscription from the city of St. Louis, which, if obtained to the extent of five thousand shares, will, it is expected, put the road under contract, and insure its completion at an early day.

The claims of this road upon the support of the people of St. Louis have been ably stated in a memorial from the soliciting committee to the city council. It will bring St. Louis in connection with the rich mineral regions of Washington, St. Francis and Madison counties, each of which boasts of deposits of iron unrivalled for richness and extent. The quality of the Missouri iron ore is probably unequalled except by the Lake Superior iron ore, while the two are the best known for purity, fineness, and for the cohesion and ductility of their manufactured products. For rails, boilers and steam engines, and for all the useful applications of iron, and for conversion into steel, these ores possess singular merits. Of the extent of the Iron Mountain and neighboring deposits we may judge from the estimate of some of the engineers charged with the surveys of the Iron Mountain railroad, by which it appears that there is sufficient ore in the Iron Mountain, above the level of its base, for the manufacture of one hundred and five millions of tons of iron, while the Pilot Knob, Shephard's Mountain, and the adjacent banks will probably furnish a greater quantity. This shows a supply of iron sufficient for the wants of the entire world for centuries, and lying within a space of seven miles, and within eighty miles of St. Louis. Fuel for the prosecution of the iron manufacture at St. Louis will soon be supplied in abundance by the railroads communicating with the Illinois Bluffs, and in a short time cannel coal from the Osage will be supplied by the Pacific railroad.

The demand for rails for railroad construction in the western States would employ a large number of rolling mills for many years. In Missouri alone 1000 miles of road are now building and proposed for construction, which will require 100,000 tons of rails.

St. Louis, in short, has the demand and the supply for the manufacture of railroad and other descriptions of iron. The capital necessary for its prosecution may be readily furnished by mutual subscription; fuel, labor, food and the other requisites are ready at hand for application, and we have no doubt that in a short time the business will be successfully prosecuted in St. Louis under an efficient organization, to such an extent that that city shall become a powerful competitor with Pittsburgh and Cincinnati, both in local and in distant markets.

Manufactures of machinery will also commence in St. Louis, for the equipment of roads, the permanent structures of which shall also be furnished from the products of Missouri materials and Missouri labor. Manufactures of machinery should follow the manufacture of the material, and from the greater value imparted by labor to the machine than to the ore, to the engine than to the rail, will more powerfully contribute to enrich the place where they are prosecuted. The employment of a high grade of mechanical labor enlarges the area of trade, increases the demand for works of utility and of taste, promotes instruction, and more directly advances the social position of the

seat of its operations. The prosecution of extensive manufactures of engines and cars at St. Louis will of itself afford direct support to a community of five thousand souls; and when it is recollected that the construction of engines requires the best qualities of materials, and that the cost of carrying engines from Boston to St. Louis is one thousand dollars each, we can easily distinguish the great advantages possessed by the last named city for their manufacture.

We are sure that if the people of St. Louis intend to benefit their city,—to make it a great source of supply,—and to thereby reap the value of the consequent attraction of capital, skill, trade and intelligence, they will devote themselves to the development of the great resources of their State, and by no better means can they start in this purpose than by placing themselves in direct connection, by the St. Louis and Iron Mountain Railroad, with the richest and most extensive deposits of the great useful mineral of the world.—We believe that the production and conversion of iron, and its exportation to the markets dependent upon external supply, will soon form a staple element in the business of St. Louis.

New way of Checking Railroad Baggage.

We learn that the following method of checking baggage, has recently been adopted with great satisfaction on two or three of the English railways:

When a train, say a down train, arrives at any particular station, a porter attends with a book. It contains tickets of stiff card board bound in the book. Each ticket is about three inches long and one inch wide. It is partly cut. So that two separate parts of it can be easily torn off. The tickets are numbered differently, but each of the three parts of a ticket has the same number. The outer part of the ticket has a loop of tape gummed to it. Suppose a person arrives at a station and is not going on by a train for an hour or two, or a day, and is desirous of leaving a carpet bag or a trunk at the station. He pays one penny, and in a moment the taped portion of a platform ticket is fastened to the handle of the carpet bag. This portion bears as has been already stated, a printed number also; the words "deposited at Winchester," or whatever the station might be, and likewise the words "for down train." Another portion of the ticket, with the same number as the last is torn off, and given to the owner of the carpet bag, to be presented at the station when the article is wanted. The words "for down train" are omitted on this portion. The portion of the ticket that is left in the book corresponds with that given to the passenger, and is a check on the money taker. The company then become responsible for the safety of the property. Luggage is divided into three classes—that for down train, up train and to be left till called for, and should be sorted into three different compartments at the station.—For each division there is a separate book of tickets. If a person were to find or steal a ticket, and apply for property, he would be instantly detected, because he would first have to say whether the luggage was for up or down train, or to be left till called for which he could not do unless he owned it.—There is no necessity for any address to be on the luggage. One penny per package per diem is charged for a platform ticket.

Great Western Railway.

The International Journal gives an account of the workshops of this company at Hamilton, and says the machine shops are erected, and depots and ware houses are being built, of a size calculated to astonish even those who had made the largest calculations as to Western progress. Besides the extensive buildings already up, there is now a machine shop and engine house in course of erection 145 by 156 feet, which will hold twelve locomotives besides the machinery necessary for repairing. Another building 450 by 84 feet is also going up.

The workshops are leased by Messrs. Brainard, Williams, Fisher & Co.

This is not only the largest workshop of the kind, but perhaps, the most extensive manufacturing establishment of any description in Western Canada. We cannot state precisely the number of hands employed, but some idea of the extent of the work may be arrived at, when we say that the daily consumption of iron is equal to three tons wrought, and about four tons of casting, and that the entire expenditure for materials and wages amounts to one thousand dollars a day. The number of men employed however, would convey but a very imperfect idea of the quantity of work produced, as the workshop exhibits the most efficient specimens of labor saving machines that we have ever witnessed. In fact the whole railroad car, ready for the painter and upholsterer, is entirely finished by machinery.

The whole machinery of the establishment, including forge-blasts, trip-hammers, drilling and cutting apparatus, turning lathes, saws, planes, etc., etc., is moved by a steam engine of some 40 horse power.

The number of cars of the various kinds which have already been put together, is about two hundred; and of these only 18 are passenger cars. These are each fifty feet in length, by about ten feet wide, and seven and a half feet high inside—and will be seated so as to accommodate 76 passengers comfortably. The inside is veneered with mahogany; and the drapery, cushioning, trimmings etc., are as gorgeous as could well be imagined; and from present appearances we may expect that the accommodation on the Great Western will be at least equal to any railroad accommodation in America. The workshops are the property of the railroad company, and are extensive and substantial stone buildings of superior workmanship, covered with slate, and must have been put up at a cost of several thousands of pounds. They are leased to Messrs. Brainard, Williams, Fisher & Co., we believe only for the period necessary to complete their present contract of 500 cars. The whole work, in all its branches is under the management of Mr. Foster, a gentleman who has had many years experience in conducting such works; and who from the order and regularity visible in the establishment, and the tasteful and substantial quality of the workmanship, is evidently, master of his profession.

A straight wharf or quay, extending fully half a mile eastward from the car factory and running parallel with the railroad, has been constructed in the bay, in an average of fourteen feet of water; and will afford every advantage of harborage and shipping to an extent not likely to be required by the present generation. In rear of this breast

work many acres of water are being filled up and converted into *terra firma*, upon which depots, store-houses, etc., are to be erected immediately; so that, in a few months, a large space of what was Burlington Bay, will have become the arena of busy, bustling mercantile and commercial life.

Conductor's Watches.

The most of the recent severe railroad accidents have disclosed the fact that *watches* are relied upon as primary means of safety. We know that a knowledge of time is especially *convenient* to the travelling public, and to railroad managers, inasmuch as it is the means of a mutual understanding between the carrier and the carried, by which the movements of the one can be ascertained, within reasonable limits, by the other. As standards for promptness on the part of both the trains and the passengers watches are *convenient* merely, but they should not in any respect be *essential* to safety. A train should set out only upon a road protected at every point, and should be as carefully signalled throughout its progress as if it were to be expected that draw-bridges, land slips, extra trains, cattle and other obstacles were awaiting the train upon every mile of the line. The impropriety, and really the criminal negligence, of entrusting a train of passengers to the necessarily imperfect structure and operations of a watch, is evident. It is only by an *assurance* that the track is clear, and not by a *confidence*, too often fatally misplaced, that railroad travelling may be made safe. Accidents from improper management are far more frequent than those from defective machinery, while the management of a road may be easier perfected than the materials used in its structure, and in that of its equipments. The qualities of a bar of iron or a wheel are hidden, and can be developed only by experiment: the progress of a train may be protected by an exercise of caution based upon exact and simple rules.

The idea that the correctness of a watch is essential to safety, should be abandoned. Its liability to derangement, resulting in irregularity or stoppage, makes it the most treacherous means of protection relied upon.

Consumption of Wood and Water in Locomotives.

C. C. DENNIS, Esq., Superintendent of the Buffalo and State Line railroad, has furnished us with the following results of experiments made upon an engine running upon that road.

The "Equinox" left State Line with the Night Express at 2 A. M., July 14th, 1858, with a train of three eight-wheel cars.

At the time of starting, 1660 gallons of water were in the tender, and two gauges of water in the boiler; 180 feet of wood were upon the tender, and the fire box was partly filled. The trip of 69 miles was made in 3 hours, without taking wood or water. On reaching Buffalo, 508 gallons of water and 82 feet of wood remained in the tender, showing a consumption by evaporation and leakage of 1152 gallons of water, equal to 16 5-7 gallons per mile; and 98 feet of wood, equal to 1 42-100 cubic feet per mile.

The "Equinox" was built by Rogers, Ketchum & Grosvenor, of Paterson, N. J., and has 14 1/2 in. cylinder, 22 inch stroke, and 6 feet drivers. The boiler contains 148 1/4 in. tubes, 11 feet long. The pressure of steam during the above named trip did

not exceed 70 lbs. This engine has an independent graduated variable cut-off, which cuts off the steam, generally, in running over the Buffalo and State Line road, at eight inches of a stroke of 22 inches. The Buffalo and State Line railroad has grades of 36 feet per mile.

Railroad Meetings in Arkansas.

We learn from the Little Rock True Democrat that large meetings of the citizens of several counties have been held, to arouse an interest in the construction of the Cairo and Fulton Railroad.

A mass meeting of the citizens of Rockport, July, 27th. Robert Stribling, Jr., in the chair, and D. A. Parker, Secretary, resolved that Hot Spring County ought to subscribe its share of the improvement fund in aid of the construction of the Cairo and Fulton road, and directed that their internal improvement commissioner should submit the same to their next County Court. It was deemed important also that the Governor should convene an extra session of the Legislature to dispose of the Cairo and Fulton grant of Lands.

A meeting at Dover on the 25th of July, W. A. Barker in the chair, and Robert Cunningham Secretary expressed, themselves in favor of the construction of the same road, and resolved that second in interest to the people of Arkansas is the construction of a branch, tapping the main road near Little Rock, and running on the north side of Arkansas river to Fort Smith. The internal improvement commissioner was also requested to petition the County Court for permission to subscribe \$20,000 in the Stock of Cairo and Fulton road conditioned upon its application to the construction of the Little Rock and Fort Smith branch.

A meeting of the citizens of Dallas County, at Princeton, July 25th, Dr. Wm. F. Smith, Chairman, and Joseph Gray, Esq. Secretary, also declared their full confidence in the success of the great road and promised their private subscriptions to their full ability, and requested the County Court to direct the disposal of the entire internal improvement fund of Dallas County in the Cairo and Fulton Railroad and its branches. An extra session of the Legislature was also strongly recommended.

York and Cumberland Railroad.

A correspondent of the Portland Argus says:—"We are happy to notice, as we do from the annual report of the President, Col. C. Q. Clapp, that this railroad, after suffering many reverses from 1849 to 1851, is now about to become as good paying stock as any railroad of its cost in Maine; and we think that the citizens of Cumberland and York Counties will find it for their advantage, no less than the advantage of business men in both counties, to subscribe to its stock and encourage its completion. For five months, the road has been extended and travelled to Saco river, and now has abundance of freight from that section.

The cost of construction thus far has not exceeded the estimates, and we look forward to its completion at an early day with pride and pleasure. It is gratifying to learn, that out of upwards of 6000 shares originally issued at fifty dollars per share, only 300 or thereabouts were sold by the company under its charter for delinquency of subscribers. These delinquencies occurred before the road had acquired the character for permanency and success that it now has. No stock, we

are informed, will be sold hereafter for non-payment of assessments, as no subscriber now manifests any reluctance in paying his assessments promptly, seeing that the road is now in a prosperous condition, under the direction of its active, straightforward and vigilant President.

At present, the York & Cumberland, and Kennebec depots are each erected on land made from the flats at Back Cove, under the orders of Col. Clapp; and some \$8,000 or \$9,000 is to be also appropriated to filling up the flats, and making additional land to accommodate the increasing business of this road."

A Gigantic Steamer.

Some time since we published a statement that an English company were building a steamer of 10,000 tons, at Glasgow, intended to ply between England and the United States. The "State of Maine" newspaper gives the following as her dimensions:

	Feet.
Length.....	678
Breadth.....	80
Out to out of wheel houses.....	120
Depth of hold from combings of main deck..	60
Power of engines.....	6000

Her deck presents an area of over 1 1/2 acres of surface.

This ship is being built by Scott Russell, Esq., the greatest naval architect of England, and is constructed in separate compartments, made water tight, so that in case of her bow or her stern breaking off, she would still be able to float in separate pieces.

It is also stated that Messrs. Peto and Betts, two of the contractors for the European and North American railway, are members of the "Eastern Steam Navigation Company," who are building this steamer, and that she will probably connect with the great railroad route at Halifax.

The above named also has the following speculations:

"All experience has tended to show that speed and steadiness have been attained in proportion to the increase of the size of a ship. The better opinion now is that 30 feet is the extreme depth of the highest ocean wave, and that a vessel drawing 32 feet of water, of a length of 600 feet or over, can ride the waves without being removed from a level. We have this opinion enforced upon our attention by several of the captains in the *Cunard* and the *Collins* lines.

Grand Trunk Railway of Canada

A gentleman connected with *Herapath's Railway Journal* has received a letter from Mr. Roney, the manager of the above railway, so well known and esteemed in the United Kingdom in connection with the English and Irish railways, and the Irish Exhibition. Speaking of America, he says:—

"I am greatly pleased and astonished with this country and her resources. We have no idea of their magnitude in England. Every man, from the highest to the lowest, is prosperous. None more so than my own humble countrymen (Mr. Roney is Irish;) and seeing what I do, my astonishment now is, not that so many have emigrated from Ireland, but that the whole of its peasant population had not quitted its shores forever.

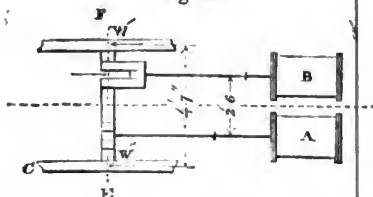
"Our Grand Trunk Railway and the branches that will flow into it, are going to have a wonderful effect in developing the powers of the country. The first section of the line opens through from Portland to Montreal, a distance of 292 miles, on the 18th instant" (July).

Balancing Locomotive Drivers.

FROM D. K. CLARK'S RAILWAY MACHINERY.
[Continued from page 539.]

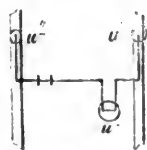
In the goods engine of the Caledonian railway, with cylinders 17×24 inches, and 6 four and a half feet coupled wheels, with the hind wheels behind the fire box, and arranged otherwise like De-rosne and Cail's engine, the disturbing masses are even greater than in this, and amount in some of the engines to 10½ cwt. for each cylinder. These engines are already partially balanced by counterweights amounting to 5½ cwt. on each side of the engine, and equivalent to about 6½ cwt. at the crank pin; but they are very unsteady laterally, and it would be difficult to place them in complete equilibrium.

Inside Cylinder Single Engines.—Let A B, fig. 15.



15, be the cylinders, C D, the wheels, and E F, the center line of the axle; if w be the disturbing weight for one cylinder, B, referred to the crank pin, it must be opposed by two weights, w' w'' , in the wheels D C, as shown in fig 16, on the same

Fig. 16.



side of the axle, and together equal to the weight w . Then $w = w' + w''$; and making H and h the distances apart of the cylinders and the wheels, as before, we have

$$\frac{1}{2}(h-H)w' = \frac{1}{2}(h+H)w''$$

whence, reasoning as before,

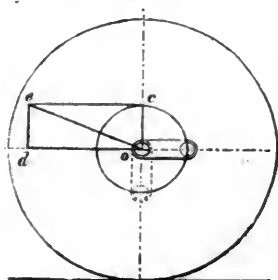
$$w' = \frac{h+H}{2h}w, \text{ and } w'' = \frac{h-H}{2h}w;$$

that is, as before, the near weight w' , is equal to the disturbing weight w ; multiplied by the sum of the widths of the cylinders and wheels, and divided by twice the width of the wheels; and the off weight w'' , is equal to w multiplied by the difference of the widths, and divided by twice the width of wheels.

Also, as before, the balance-weights, w' w'' , on the near and off wheels, are to each other as the sum and the difference of widths of the cylinders and the wheels.

Finding, in the same way, the balance weights for the other cylinder, we have in each wheel two weights equal to w' and w'' of which the greater is opposed to the near crank, and the less is at right angles to it, and opposed to the off crank, or just the reverse of the position for outside cylinders, as in fig. 17, showing the weights for the right hand wheel.

Fig. 17.



Inside Cylinders.—Diagram to find the counterweight in the wheel.

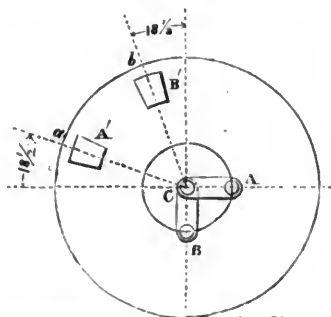
Here $o d, o c$, represent the elementary weights for the right hand crank; and the diagonal $o e$, the magnitude and direction of the resulting counterweight diverging from the off crank.

For example, let the total weight of the disturbing masses referred to the crank pin, be assumed at 540 lbs., the same as in the outside cylinder single engine already analyzed; the weights at each wheel are 407 lbs. and 133 lbs., and their resultant is 428 lbs. at an angle of $18\frac{1}{2}^\circ$ with the center line of the near crank.

The equivalent counterweight may be found arithmetically by extracting the square root of the sum of the squares of the elementary ones: thus the square root of the sum of the squares of $407 + 133 = 428$ lbs. Its direction also is found by setting off the line $o e$, at the inclination indicated by the ratio of the two weights: thus $407 : 133 = 3$; and the counterweight is placed in a direction diverging from the center line of the near crank, at the rate of 1 in 3.

To show the relative positions of the counterweights in one view, let A, B, fig 18 be the right

Fig. 18.



Inside Cylinders.—Relative positions of Counterweights in wheels.

and left hand cranks, in side elevation, respectively in horizontal and vertical positions; then the counterweight A' for the right hand wheel lies in the direction $c a$, at $18\frac{1}{2}^\circ$ from the center line $c a$, diverging from the crank B ; and the counterweight B' for the left hand wheel lies in the line $c b$, $18\frac{1}{2}^\circ$ from the center line $c b$. Thus the two counterweights, on the opposite sides of the engine, incline towards each other when seen in side elevation, and their directions $c a, c b$, form an angle of 53° or less than a right angle by as much as twice $18\frac{1}{2}^\circ$ or 37° .

The angle of divergence of the counterweight from the centre line of the crank, as found in the foregoing examples, is shown to be much greater, nearly three times, for inside cylinders than for outside: obviously on account of the more nearly equal action of the reciprocating weights of each cylinder upon the wheels, in the former case, and though inside cylinder engines are more stable laterally than outside, it is still of importance to apply counterweights, both to remove the fore and aft motions, and to reduce the internal wear of the mechanism.

Inside Cylinder Goods-Locomotives with coupled wheels.—Inside cylinder engines with coupled wheels, have always been remarkable for steadiness, as the cranks and coupling rods outside, balance approximately the pistons and connecting rods. The dimensions and relative positions of the inside and outside pieces, ought to be so combined as to balance correctly. As already pointed out for inside cylinders, the true direction of the counterweight from the center is not directly opposed to that of the crank, but at a considerable angle with its center line, dependent upon the relative widths apart of the wheels and cylinders, and such that in side elevation the two counterweights incline together; the outside cranks should then be set at the necessary angle to form a correct balance, and there is every freedom for doing so,

whether the crank be formed within the wheel, or separately, as the wheel or the crank may be set in any position on the axle.

When the outside cranks are longer than the inside, the weight of the coupling rods, as well as of the cranks must be referred to the inside crank pin, to find their equivalent balancing weight.

When the bearings are inside, the coupling rods lie close to the wheels, and may be supposed to move in the same plane with them. With outside bearings the overhung cranks and rods are so much wider than the wheels, that their extra leverage must be allowed for; and their equivalent weight at the wheels is found by multiplying their whole weight, for one side, referred to the inside crank pin, by the width apart of the outside rods, and dividing by the width apart of the wheels.

When only four wheels are coupled, the balance requires to be helped with a little extra counterweight in the wheels; it may also be raised by making the outside cranks longer. When 6 wheels are coupled, there is an excess of balance, which may be neutralized by a back counterweight to each wheel.

In the four coupled wheel engines made by Gouin for the Orleans railway, the total moving weight on each inside crank is 597 lbs., the wheels are four feet seven inches apart centres, and the cylinders 2 feet six inches apart. The moving weight to be balanced is found in the way already described, to be divided into 441 lbs., and 156 lbs. for each wheel on the driving axle, the resultant of which is 467 lbs. requiring to be balanced at an angle of $19\frac{1}{4}^\circ$ with the center line of the inside crank. To make a perfect balance it thus appears that the outside cranks, which are equal in length to the inside ones, should be keyed at an angle of 20° with the direction of the inside cranks, and that the weight of the outside cranks referred to the crank pin and the coupling rod should be 467 lbs., supposing, as we may, that they act in the plane of the wheel. In reality their slump weight is but 353 lbs. or 114 lbs., short, and it is exactly opposed to the inside cranks; nevertheless, as the disturbing action is so materially reduced, these engines run with remarkable steadiness even at 45 miles per hour, with five feet wheels.

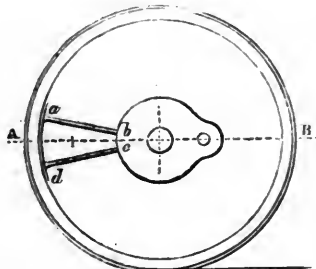
Crampton's Locomotives.—These engines are distinguished by the great length of their wheel base, which has in some examples been made 16 feet long, and in the Liverpool eighteen feet: also by the position of the driving axle behind the firebox, and by the great diameter of driving wheel, 7 to 8 feet. They are peculiarly steady at all speeds,—a result which is due jointly to their weight, the great distance apart of the axles—the leading and driving—which carry the greatest part of the weight, and by the reduced working velocity of the mechanism at given speeds on the rail.

In Crampton's engines the whole of the working gear is placed close under the eye of the driver. The center of gravity of the machine, also is placed very low; and this is a condition on which great stress has been laid, and to which much of the stability of the engine is attributed. The height of the center of gravity we regard as practically a matter of indifference, for we have found high pitched engines, in point of stability, a match for any that have come under our notice. The position of the driving wheels in the rear is, we believe the only tangible cause of the superior stability of those engines, as the unbalanced action of the reciprocating weights, operating at the extremity of the machine, is completely controlled by the mass in front of the axle. This is, however in our view, a very questionable mode of doing what can be done as directly, and certainly more rationally, by the method of counterweights; for the great length of the wheel base, well loaded at each end, acts severely on the permanent way, in the passage along curves. Everything that has been gained by this over ordinary engines in point of stability, can be met by means of placing them in balance; and it should not be forgotten that every engine, Crampton's included, should be fitted with counterweights, not merely because external stability is desirable, but also because the

internal forces which tend to wear down any engine at work, should be as completely neutralized as possible. We are not sure but that had the "long boiler" engine been fitted with suitable counterweights, it would have remained in favor until this day, for it had much to recommend it, in the moderated wheel base for the easy passage of curves, and in the facilities for extending the heating surface, and increasing its evaporating value per foot of area, even with the same size of firebox.

Of the Distribution and Calculation of Counterweights.—Counterweights, like the other revolving masses in the engine, are referred to the crank-pin, to find their equivalent balancing weight. As they are necessarily irregular in form, the following methods of finding the center of gravity are given:—

To find the Center of Gravity of a Counterweight in one Segment.—Let *A B*, fig 19, be the center



Driving Wheel and Counterweight in one Segment. line through the crank, of the driving wheel to be balanced and *a b c d* the space to be filled, between two spokes opposed to the crank, and reaching from the nave to the rim. This space, done to a larger scale, fig. 20, is bisected by the center line

Fig. 20.

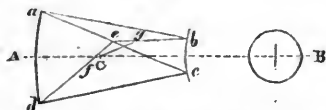
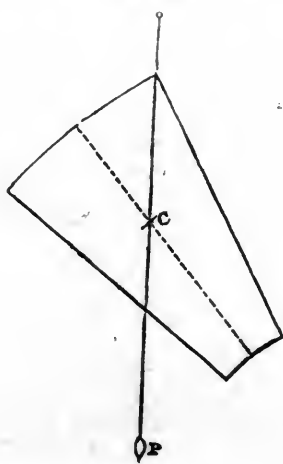


Diagram to find Center of Gravity of Counterweight.

A B. Draw *a c*, and bisect it at *e*; draw *d e* and *e b*, and set off on these lines one third of their lengths respectively, *e f* and *e g*; and draw *f g*. The point of intersection, *c*, of this line with the center line *A B*, is the center of gravity of the surface. So much for the geometrical process.

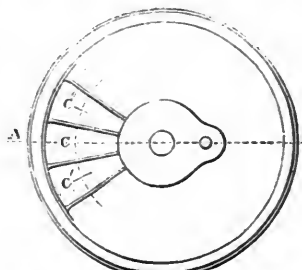
The center of gravity may be found also by cutting a templet of uniform thickness to the form of the surface, and freely suspending it by one of the corners, *a*, as in fig. 21; a plummet line *r*,

Fig. 21.



Mode of finding the Center of Gravity by Templet. dropped from the same point of suspension in front of the templet, will intersect the center line at the center of gravity, *c*. Reverting to fig 19, and setting off the center of gravity of the space *a c*, thus found, it stands at 22 inches from the center of the wheel.

2d. In Three Segments, fig. 22—Find the center of gravity.



Driving Wheel and Counterweights in three Segments.

tre of gravity *c* of one of the counterweights, as *a* above, through *c* strike an arc from the center of the wheel, and crossing the center lines of the other segments at their centres *c'*, *c''*, as shown more distinctly in fig 23; draw *c' c''* meeting *A B* at *d*, and set off *d e* one third of the interval *d c*. Then *e* is the common center of gravity of the three segments, and is 20.82, or 20 13-16 inches from the centre of the wheel.

3d. In two Segments, fig. 24.—This is required when the crank is opposed to a spoke as in the figure. Find the center of gravity *c*, of one segment as before, and by an arc find the other center *c'*; draw *c c'* cutting *A B* at *d*, the common center of gravity.

To be continued.

Saloon Cars.

The Albany Evening Journal gives a description of the new Saloon Cars making in Troy, for the Hudson River Railroad:—The "Saloon Car" is a most magnificent fixture—combining sociability and comfort to an extent never before approached in railroad arrangements. The body of the car is of the length and nearly a foot wider than those in ordinary use. It has a hall on the right hand side, about three feet wide, out of which four saloons open, capable of seating eight persons each, and one for four persons. In the larger saloons is a sofa, five chairs, a centre table and a magnificent mirror. The paneling is beautifully ornamented with landscape and other paintings; the windows and blinds are especially adapted for ventilation and for the exclusion of dust and cinders; and the whole is splendidly unique, neat and spacious. It is just what was needed for family and other parties, who, in their journeyings desire to be alone.

This "Saloon Car" will, we are quite sure be in great requisition. The fare will, of course, be more than in the ordinary cars, because it contains fewer seats. But those who can appreciate comfort, and have the means to pay for it, will cheerfully submit to the additional tax.

Independent of its novelty, the car (from the shop of Eaton and Gilbert, Troy) is a fine piece of mechanism. Only one is yet finished; but others are in progress, so, if required one can be attached to each train. And when they are so attached, we are confident they will be always filled. At all events, Mr. French, the superintendent of the Hudson River road, deserves the thanks of the travelling public for making the experiment.

East.

RAILROAD DEPOT FOR THE EASTERN AND LOWELL ROADS.—In the course of a week the work of constructing a new depot for the Eastern and Lowell railroad companies will be commenced. The building will occupy the entire square formed by Canal, Friend, Market and Traverse streets, being therefore very near the Boston and Maine depot. The entire length will be 322 feet, the width 146 feet, and the sides for a distance of 272 feet will be one story in height. The front, which, by the way, is on Market street, is to be three stories in height, and built of freestone. The rear part of the building will be of brick. The front will be 46 feet high, and the rear 41 feet. On the front of the building will be nine doors, and on either side, five doors and nine windows, which will be of Romanesque style of architecture. The roof will be constructed in a manner to admit the light on both sides, the entire length of the building. It will be of a different style from any other building in the city, and will combine strength, durability and beauty of architecture. The main part will be completed by the first of January next, but it is not probable that the building will be finished throughout until May or June next.

Northwestern Railway Company.

We learn from a late number of the Galena, Ill., Advertiser, that a railway company under this name was organized in that city lately for the purpose of building a road Northwestward, commencing at the mouth of the Tete des Morts, on the west bank of the Mississippi. The following officers were chosen:

Capt. H. H. Gear, of Galena, President; Hon. Ansel Briggs, of Iowa, Vice President; R. S. Morris, Esq., of Galena, Treasurer; J. E. R. Hooper, Esq., of Galena, Solicitor; G. M. Mitchell, Esq. of Galena, Secretary.

Directors—Henry Corwith, W. H. Bradley, E. B. Hooper, James Carter, S. W. McMaster, H. Newhall, Galena; Jona. Higgins, John D. Howard, Jos. Durge, J. G. Schaupp, Iowa.

Cleveland and St. Louis Railroad.

Two parties are in the field surveying the route of this road; one commencing at the Indiana State line in Mercer county, Ohio, and the other at the head of Walworth Run on the Cleveland, Columbus and Cincinnati railway. The party from Cleveland have progressed, we learn as far as Elyria, and have kept on a straight line entering that town a few hundred feet south of the Court House. The survey thus far is said to be very favorable, having light grades. The crossing of the valley of Rocky River is near General Mastics, at probably the most favorable point between its mouth and Berea. Explorations have been made from the Indiana State line to Lima, in Allen county; also from Elyria to Norwalk and the reports are favorable.—*Cleveland True Democrat*.

Drawing.

B. Blandowski, topographical and ornamental draughtsman and designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, and Zerah Colburn, Esqrs., Editors Railroad Journal, New York.

Address, care of Railroad Journal, 9 Spruce street New York.

Alton and Chicago Railroad.

Another division of the above road, ultimately destined to connect the waters of the Mississippi at Alton, with those of Lake Michigan at Chicago, by almost an air line, has been opened to the public. It extends from Springfield to Lincoln station, near the county seat of Logan county, and about midway between the State Capitol and the city of Bloomington. The country through which this portion of the road passes, is unsurpassed in fertility and productiveness by any in the state, and being thickly settled, with an enterprising and industrious population, this extension of the road will doubtless be followed by an immediate and very perceptible improvement in its traffic. A region of country is now being penetrated by this road, which has heretofore been almost entirely dependent upon the fickle tide of the Illinois river, as a means of securing the transportation of its surplus produce to market. Consequently, it has been almost deprived of the advantage of a market during a good portion of every year, owing to the obstructions of that stream by low water, and the consequent increase in the cost of carriage.

Belleville and Murphysboro Railroad.

The Belleville and Murphysboro Railroad Company was organized on the 16th inst. at the city of Belleville, by the election of the following officers: Col. Lorenzo P. Sanger, President; Casper Thiel, Secretary; W. W. Roman, Treasurer; W. H. Snyder, Solicitor; and Jno. A. Logan Commissioner for procuring the right of way.

This Road connects Belleville with the Central Illinois Road, and through the Belleville and Illinois town Road brings St. Louis also into the same connection. The survey of routes will be entered on immediately, and the work of construction will no doubt be prosecuted with vigor.

Canada.

Completion of the Richmond Railway.—We learn that it is more than probable the Richmond Railway will be completed before the winter sets in, and Quebec be thus in rapid communication with every great city on this continent. The road is made and the rails laid in many different places. Should the iron for the bridges and the requisite quantity of rails arrive in time, the road will undoubtedly be in traveling order by the middle of November.

Stanstead Railroad.

The friends of a railroad to connect Stanstead, Canada East, with the St. Lawrence Railroad at Montreal, and also with the Derby line, Vermont, assembled at Stanstead last week, Mr. Tirrell, M. P., presiding, and were addressed by Gov. Fairbanks of Vermont, N. B. Baker of Concord, N. H., Mr. Drummond, Attorney-General of Lower Canada, Engineer Hayward of Boston, Col. Yale, Geo. W. Kittredge of Newmarket, N. H., Messrs. Nesmith, of Franklin, N. H., Papin and Oselle of Montreal, President Quincy of the Concord and Montreal road, F. B. Fay of Chelsea, Mayor Low of Concord, N. H., and others. It was decided that the railroad should be built by the winter of 1854, and members of the City Council of Montreal expressed the opinion that the city would subscribe \$200,000 towards the project. The meeting adjourned to meet again when the road is completed.

Henderson and Nashville Railroad.

A contract has been concluded with the company which undertook the grading &c., for the road, to complete this whole work, including the purchase of iron, laying the rails, and building depots. The contractors furnish everything but the rolling stock, and have agreed to finish the road ready for use, for one-third in money, to take one-third of the stock themselves, and to take the remainder in bonds of the company at par.

Kennebec and Somerset Railroad.

The *Banner* says the contractors have commenced work upon the railroad bridge of the Kennebec and Somerset Railroad, crossing the Kennebec river at Augusta. It is to be built upon four piers, 175 feet apart, and running diagonally from shore to shore. The bridge is to be ready for the rails before winter.

Terre Haute and Alton Railroad.

Advices from Terre Haute give the most gratifying intelligence of the rapid progress of the above work. The bridge over the Wabash river is being pushed to completion with all possible dispatch. Sixty men and ten horses, sent from New York by Mr. Mattoon arrived at Terre Haute last week, and immediately joined those employed in grading the road westward towards Paris. A contract has just been closed with Mr. Seward, the energetic contractor at Hillsboro, for the grading of two additional sections, and he has now a large force at work on the road. A number of tracklayers have arrived.

Missouri--Pacific Railroad.

We are glad to learn that business of all kinds is daily increasing on the Pacific Railroad, live stock of different kinds is being brought in, and many articles of marketing, including, to-day, several barrels of fine Franklin county peaches.—The receipts, we understand, average about \$200 per day. Lumber is beginning to go out, for improvements on the line of the road—and signs of business are every where manifesting themselves. *St. Louis News.*

Locomotive Building.

We learn from the Cleveland Plaindealer that the Cuyahoga Works, at Ohio city, near Cleveland, Ohio, have now sent out no less than 28 superior locomotives, every one of which has reflected honor on their builders, and have been admired by all who have seen them.

The "Indiana," a new engine, started recently from Cleveland, for the Bellefontaine and Indiana railroad, where she is to run. The engine was built under the direction of Mr. Rogers, sup't. and has 16 inch cylinder, 20 inch stroke, and five feet wheel. Her construction has been much simplified and she is well worthy the title of the "model engine." We have no doubt the Indiana will meet every expectation of the B. & I. company.

The Manchester Mirror contains a list of the names of twenty four locomotives which have been completed and sent from Manchester since the middle of May. Most of them were for the Western Market.

Cleveland and Erie Railroad.

On the 11th inst., the following gentlemen were re-elected officers of this road:

Alfred Kelley, President; Wm. Case, vice-president; G. B. Ely, secretary; Parker Handy, treasurer.

We learn that the prospects of the road are most flattering.

Tenacity of Lake Superior Iron.

The Detroit Tribune says they have in their office a shaving cut from a cast iron shaft made of Lake Superior iron by Messrs. Johnson, Wayne & Co. of Detroit. In its present twisted state it is ten feet long, and if straight would be twenty feet. Though shaved from a cast iron shaft, as we have said, it possesses the tenacity, and we believe the malleability too, of the best wrought iron. Shavings taken from the ordinary kind of iron break of their own weight when a foot or two long. But this is almost as smooth and free from cracks as though it had been taken from a shaft of lead in the same way and is much tougher.

Memphis and Louisville Railroad.

The Memphis Eagle and Enquirer gives an encouraging account of the prospect for the construction of this road, in which, as a continuation of our connections in the south-west, Baltimore has a very direct interest. Col. Trezerant and Col. Topp, active and influential friends of the enterprise, were out on the route, and their success in securing numerous and important individual subscriptions, have more than met their expectations. The county in which Memphis is situated, has made a corporate subscription of \$300,000 to the road.

The Lake Erie, Wabash and St. Louis Railroad is being pushed forward with energy. A contract has recently been made for 10,000 tons of Winslow's Patent Compound Rail, for the road.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.
DAVID CHILLAR,
50 South 3rd Street,
Philadelphia.

May 1st, 1853.

SEYMOUR DRAPER, No. 46 Pine-st., offers for sale, a variety of RAILROAD BONDS and STOCKS; also CITY, TOWN and COUNTY BONDS, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	" 1861-71
7 per ct.—Columbus, Piqua and Indiana	" 1862
7 per ct.—Catawissa, Williamsport and Erie	" 1867
8 per ct.—Peoria and Oquawka	" 1863
6 per ct.—Mayville and Lexington	" 1870
6 per ct.—Dauphin and Susquehanna Coal Co.	" 1877
1st Mortgage Bonds:	
7 per ct.—Corning & Blossburg	" 1873
7 per ct.—Buffalo and New York City	" 1866
7 per ct.—Manassett and Sandusky	" 1860
7 per ct.—Toledo, Norwalk and Cleveland	" 1861
7 per ct.—Vermont Valley	" 1861
7 per ct.—New Jersey Central	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington	Troy, N. Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston	" 1864
7 per ct.—Muscoogee Railroad	Savannah, 1862
7 per ct.—Huron and Oxford	New York, 1862
10 per ct.—Manassett and Sandusky R. R. Co.	" 1855-67
7 per ct.—Township of Portland, Ohio	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	" 1861
10 per ct.—City of Keokuk, Iowa	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock	" 1866
7 per ct.—State of California	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	" 1855
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River	" 1862
Rutland and Whitehall Stock, with guarantee of 7 per cent. dividend by Saratoga and Washington Railroad.	
Stock in the Western Vermont R. R. Co.	
Stock in the Mad River R. R. Co.	
Stock in the Buffalo, Corning and New York R. R. Co.	
Stock in the Manassett and Sandusky R. R. Co.	
Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.	

Notice to Contractors.

PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile railroad, will be received at the Railroad Journal Office, New York, on the 1st of October next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 225 miles; commencing at Girard, in Russell County, on the west bank of the Chat-tahirchu river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.
GEO. S. RONEY, Chief Engineer.
Girard Railroad Office, 6th July, 1853.

Notice to Contractors.

ST. LOUIS AND IRON MOUNTAIN RAILROAD.

PROPOSALS will be received at the office of Company in St. Louis, Mo., for the Graduation, Masonry and Bridging of that portion of the St. Louis and Iron Mountain Railroad included between St. Louis and the Iron Mountain, or Pilot Knob, distance about 84 miles. The preliminary surveys and approximate locations are now complete, and the final location for construction in rapid progress, and may be closed by the 1st Sept. Meanwhile, profiles and plans, now ready, will, with examination of the country, give all necessary data.

The work on this road is heavy, including three tunnels, and much rock work and masonry, about 20 miles of the road, shows "side-hill" work, and the balance heavy through work. The Iron Mountain is 700 feet above the river at St. Louis; but two principal depressions are to be crossed before reaching that height. The country passed through is healthy and well watered.

Proposals will be received (by quantities) for the whole or a part of the road, but contracts will only be made with responsible parties. No contracts will be closed before the 15th of August, and no sooner thereafter than satisfactory offers are received from responsible parties. The road will hereafter be extended to the Arkansas line, to connect with the Cairo and Fulton road, and a branch to the Mississippi River, at Cairo or new Madrid, is also contemplated.

WM. M. PIPHERSON, Pres't.
THOS. S. O'SULLIVAN, Consulting Engineer.
J. H. MORLEY, Eng. in Charge.
4w. St. Louis, July 21, 1853.

BRANDS' LIQUID,

FOR DISSOLVING AND PREVENTING

INCURSTATIONS IN STEAM BOILERS.
It is acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel *gratis* to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents, Messrs. BOURRY & ROEDER, Consulting and Mechanical Engineers, 333 Broadway, N. Y.

Aug. 10, 1853.

N. York and N. Haven R. R.

NOTICE OF SUMMER ARRANGEMENTS,



Commencing Monday, May 9, 1853.

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.
New Haven, May, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:
EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.
NORTHERN INDIANA, I. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.
runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

GREAT WESTERN MAIL LINE.—SIXTY MILES DISTANCE SAVED, by taking the MICHIGAN SOUTHERN and NORTHERN INDIANA RAILROAD.—Through tickets for Chicago, St. Louis, Milwaukee, Racine, Kenosha, Waukegan, and Sheboygan, by New York and Erie Railroad via Dunkirk, and Buffalo and New York City Railroad; People's Line of Steamboats, Hudson River Railroad, via Buffalo, connecting at Buffalo with the splendid steamers EMPIRE STATE, J. WILSON, Commander, Mondays and Thursdays; SOUTHERN MICHIGAN, D. PERKINS, Commander, Wednesdays and Saturdays; NORTHERN INDIANA, I. T. PHEATT, Commander, Tuesdays and Fridays; leaving Buffalo every evening (Sundays excepted.) These steamers are low pressure, built expressly for the Lake trade, and for finish, speed, strength and safety, have no superiors anywhere.

The connections with the Express Trains at Toledo and Monroe, for Chicago and St. Louis, are perfect, and can be relied upon.

Forty hours from New York to Chicago. Time and money saved by taking this Line.

Passengers preferring it, can take the Lake Shore Railroad to Toledo, the Michigan Southern and Northern Indiana Railroad to Chicago, thence by the Rock Island Railroad to La Salle, forming the only continuous line of Railroad to the Illinois river. For through tickets or freight apply to

JOHN F. PORTER, Agent, 193 Broadway, cor. Dey st.

New York and Erie R. R.



PASSENGER TRAINS
leave Pier foot of Duane street,
as follows, viz:—

DAY EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. York City R. R., without change of baggage or cars; and also for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Susquehanna and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAT, at 3½ p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc. and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

\$1,000,000 Loan

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY 6 PER CENT FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW LANIER & Co.,
No. 53 Wall st., June 18, 1852

THE LITTLE MIAMI RAILROAD COMPANY offer for sale ONE MILLION of their SIX PER CENT BONDS, with Coupons, Interest and Principal payable in New York, the former half-yearly, 1st of November and 1st of May.

They are in sums of \$1,000 each, payable 1st of May, 1883.

These Bonds are issued under express authority of the Legislature of the State of Ohio; are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station houses, &c., up to this date, \$2,708,109 19.

This Company own stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also in the Hillsborough Road, to the amount of \$11,716.

The receipts of the Road have been as follows:
For the year ending—

December 1, 1844.....	\$18,632 26
December 1, 1845.....	46,327 58
December 1, 1846.....	116,052 02
December 1, 1847.....	221,139 52
December 1, 1848.....	280,085 78
December 1, 1849.....	321,398 82
December 1, 1850.....	405,597 24
December 1, 1851.....	487,845 89
December 1, 1852.....	526,746 35

The receipts from Dec. 1 to May 1, (last 5 months)..... 200,051 27
For the same time the year before.... 172,281 18

Increase in 5 months..... \$87,770 09

The position of this road being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia road, and runs in connection with the Cleveland and Columbus road, in fact they are now run as one line, greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of five per cent in 1851. In 1852 two cash dividends, each 10 per cent, were made.

The present surplus and reserved fund amounts to \$98,546 16.

The mortgage covers the entire line of road costing to date..... \$2,708,109 19
To be expended on double track, &c. 1,500,000 00

Value of security..... \$4,208,109 19

The security for the payment of these Bonds is of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the city of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. Lanier, Esq., of this city, in trust for the Bondholders, with ample power to take possession of the road, its real and personal estate, franchise &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. This mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

city of Cincinnati, and all other debts of the Company, except this loan of \$1,500,000.

SEALED PROPOSALS will be received for any sum not less than \$1,000, until Thursday, the 1st of September next, at 3 o'clock P. M.

Proposals will be addressed to WINSLOW, LANIER & Co., Agents of the Company, No 52 Wall st., New York, indorsed "Proposals for the Little Miami Railroad Bonds."

One-half the purchase money will be required to be paid at the time of accepting the bids, the residue in thirty and sixty days. Any purchaser will be at liberty to pay in full at once.

Interest on the Bonds will run from the day of payment.

The above \$1,000,000 will be sold absolutely and without reserve to the highest bidder.

For further information apply at our office.

WINSLOW, LANIER & Co.

Notice to Contractors.

BUFFALO & PITTSBURGH RAILROAD—Sealed proposals will be received at the Engineer's Office, in the city of Buffalo, until the first day of September next, for the graduation, masonry, and for the entire construction of the line of road, (about 20 miles,) between Ellicottville and the Pennsylvania State Line, in the valley of the Tunungwant.

Plans and Specifications will be ready for inspection at the office of the Engineer on and after the 20th day of August inst. The proposals may be made for the grading masonry, ties, fencing and entire construction in a single proposition, or for the same and all items separately and in independent propositions; and proposals as above for a single section or any number of sections will be received; the Company reserving the right to reject such propositions as are not satisfactory. Proposals will also be received in like manner, for the balance of the road from Ellicottville to the city of Buffalo, distance about 50 miles, up to the 20th day of September. Plans and specifications for which will be ready for examination at the office of the Engineer from and after the 10th day of Sept. next.

Any further information desired may be obtained by addressing Hon. Orlando Allen, President of the Company, Buffalo.

Proposals are invited from contractors of ability for the whole road. Buffalo, August 2, 1853.

au4t31 E. R. BLACKWELL, Chief Engineer.

To Contractors.

NORTHERN INDIANA RAILROAD.

SEALED PROPOSALS will be received at the Office of the Company in Toledo, Ohio, until the first day of September next, at noon, for grubbing and clearing, grading, bridging, superstructure and fencing of that section of the new line of said Road, from its junction with the Auburn and Eel River Railroad, to the town of Goshen, in Elkhart county, Ia., a distance of 51 miles. The line is divided into sections of about one mile containing from 7,000 to 65,000 yards of earthwork each, and in the aggregate about one million yards.—Proposals may be made for one or more sections. Maps and Profiles of the line, and plans and specifications of the work, may be examined at the office of the company in Toledo, on and after the 20th of August inst.

The directors reserve the right to accept or reject proposals, as they may deem the interests of the company to require.

J. H. SARGENT,
Asst. Chief Engineer.

Office of Nor. Ind. R. R. Co.,
Toledo, August 4th, 1853.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMullen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required. Office No. 25 Cliff street, New York.

Aug. 10, 1853. 3m



WHITE'S SUSPENSION BRIDGE, OF
WOOD OR IRON.

A Model may be seen at the office of CHARLES T. GRANGER, 80 Broad St. N. Y.

Length of span, anything short of 1,500 feet with perfect safety for every kind of travel. The above cut represents a Wooden Bridge with a roof. The arrangement for the Iron Bridge is such as to avoid all the bad effects of changes of Temperature. For a full description, see pamphlets; for further information, respecting models, rights, &c., apply, by letter or otherwise, to ANNE WHITE, or JOSEPH F. TRAYER, Proprietors, Cambridgeport, Mass. Office next door to the Athenaeum.

Notice to Contractors.



JEFFERSONVILLE RAILROAD.

SEALED Proposals will be received at the office of the Company at Jeffersonville, Indiana, until 10 o'clock, A. M., on Wednesday, the 7th day September, 1853, for the clearing, grading and bridging the road between Edinburg and Indianapolis.

Proposals may be made for sections, divisions, or the entire line, about 30 miles, payable in the 7 per cent mortgage bonds of the Company or part bonds and part cash, and also for payments entirely in cash.

The company reserves the right to accept such proposals as in their judgement will best secure the prompt construction of the road, and to reject all, if none are satisfactory.

The route traverses a fertile country, furnishing abundant supplies of all kinds, and the line is easy of access at all points.

Bidders will please give their post office address.

WILLIAM G. ARMSTRONG, President.

Jeffersonville, July 9, 1853.

Notice to Contractors.



THE UNDERSIGNED will receive proposals, at the railroad office in Indianapolis, to construct the Evansville, Indianapolis, and Cleveland Straight-Line Railroad from Evansville to Indianapolis. The proposals will be for the whole line, 150 miles, more or less, or for either of the three sections of about 50 miles each. First from Evansville to the crossings of the Ohio, and Mississippi railroad in Davise's Co.; second, from that point to Spencer, Owen county; Third, from that point to Indianapolis. The bid will be for the whole work the company finding the iron, chairs, and spikes, up to the rolling machinery, or for the earth and rock-work alone. The proposal will state what part of the pay will be received in real estate, bonds, and stock of the company.

O. H. SMITH, President.

WILLARD CARPENTER, Vice President.

Augt. 13, 1853.

Railroad Spikes.

THE Subscribers are manufacturing Railroad Spikes with SWETT'S Patent Improved Machines; and are prepared to execute orders for any quantity, on the most favorable terms. These Spikes are made of the best quality of iron, and, for shape and finish, are superior to any others. Railroad companies and others in want are respectfully solicited to order a sample before purchasing elsewhere. All orders will receive prompt attention. SWETT, ELLIOT & CO.

Pittsburgh, Pa., August 25, 1853.

OFFICE CINCINNATI, HAMILTON and DAYTON Railroad Company.—Cincinnati, Aug. 9th, 1853.—The directors of this company have this day declared a dividend of five per cent. on their capital stock, payable to the stockholders registered in Cincinnati on demand, and to those registered in New York, on and after the 25th inst., at the office of the Ohio Life Insurance and Trust Company, in New York.

1m. FRANK S. BOND, Sec'y.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 36.]

SATURDAY, SEPTEMBER 3, 1853.

[WHOLE No. 907, VOL. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, September 3, 1853.

Are we Building too many Railroads?

In estimating the future demands of our railroads, for the purpose of making some calculation as to the probable amount of money that will be annually required, we must not lose sight of the wants of our roads in operation. We call these completed, and are apt to overlook the large sums for which they are constantly calling, for new improvements, for double tracks, for increased equipment, for repairs, etc., etc. The regular calls for these objects are very large, and with the rapid progress of our roads, add very largely to their aggregate requirements.

The ultimate cost of a road will be pretty accurately measured by the amount of its future business. This is not only confirmed by experience, but is in fact a necessary law. There is a limit to their profits, and this limit is the standard value of money in the community where they are situated. Money invested in our railroads, cannot

on an average, yield a greater return than an equal amount well invested in other enterprises. The reasons for this we have explained in previous numbers of the *Journal*. Where a road, therefore, has a very large business, its cost will be found to bear a regular proportion to its income. The greater the business, the greater the outlay required: so that a road having \$500,000 net earnings, very likely will not be able to declare a larger dividend, than when its net earnings were only half this sum. That such is the case, the experience of our oldest roads proves. It is well known that though the incomes of many of them have increased very rapidly, they have hardly been able to keep up their former rates of dividends—their capital account, to meet the additional business, increasing in equal ratio.

We state these things, not as objections to investments in railroads, but for the purpose of letting our people see how rapid must be the increase of the cost of our roads in operation; and how large and steady must be the calls for such. It is not only for three or four thousand miles which are annually constructing, that we must provide, but for the wants of fifteen thousand, which are, as we term them, *completed*, many of which are increasing their capital account faster than when first in process of construction. Take the case of our most profitable western railroads. The Cleveland and Columbus, the Little Miami, the Madison and Indianapolis, the two Michigan roads, and the Chicago and Galena; all of them with one exception, perhaps, are expending money in construction faster than at any other period in their history, for improvements which they must carry out, and which will probably add to the incomes and value of the stock of each road. When our roads are first opened, they are equal to the transaction of only a small amount of business. As this business increases, additional outlays are required to meet it: more fixtures, more equipment, more accommodations of all kinds; a greater extent of sidings, and often double tracks. Branch roads, or extensions of the original line are often believed to be expedient, so that with all the calls made for the objects enumerated, the growth of the capital account of a railroad is about as regular and steady after a road is completed, as when in progress.

Although the general correctness of the facts stated will not be questioned, yet it may be insisted that the progress of our railroads create the means necessary to meet their future demand; so that no matter how great these are, they are supplied as fast as they arise. This is true in one sense, but the assumption is not practically correct in its application. We will suppose that \$75,000,000 have been expended upon railroads in Ohio. Now, there is no doubt that this expenditure has added more than four times its amount to the aggregate value of the property of the State. The *market*, or *real*, value of the property of the State has been increased to this extent by the construction of railroads. There is no doubt that a much larger sum than the interest on the whole investment is annually saved to the people of the State by the reduced cost of transportation. But where does this saving go to? Not into railroads; at least only a small portion of it. The people of Ohio are growing rich, but they will not use this wealth in purchasing the bonds of the Little Miami railroad now offered, than which, nothing can be more safe as an investment for capital. They can turn their means to better account. No sooner is a railroad constructed, than the attention of the whole community is turned to the development of the resources which it has made available. One person sets at work to improve a water power; another, a coal mine; another will erect works to turn a bed of iron ore to account. The reduction of the forest into timber for domestic uses, will engage the attention and capital of a fourth. Various kinds of manufacturing establishments will be started to meet the increased means of the community to purchase. Agriculture has received a new stimulus. New lands are brought under cultivation, and a general improvement in the mode of culture will require an increased outlay. In such ways are the increased means of the country entirely employed, so that, in fact, the value of money in Ohio, from the increased opportunities for investment, notwithstanding the vast and unexampled increase of property, is greater now than it was ten years ago.

What is true of Ohio, is true of every State in the Union; so that railroads, instead of making money less valuable, has a direct tendency of making it more so; of increasing the demand, and

of raising the rates of interest. It is for these reasons that so few railroad securities are taken in the interior. It is not because there is no money, but because it can be much more profitably invested in the ways stated, than in the purchase of railroad securities at the rates they are selling.

It therefore becomes an important question, whether we can build all the roads that our people believe to be necessary, and make all the necessary improvements on the old, and at the same time employ so large a portion of our means in enterprises to which the railroads themselves give birth? In the United States, only the people of the eastern states, which are now densely settled, and where opportunities for profitable employment are comparatively few, invest to any considerable extent in the stocks and securities of railroads. For the reasons stated, the communities in which these works are in progress, will not invest in them. They will take stock in the outset, as a necessary condition of securing the road, but their object is the road, and not the income which the stock may yield. They will be likely to dispose of it the first opportunity, not because it is not valuable, but because they want all their means for other things. The eastern people who cannot share in the incidental advantages of railroads invest directly in their stocks and securities, as do foreigners for a similar reason. It is these parties that must furnish the means to carry forward our works. Can they, and will they furnish a sufficient sum to carry out all the schemes we have projected, and at the same time give us all we want for our roads in progress and operation, allowing our own people at the same time to employ a large portion of the domestic means of the country to be applied to the development of its resources, and to the prosecution of those enterprises which the railroad calls into existence? This question can be better answered by persons familiar with the dispositions of European capitalists to invest in our roads. A very large proportion of our domestic surplus capital goes into them. They are favorite objects for investment, and the general prosperity which prevails leaves annually a very large surplus for this purpose. Still our domestic means are not sufficient to carry forward all our undertakings, without large supplies of money from abroad. It is by the aid of foreign capital that our extraordinary success has in part been due. But we cannot expect, nor in fact should we desire to see a very rapid increase in the regular volume that has been steadily flowing in upon us from abroad. It is better for us that foreigners should observe extreme caution in their purchases. An injudicious investment, though the purchaser alone might be in fault, might prove a serious injury because the result would be taken as a principle rather than as fact, and might influence a class, when only one person suffered. So too, it is much better for us to proceed with an uniform and regular, though with what may seem to be a slow pace, for it is quite certain that our progress under any circumstances will be quite as rapid as in a healthy growth. We must have in mind too, that in this country we can only see tendencies and not results. Everything is so new. The state and organization of society is so different from every other, that precedents may throw little light upon our course. By proceeding slowly we can each day use to a certain extent, the result of the pre-

ceding, and in this way make the greater haste though with less apparent speed.

An application of these views, would, we think postpone numerous projects now urged upon the public attention. We need not so much discuss their merits as to say that at present there is not sufficient means to execute them. Our means are very likely to exceed our estimates, but the calls upon them are likely to be greater. The cost of our roads is yet a problem. It is easy to see that the wants of our old companies will be very large and that with the security which they have offered, the new projects will have to postpone their claims till the former are supplied. Under this state of things our conviction is, that money for new projects will be had with much less ease for the coming, than for the past year. The means of our people, fast as they are increasing, are not so rapidly as are the opportunities for profitable investment; and it is certain that we cannot expect any extraordinary increase in the supplies we are receiving from abroad. Capital is daily becoming more in demand in England, to meet the stimulus communicated to every department of business in that country. The continent to be sure is our best customer, but we shall be entirely satisfied, if with the present aspect of affairs, the aid that we have been accustomed to receive from that quarter is not diminished. With all these facts in view, it is certainly the dictate of prudence for our companies whose roads are in progress or in operation, to avoid assuming new liabilities, to control their operations as far as practicable, to adopt the most rigid economy in all their expenditures; and for those engaged in getting up and maturing new schemes, either to prepare the most solid foundation for the loans they may be compelled to make, or to postpone their projects till they can see clearly their path to success.

We make these remarks with a full conviction of the general soundness of our railroad system. What we have done has been well done. The success of our roads has vindicated the correctness of all the representations that have been made by those having them in charge. At home, they have promoted the prosperity of the country in an extraordinary degree. We have done much better by foreigners, who have invested in them, than we contracted to do. We have no doubt that the whole foreign investment in railroads in the United States, at the present market quotations, are at 10 per cent in advance of the actual cost. Let us now not spoil a good thing by overdoing it, nor lose neither among our domestic, nor foreign capitalists, the immense moral strength which the success of our railroads has secured. The 15,000 miles of road which we have constructed, is only a beginning of what is before us. We shall not stop till we have five times this extent of line. The future, therefore, is more important to us than the past or present, and we should do nothing to disable us to successfully meet and discharge its demands.

Lexington and Big Sandy Railroad.

The *Cynthiana News* says that Professor Mather, late State Geologist of Ohio, has just completed a geological survey of the country along the line of this road. He reports immense beds of iron and coal adjacent to the road, and expresses the opinion that coal can be shipped on it at three cents per bushel, at a good profit to the miner.

Robert Stephenson Esq., on Railway Competition.

A dinner was recently given in Montreal, Canada, to the Hon. Robert Stephenson, the distinguished Engineer, who is now in this country in connection with the Grand Trunk Line of Railroad. We give such part of his speech as will be of particular interest to our readers. In reply to a complimentary notice by the Chairman, Hon. P. McGill, Mr. Stephenson replied as follows:—

He had come to Canada upon a professional visit, and from what he had seen of the country, he was convinced that the present was but the commencement of a great railway system, and he ventured to express his sincere desire, that Canada should avoid those errors in producing the system which other countries had committed with theirs. Canada was yet only on the threshold and the proper laying out of the plan, he thought of as much importance as the introduction of railroads themselves. He hoped that the legislature of this country would not do as those of some countries had done; for although there were difficulties in the way, yet here it appeared to him they were principally those of legislation. Canada, at present had no occupied field before her, and much would depend upon the first step. If it were taken with judgment, other difficulties would be of comparatively little importance. If it were taken judiciously, what seemed but a speck in the West, might become a thunder cloud. The dangers might not be apparent to Canadians at present, but before he sat down he would endeavor to make us sensible of them. He had seen the rise and progress of railways in England, and those who had not could hardly appreciate the enormous losses occasioned by false legislation. Few, indeed, knew the rise and progress of the legislation with respect to them. He would occupy a few minutes in pointing out what these errors were, and what course to take to avoid them. He was incapable of oratory, but, having been mixed up with railway contentions for twenty years, he thought he could teach them how to avoid them.

The people then became sensible of the immense advantages of the railway horse, and the question assumed a new phase. Then all places rushed in to railway speculations. The country was tolerably well filled up with railway lines. Competition arose within the walls of Parliament, not for interest but for vanity.

Here Mr. Stephenson went into the history of several railway struggles, and stated that the committees in Parliament took into their consideration, not who was right or who was wrong, but entered upon questions entirely subsidiary, not at all connected with the profit of the lines, or the necessity of making them. The consequence was, that committees sometimes decided upon different lines upon reasons entirely apart from their real merits, or the scientific questions involved in the details. There was one district through which it was proposed to run two lines, and there was no other difficulty between them than the simple rivalry, that, if one got a charter, the other might also. But here, where the Committee might have given both, they gave neither. In another instance, two lines were projected through a barren country, and the Committee gave the one which afforded the least accommodation to the public. In another, where a line was to be run merely to shorten the time by a few minutes, leading through a mountainous country, the Committee gave both; so that, the Committee might have given both, they gave neither;—and where they should have given neither, they gave both. Such a species of legislation was faulty, and he hoped it would not be imitated in this country. There was, indeed, a Committee sitting in England, the attention of which he had called to these facts. After lines were granted, the competition which began within the walls of Parliament continued when the lines

came to be put in operation. People said it was necessary to have competition for the benefit of the public, that the whole country would be under the dominion of a Railway Corporation, and competition was the only means of checking it, and preserving moderate prices. Well, he could say, upon the authority of the Board of Trade, and from his own knowledge that, since competing lines commenced, out of 300 millions of pounds expended 60 had been wasted; that is, in duplicate lines. But in order to mark the inconsistency of the proceedings in railway legislation, when the London and Birmingham was asked for, the feasibility of the route was doubted, great difficulties were suggested as being in the way. Engineers were called in to decide every thing in opposition to it; the estimates were disputed and doubted, it was maintained that the company ought to prove the traffic that was to go over it, and that 6 or 8 percent. was to be obtained upon the money invested, in fact a most paternal part was taken in the project. Before Parliament granted the charter, before the people were allowed to expend their own money, they were here asked to prove the traffic and the profit, and show a regular contract to establish, that the work was to be done within the estimate. The people clamoured for competition, and Parliament granted the expenditure of two capitals.

At that time it was believed that competition would compel them to carry passengers almost for nothing. But what was the result? The opulent were struck down and the poor were reduced to penury. Nothing but the resources of British commerce could have sustained such a shock. These serious evils of legislation it might be difficult to escape from in England, but they should be weighed well before they were brought into Canada, either by the present or any future government. It was said that all was right, the public gained what the proprietors lost. But the public had not gained. Capital was absorbed and diverted from other profitable employment.—Lines had been located which never would have been built had a directing genius presided over the chartering of them; and he did not envy the man who could glory at one part of the community prospering by the ruin of another. This error had been most disastrous in his country, and he hoped it would not be committed here. Competition never answered a beneficial purpose. Competition like poverty was the mother of invention; and when things came to the lowest ebb, the remedy was in amalgamation. In no instance had it occurred that amalgamation had not reduced charges. Mr. Stephenson then referred generally to the expense of working short lines, and the necessity of extinguishing them by amalgamation, and mentioned an instance, where, including water communications, there were five competing lines. The result from competition was, that they laid their heads together and raised tolls to the highest; but here, where there was no competition, nothing was to be done but to develop our resources, and make the profits highest. Mr. S. then referred to foreign countries. First of all to Belgium, which had employed one or two men to lay out the country so as to obtain the greatest amount of accommodation with the least expenditure of money. The speed obtained was not perhaps so great as that attained in England; but it will bear comparison with that in any other country. The minor points of the country were filled up according to the original design, and all conducted with economy. In France no lines were allowed to be made unless they were called for and made part of a great system. France was slow, but bore comparison with Great Britain, for there competition had marred the whole scheme. Switzerland was a collection of several cantons, each preferring its own interests as to gauge, and building without reference to the whole. They decided to send to England for an engineer to design for them a network of railways, and he (Mr. S.) had had the honor to be called in, and had assisted in designing their railways from end to end, and capital was now flowing in, satisfied because there was no rival

lines, and there was no doubt of their completion. He then said that Canadians wanted English capital, and advised them to be guarded in the system they should adopt, especially in regard to reckless competition. He would for himself hesitate to recommend to his friends in England to invest their money in railways here, if reckless competition were allowed, for nothing but loss and confusion would result. Belgium, France and Switzerland all possessed great advantages over England in having no rival lines, and in having laid out their main lines for the benefit of the whole country, rather than allowing to any town or any portion of the country a preponderating voice in their location. They had established from end to end of their country a system in harmony with itself. They could not prevent portions of the country having their railways, but they were so small, as not to interfere with the great design. It was the interest of the whole country that was involved, not that of individuals nor of particular localities.

Canadians ought to have a system which would work in all harmony. What was to be gained by ruinous competition? If passions and interests were brought into play, nothing could result but destruction of property and loss of life too.

It strikes us that Mr. Stephenson much better appreciates the evils of competition, than understands the remedy for them. He shows to a demonstration, that a legislature is incompetent to properly regulate and control this matter of competition, and at the same time he appears to look to legislation only for the remedy. He appeals to the Canadian government not to imitate the follies of the Imperial Parliament, forgetting that their mistakes come from an inherent inability in all parliaments to successfully execute or manage works of a purely commercial character. In the first place, members of a legislature may be entirely ignorant upon a subject upon which they may be called upon to act. They will in all cases be wanting in that instinctive sagacity which springs only from a direct interest in the result. To constitute a legislative body the umpire in cases of dispute to determine the proper route of a road, is to select the most incompetent one possible, to say nothing of the great probability that their discussion may be influenced by improper motives. Why do "*Parliamentary expenses*" amount to \$10,000 per mile with some of the more important English roads? This sum surely is not expended for the sole purpose of enlightening the public mind upon the real merits of the project, but for the purpose of securing what were believed to be certain special privileges! In other words, the charters of many of the English roads were bought outright. Now when the legislature retains in its hands the authority to grant railroad charters, the largest purse will be sure to win, whether the contest be before a British, Canadian, or American legislature. The weaker must submit to the stronger whether right or wrong. This is legislation, and this is history all the world over. Wherever we find the most direct legislation, do we find the construction of railroads carried to the greatest excess, and the greatest losses by mismanagement and imprudence. Just look at history in these matters. A railroad company get a charter which confers special, or extraordinary, privileges, not possessed by any other body of men. The consequence is that the former construct their road upon a route that suits themselves, without reference to the wants or interest of others, or the community; or without any broad or comprehensive plan dictated by a wise self in-

terest. "If we commit mistakes," say they, "others cannot take advantage of them to our disadvantage." In laying out their road, therefore, they will, nine cases in ten, commit the gravest errors. These are soon seen, and another company starts up, applies for a charter for the purpose of correcting them, and of extending the advantages of railroad to districts not accommodated by the first road. Any second concession the first company opposes, and the legislature immediately becomes the arena of a heated partisan warfare; both parties taking every course, and using every means that promise to gain them the victory. In this way all the companies that have secured charters invariably make common cause against all seeking similar privileges, and it frequently happens that such companies are strong enough to control, for a time, a legislatures which in this way become the agent of an unprincipled and factious monopoly, and the instrument of the grossest outrages on popular rights. But the outsiders having right on their side, by dint of perseverance carry their points, one after another, and exasperated by the opposition they have met with, they build their proposed roads, whether they promise to be profitable or not, as much to injure their opponents and to gratify a grudge, as to benefit themselves. So we have one road after another, all rivals of each other, and all of them built without any well considered plan, adapting them to promote the highest good on the community, and without any reference to their probable success, as investments of capital.

Such are the results of special legislation upon the subject of railroads. We need not go to England for pregnant illustrations of the correctness of our remarks. In the United States we have plenty of special legislation, and are now fast applying the remedy, by divorcing government from all connection with railroads, leaving the questions of route, mode of construction and management, entirely in private hands. The laws of New York, which are fast being imitated by other states, authorized any body of men to associate for the construction of a railroad, and upon the observance of certain formalities gives them the required authority for this purpose. All this is done by a general law. A party may organize to-day for the purpose of constructing a railroad to Albany along side of the Hudson river road, if they choose. A dozen roads may be built along the same route if fools enough can be found to build them. In this country we do not give the monopoly of route to any party. This may seem strange doctrine to an Englishman. "What" says he "if I put my money into a railroad, can another party come and build another railroad immediately alongside the one I have stock in, and thus render it worthless?" Certainly; and what he regards as threatening the greatest danger, constitutes his real security, for the reason, that when a company know that every mistake they commit will certainly be corrected by a subsequent project, they will be very careful to secure to themselves the strongest of all monopolies; that resulting from the choice of the best route, and a properly constructed and well managed road. Had they special privileges they would rely upon such, and feel indifferent to secure those advantages upon which the safety of all investments in the end, must rest. Would ship building go on so successfully did government presume to de-

cide upon the model, the number of ships to be built, or the routes which they should pursue; or would farming prove equally profitable were the number of acres to be planted, the mode of tillage, or the variety of products to be raised, made to depend upon a *decree* of a government? It does not take long to answer such questions, and it should take no longer to decide that the building of railroads should be as open to competition as is any other branch of industry. Let these works take care of themselves. If people build too many ships one year, they build less next. Private interest will see and correct the error, ten times as quick as will a blind and stupid legislature.

Mr. Stephenson brings all his illustrations from Europe, overlooking the most appropriate one to his subject, the success of the railroads of the United States, most of which have been built under perfect freedom of legislation. The entire investment in railroads in the United States, could it be sold at its market price, would command a premium on its cost. We have been the only people who have made their roads desirable subjects for the investment of capital, in addition to the incidental advantages we have secured. Why not make use of these facts, to draw from it the lesson they teach.

To our mind, Mr. Stephenson entirely misconceives the dangers to which the Canadas are exposed. 'Tis not the construction of competing lines, but being governed by political rather than commercial considerations in the selection of routes for their roads. What have the Canadas been trying to do for years past? why, build a political road from Montreal, by way of Quebec and Gaspe, to Halifax. Now there is not a person experienced in railroads in this country, that would give it as his opinion, that a road from Trois Pistoles to Miramichi, some 200 miles, would yield sufficient income to pay for the fuel burned in the locomotives. This scheme failed because the Home government had too much good sense to sanction it. Yet the Canadian government, Mr. Hincks assures us, are still determined to carry out their scheme. Should they succeed, and should it be adopted as a part of the *Grand Trunk* line, it would inevitably ruin the stock of the whole.—Here, then, is a field for Mr. Stephenson's labors, and one in which he can do a vast deal of good; and in the Utopian scheme of attempting to carry a railroad over the desert country of Canada and New Brunswick, let him draw another illustration of the incompetency of government to act wisely in such matters, as determining the route, mode of construction, or managing of a railroad.

There can be no doubt that the most certain way to avoid the evils of competition in such countries as the United States and Great Britain is to throw wide open the door to railroad construction, and let railroad companies understand in the outset, that they can expect no protection from government for the blunders they may commit.—When no such protection is expected, but few blunders will be committed. When people are left free to act in accordance with their own judgments, they will not waste their money in railroads, any sooner than in any other business, and should railroads be built in advance of the wants of the country, a reaction, which is sure to take place, will soon cure the evil. We are much safer

against excess, where the right of construction is open to all, than where it is granted as a particular favor, by a special act of the legislature.

South-Western Railroad Extension.

We learn from the *Georgian* that at the meeting of the directors of the South-western railroad, held at Macon on the 11th inst., it was voted unanimously to extend the road the distance of about 35 miles beyond Americus, provided planters and others along the line of the proposed extension will furnish two-fifths of the estimated cost of the work. Two-fifths will be 225,000 00 dollars, according to the estimates. The extension will be in a right line through the 12th district of Lee, and the 4th of Randolph, into the 3d of Baker county, striking the boundary of the latter at a point nearly midway between Albany and Fort Gaines.—The survey is to be made immediately. We are informed that there is not the slightest doubt that the planters will subscribe the amount required of them.

The road from Oglethorpe to Americus has been for months under contract, and the work is in a state of vigorous prosecution. When the extension now contemplated is completed, it can hardly be doubted that Savannah will command all the cotton grown in the highly productive region embraced between the Chattahoochee and Flint rivers. The crop of that section, already large, will be greatly augmented under the stimulating influences of increased facilities for reaching the markets of the world.

Cattawissa Railroad.

The workmen are now engaged in laying down the iron on the Cattawissa road. The road is nearly or quite all graded to Tamaqua, and the bridges over ravines and creeks in the Cattawissa Valley, will be completed this summer.

Railroad Management.

The great means of safety in railroad travelling are found in a good construction of roads and machinery, and in a guarded and prudential system of management. These requisites must not, and need not, however, interfere with the capacity or velocity of the trains. The inducements of travelling by railroad are to travel safely, and to travel quickly. In fact the sentiment of the age is in favor of high speeds, and there are more who would trust themselves to the certainty of speed, and the chances of accident, than the chances of speed and certainty of safety.

Our railroads are now too important in their operations and directly affect the convenience and safety of too large a number of our people to be longer without a system of management which shall secure protection to each of these rights. It is useless to deny the possibility of effecting such results, it is useless to seek for apologies for any of the criminal malpractices which have for so long a time disgraced our railroad system. Not that in all times and in all cases can we expect entire immunity from accidents, but we have a right to expect that calamities like those at Norwalk, Chicago, Valley Falls, and upon the Camden and Amboy road, calamities proceeding from like palpable and inexcusable negligence, shall never be repeated.

The Norwalk accident was caused by a want of signals and signal operators, whereby a hidden danger was sprung upon a faithful engineer and a

train of unsuspecting passengers. The accident at Chicago was directly due to the same deficiency, but primarily to the manner in which two great railroads were allowed to cross at grade. The accidents on the Providence and Worcester and the Camden and Amboy railroads were caused directly by a misconception of time (a matter which by right has no bearing upon safety, as a man has a right to be as safe at twelve o'clock as at a quarter past twelve, or inversely;) while both were primarily due to the same deficiency as existed at Chicago. The writer of this article stated a principle, after the occurrence of the Norwalk accident, to the effect, that because no accidents had occurred on any road was not of itself an argument that such road was the best managed. The doctrine was of course attacked, and the experience of one or two roads appealed to in opposition to its tendency. But there is evidence that on the lines mentioned, unsafe practices existed; such as naturally tend to produce accidents, and which would only require an opportunity for development. Each road has its first accident, and all of the roads upon which the memorable calamities of 1858 have occurred, could have previously put in their claims for the rank of the best managed roads in the country. Their previous good fortune was the security relied upon, but experience has proved its treacherous character. Fortune or luck is as fickle in the management of railroads as elsewhere. It is notorious that under our present system of passenger transportation, the causes which produce accidents are in active operation, and the only chances are, which will soonest take effect, and what will be the extent of its results.

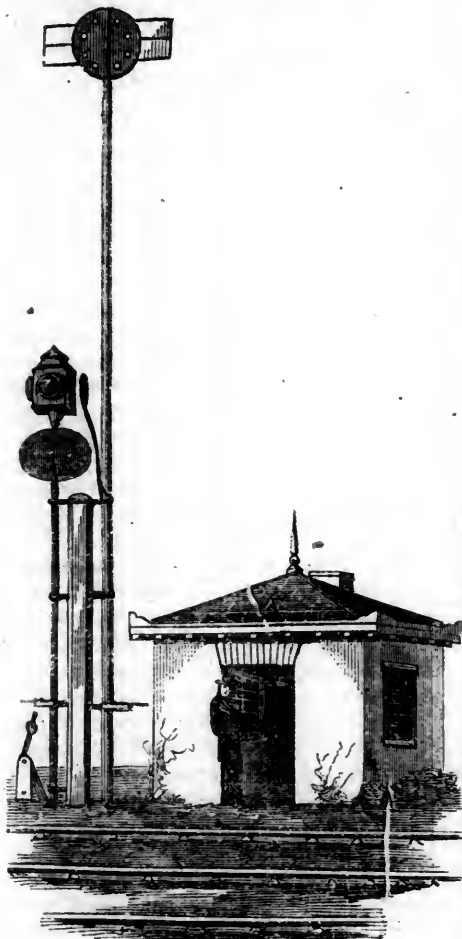
We have uniformly contended for the necessity, both on account of economy and of safety, for establishing signals on railroads, for upon their exhibition and the information they are thereby enabled to impart, must rest mainly the safety of an advancing train. Double tracks are collateral means of safety, but the information which tells the engineman that all is right, or otherwise, upon the track, is the most certain preventive of accident. Double tracks govern the capacity more than the safety of a road.

As an illustration of a complete system of signals, we may instance those employed on the great English lines. Among their most important arrangements are the giving and receiving of signals such as police, stationary, semaphore, junction, auxiliary, train, special and detonating signals. Every train upon the line is regulated in compliance with them. The white signal, whether a flag or light, is a signal of safety, green, of caution, and red of danger. When the line is clear, the policemen, always stationed along the route, give no signals, except at night, when white lights are exhibited, but in cases of danger or doubt, red or green flags or lamps are employed.

That interesting and useful English work, "Our Iron Roads" gives a description of the signals usually employed, which we transcribe to our columns.

"The signal arrangements at the intermediate stations on the London and North Western line, are various, but all are simple and complete. A station signal is provided for both the up and the down line, one being usually erected at each end of the station, and of the kind represented in figure 1.

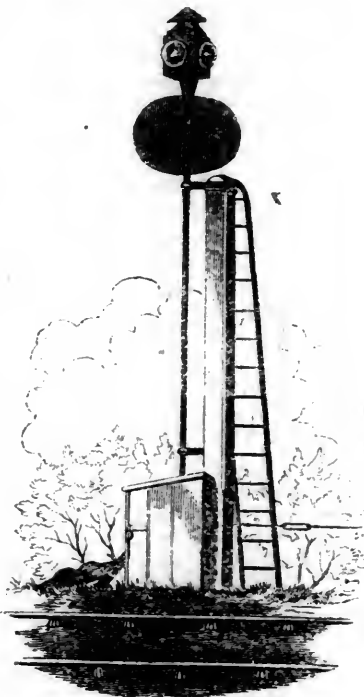
Fig. 1.—STATION SIGNAL.



"On a train stopping, or travelling slowly through an intermediate station, the signal which is painted red on one side is shown for five minutes in the direction from which the train has come, in order to stop any following train: the green signal, on the shorter post, is then turned on for five minutes, to complete the ten minutes, precautionary signal. As the lamps and the boards are connected together, the lamp has only to be lighted at night or in a fog, and the arrangement is complete. When the vane is presented edge-ways to the driver of an approaching train, as is seen in the engraving, it shows that all is right. The higher mast supports the red signal, and the lower one with the lamp has the green.

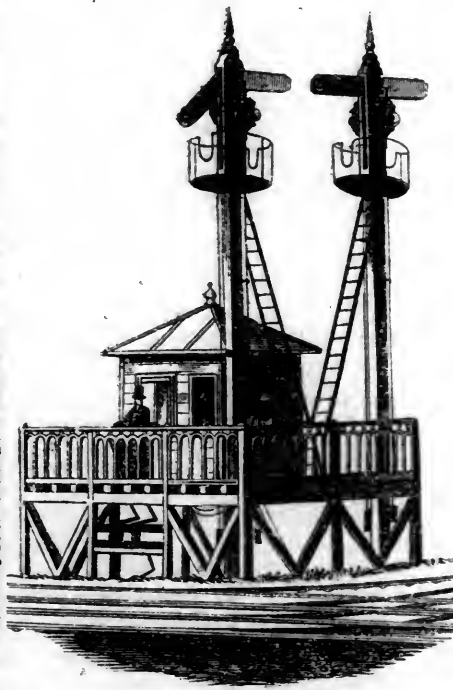
"Besides these there are auxiliary signals at most of the principal stations, worked by means of wires, which permit their being placed at almost any distance from the spot where they are regulated. These auxiliaries are especially valuable in thick weather; for as they are constructed several hundred yards up or down the line, drivers of engines can obey them when it would be impossible to see the station signals with distinctness. They are constructed with only the green, or "caution," and the "all right" signals; the presence of the former intimating that the red signal is turned on at the station, and that it is therefore to be approached slowly. In the engraving of the station signal, Fig. 1, may be observed the lever by means of which the auxiliary signal is worked.

Fig. 2.—AUXILIARY SIGNAL.



"Where junction lines unite or lines cross one another at the same level, it is essential that a complete system of signalling should be adopted. The engraving fig. 3 represents a junction or double-signal station. It consists of two masts to

Fig. 3.—JUNCTION SIGNAL.



the summits of which fan-like arms and lamps are attached; these convey the desired information to the drivers of approaching trains. When the arm which is painted red, and which is always on the left of the engine-driver, is at right angles to the mast, it signifies *danger*, and the train must be immediately stopped; if it be at an angle of forty

five degrees, *caution* must be observed; and if the arm be parallel with the post, it announces the signal *all right*.

"In connection with these junction signals, there is a wooden cottage erected on an elevated platform, that the policeman on duty may see the trains at a distance; there is also an apparatus for working the signals, and another for shifting the switches. In order better to understand the arrangements, let it be supposed that on each of the two lines which here form a junction a train is advancing. The engine drivers, when they arrive at some appointed spot—at, perhaps, half a mile distant from the station—give a whistle which would attract the attention of the signal man, supposing that, by some inadvertence, or by the trains being unexpected, he were not to be looking in that direction. As the man has not yet altered the signals, they are both fully on at *danger*, that being their position when at rest, and supposing neither of the arms to be depressed, the trains would pull up; or gently approach the signal station to see the cause of the detention, taking care, at the same time, to be ready to stop altogether at any moment. If, however, all is right, one train may be permitted to advance, precedence being given to the one nearest, or to a faster running train; and the policeman, putting his foot into a kind of stirrup, there being four arranged side by side, by this means lowers one of the arms to the *caution* position, and the train thus signalled, proceeds, while by means of the handles the switches are shifted, if this be necessary.

"If a tunnel be in the neighborhood of a station—as is the case with the Primrose Hill, Watford and Liverpool tunnels—it is of great importance that an efficient system of signalling should be adopted, aided by electric-telegraph communication from end to end. It is, in fact, now generally admitted, that wherever there are tunnels of any considerable length, the electric telegraph ought to be employed, and that two trains should never be permitted on the same line of rails in a tunnel at the same time. Other precautions are necessary under extraordinary circumstances.—Hand flags in windy weather are bad signals, for they have frequently the appearance of a mere string, while painted boards always show their full size. If on a sudden emergency a red flag or lamp cannot be obtained, a white one, or any other signal waved violently, is a sign of danger."

The governmental management of railroads in Great Britain, is also far more fully organized than in America. For the purpose of giving the system of the English railway inspection laws we copy the following condensed statement from the Philadelphia Register:

In England, the Board of Trade, consisting of the lords of the committee of her majesty's privy council for trade and foreign plantations, is vested with ample powers over railways, and certain parts of the construction must be done under the direction of the board, or else be liable to be abated. By an act of parliament, passed in 1842, no railway, or portion of a railway, can be opened for the public conveyance of passengers, until one month after notice of intention to open the same has been given by the company to the board of trade, nor until ten days' notice by the company to the board, of the time when the railway, or the portion thereof, will, in the opinion of the company, be sufficiently completed for the safe conveyance of passengers. The board then cause the railway to be inspected; and if, in its opinion, the

opening would be attended with danger to the public, or the works are incomplete, or the company have not a sufficient establishment for the proper working of the road, they suspend the opening until all deficiencies are supplied.

Every railroad company within forty-eight hours after the occurrence upon its road of any accident, with serious personal injury to the public, is obliged to give notice thereof to the board, under a penalty of five pounds for every day during which the omission shall continue. The board may also order a company to make returns of accidents, whether attended with serious personal injury or not, for the information of the board, with a view to public safety.

The board also has power at any time to order an inspection of the railways, stations, works, buildings, engines and carriages of a company, and the inspection must be made by some one not in any way connected with the company.

Any officer or agent of a company, may seize and detain an engineer or other person employed on the road, who shall have been found drunk while on duty, or who has wilfully injured or endangered life and property, and carry such person before a justice, without a warrant or information oath, who, acting summarily in the matter, is authorized to inflict certain prescribed punishments. The subjects of fences, crossings, tolls, cheap trains for the poorer and laboring classes of travellers, electrical telegraphs, are also regulated by minute and peremptory provisions.

By an act passed in 1846, the gauge of railways in Great Britain was fixed thenceforward, at four feet eight and a half inches, and at five feet three inches in Ireland. Stringent punishments, extending even at the discretion of the court, to transportation for life, are established, for such as shall wilfully obstruct or injure the road or works of the company, or throw anything upon the track with an intent to do harm.

In fact, the whole organization of a railway is subject to statutory control in England. Not only its stock, dividends, capital, finances, shares, proceedings of directors, tolls, accounts, books of minutes, byelaws, orders and rules are regulated, but all the matters connected with the actual building and working of the road; such as the speed, the description of cars, engines, etc., the stations, bridges, arches, grades, curves, etc. A complete system, of innumerable minute provisions, is established, bringing the whole railway management of England, in all its departments, under the control of one central supervisory authority.

Marietta and Cincinnati Railway.

WM. P. CUTLER, Esq., President of this Company, has made his annual report of its operations from which we have the following statements:

At the date of the preceding annual meeting of the stockholders, the road had been placed under contract from Blanchester to the southwestern limits of the coal fields in Jackson and Vinton counties. Upon this work, an expenditure had, at that time, been made, to the amount of \$350,000.

From Chillicothe eastward, a distance of 24 miles, the grading, masonry and bridging are so far advanced as to permit the track laying to commence by the first of November of the present year, and to continue throughout without delay. The amount expended upon this portion of the work—embraced by the two contracts of Messrs. Cushing, Wood & Co.—was \$1,007,357 44, up to August 1st. A force of 2000 men, 300 horses and oxen, 2 steam excavators, 2 locomotives and 75 gravel cars, is now employed upon this work.

The entire amount of iron, as yet purchased, is 11,400 tons—sufficient to lay about 100 miles of railroad.

EXTENSION TO THE OHIO RIVER.

The preparatory surveys on the remainder of the line not previously under contract to the Ohio river, had not been made at the date of the last annual meeting of the stockholders.

On the 16th day of September, 1852, a contract was made with Messrs. French, Dodge & Co., for the grading, masonry and track laying of this portion of the road, to be completed on the 1st day of December, 1854. Notwithstanding the same difficulty has been encountered, in regard to the scarcity of laboring hands, as has embarrassed the western division, very respectable progress has been made upon the heavier portions of the work.

The amount expended, under this contract, up to August 1st, is \$333,510 54. Thus, the expenditure on the entire work, from the commencement, up to the 1st inst., is as follows, viz:

Grading, masonry and bridging on C. W. & Co.'s contract	\$1,007,357 44
Do., on F. D. & Co.'s	333,510 54
For machinery	67,638 88
For cross ties, etc.	9,097 33
For engineering and contingent expenses	84,949 63

Total.....\$1,502,553 82

Forces, consisting of 2146 men and 500 horses and oxen, are now employed by Messrs. French, Dodge & Co., and the energy with which their work is prosecuted, gives every assurance that it will be completed within the contract time.

Careful surveys of two distinct routes have been made between Marietta and Wheeling, resulting in the choice of a line skirting the margin of the Ohio—being lineally somewhat longer than a direct interior route, but in respect to grades and cost decidedly preferable. On the 16th of July, 1853, this line was placed under contract—due notice having been given to bidders.

To Messrs. DeGraff, Brintnall, Bradley & Co., the first forty sections from Marietta were awarded; the remaining thirty-three sections of the line to Wheeling, have been let to Messrs. Whittemore, Bradley & Co., all to be completed by September 1st, 1854.

EXTENSION TO CINCINNATI.

The difficulties attending a connection with other roads near the city of Cincinnati, and of finding suitable accommodations in that city, have induced the board to make perspicuous surveys of the several routes by which an independent entrance might be effected into the business parts of the city.

A line has been adopted, leading directly from Blanchester to Milford, on the Little Miami railroad, from which an entrance may be commanded. The grading, masonry, ballasting and track laying of this division were placed in the hands of Messrs. DeGraff, Brintnall, Bradley & Co., on the 16th of July last, to be completed on the 1st of September, 1854.

Application has been made to the Pennsylvania railroad company, through the agency of Noah L. Wilson, Esq., for a subscription to our capital stock, to the amount of \$750,000. Mainly through the persevering and influential efforts of that gentleman, the stockholders of that corporation authorized a subscription of the above amount, which has since been made, and the proceeds placed at the disposal of our company.

Through the same agency, a subscription of \$250,000 has been obtained from the city of Wheeling.

Individual stock subscriptions have also been obtained, during the past year, amounting to \$732,000. Thus the total increase of capital stock during the year, is \$1,732,000. This sum added to the former subscriptions, makes a total basis, (including Cincinnati loan of \$150,000) of \$3,717,000. It is believed an increase on this amount, to the sum of \$4,000,000, may be realized during the coming year.

In addition to the direct Philadelphia connexion obtained at Wheeling through the Hempfield road, we are also offered a direct railroad route to Pittsburgh by using a portion of the Hempfield and the Chartiers Valley railroad. On the west side of the Ohio river, an extension of the Cleveland and Wellsville railroad will connect our line, not only with that road, already completed

to Cleveland, but with a somewhat circuitous, though, in all other respects, a favorable route to Pittsburgh. From the latter point the Alleghany Valley railroad is now in progress of construction to the New York and Erie railroad, where it will also be met by a line directly from Rochester and Niagara Falls.

We have, thus, three distinct and important objects gained, by the extension of our line to Wheeling, viz:

1. A direct connection with Philadelphia over the Hempfield and Pennsylvania railroad:—
2. A like connection with Pittsburgh, and thence with New York line centering at this point:—
3. A route to Cleveland and the Lakes, of great value to the more eastern interests connected with our road.

Directions for applying the Chilled Tire.

The attention with which the chilled tires have come to be regarded by those railroad managers anxious to reduce their expenses for motive power, and the consequent demand for them which has been increasing for the last few years, renders it of importance to master machinists and others to know the few and simple rules for their application, so that they shall derive the best satisfaction in their operation and maintenance.

The chilled tires are necessarily thicker than wrought tires, so that tires of the same diameter require smaller wheel centers than for wrought tires. A full assortment of center and tire patterns are kept on hand by Bush and Lobdell, embracing the common sizes from four to six feet, progressing by six inches. They have intermediate diameters also of tires for application to wheel centers originally tired with wrought iron. An engine running on wrought tires of 60 inches diameter may thereby be fitted with 63 inch chilled tires without abandoning the original centers, and this alteration of size is oftener better for an engine than otherwise. For a common four and a half feet wheel center, which is about 50½ inches in diameter in the rough, they apply a 56 inch tire, and for a four feet wheel center a 50 inch tire.

If the wheel centers in use should prove a little large they will bear turning down as the chilled tire, from the fact that it never wears thin, does not require a stiff rim to support it as is required for a wrought tire. The chilled tires for an engine should all be bored and the centers turned to one gauge so that one tire may be applied indiscriminately to any wheel in a set of drivers. This gauge should be adjusted to a taper of one quarter of an inch across the rim of the center, whereby the inner face of the center is half an inch larger in diameter than the outer face. If all the tires have flanges (and we are convinced from an examination of some of the best running and most economically maintained engines that every wheel should be flanged,) it will be found that this taper will in no way affect the security of the application of the tires, as the action of the rail against the flange forces the tire on instead of off. The tire is held by seven or eight square bolts, seven eighths of an inch square passing straight through corresponding recesses on the face of the center rim, and having hook heads turned up against the outer face of the tire, and nuts screwed up against the center. The bolts do not follow the slope of the face of the rim but pass through parallel with the center line of the wheel. In the case of ordinary spoke wheels one bolt to every other spokes sufficient.

After drawing the tire firmly on by the nuts, but without straining it, the ends of the bolts should be lightly riveted over the nuts to prevent them from working loose.

Should there be the least difference in the outer diameters of a set of tire ordered for an engine, the largest are to be selected for the principal pair of driving wheels, or those to which the main connecting rod is applied. This selection will save some slip from the fact that the other drivers having more end play are oftener running on their larger diameters. A better adhesion of the principal pair of drivers will also be secured. It is not to be expected that any difference will exist of over one twentieth of an inch.

The solid chilled tires have a raised surface of two inches in width on their outer face, while the joint they make upon the wheel center (which is quite thin) can be made, by careful fitting, so as not to be seen. It is customary, and it gives a good appearance, to paint the wheel center and the inner circle of the tire of a bright red and to paint the outer two inches of the tire-edge black. The double plate center and hollow tire, for which a growing preference is manifested, has the same raised surface on the edge of the tire to be painted black, while the inner circle of some five inches depth is painted green, and the center vermilion. Such a wheel has a beautiful appearance.

We would recommend Superintendents and Master Machinists, desirous of testing these tires, to forward their orders to Bush and Lobdell of Wilmington, Delaware, whose long experience in the selection and melting of iron, and in pouring chilled wheels enables them to guarantee a wheel or tire combining strength of iron with uniformity and soundness of chill. By a persevering adherence in every case to the best processes of manufacture they have secured a substantial reputation for their productions, and in the way of cast iron tires, fully as well deserved as the reputation of *Bowling* among wrought tires.

Explosion of a Locomotive Boiler.

On Thursday, the 18th ult., while a locomotive attached to the down freight train, on the Georgia State road, was stopping at a water station, about eight miles above Marietta, its boiler exploded with great force, killing three persons and injuring others. The occasion of the explosion was believed to be due to an unnecessary pressure of steam induced partly by a defect in the safety valve scale, by imprudent management, and by an inferior quality of iron used in the material of the boiler. The engine was built last year by Anderson and Souther of the Tredegar Locomotive works of Richmond, Va.

Many of the fragments of the boiler having been collected, were inspected by several individuals accustomed to work in iron. Among these was W. W. Baldwin, Superintendent of Machine Works of the State Road, who gave it as his opinion, that no examination of the iron in the condition it then was, with the eye alone, would be sufficient to determine its quality, but so far as he could judge by that means, he believed some of it of an inferior quality. Other witnesses thought much of the iron was bad.

The following report was made by a committee appointed to examine the condition of the boiler after explosion.

ATLANTA, August 24th, 1853.

We, the undersigned, being called upon by George Yonge, General Superintendent of the Western and Atlantic Railroad, to examine the locomotive Engine "Bobnel," which exploded on the 18th inst. at "Moon's Station," on said Railroad, while taking in wood and water.

In the first place, we examined the model and construction of the Engine, and find nothing in that which could have caused the explosion.

Secondly, we examined the safety-valve, lever and balance, on an engine of the same model, and built by the same parties at the same time, and find them correct in every particular.

Thirdly, we examined the Boiler as to its material and construction. We find the material to be of the ordinary thickness, say 5-16ths of an inch, but the iron of inferior quality. With regard to the construction, we find the Boiler of a large size, the rivets 5-8ths of an inch in diameter, and 2 inches apart. — We consider the rivets too small, and too far apart for a boiler of that size, as compared with other boilers in use. We further find that the dome part of the boiler was not properly braced. Upon a close examination of the boiler and flues, we find that there must have been a sufficiency of water; and further, there was a fusible plug in the crown sheet, which confirms us in this opinion.

We all agree in the opinion, that the Engine was safe to use with a pressure of 120 lbs. to the square inch, and in our opinion there must have been an unnecessary and excessive head of steam to have caused the explosion.

THOS. DOUGHERTY, Master Machinist,
Macon & Western R. R.

JOHN DORES, Boiler Maker.

WILLIAM RUSHTON, Master Machinist,
Georgia R. R.

The verdict of these men might be made to apply equally as well to the material used in other engines constructed at the Tredegar works. The reputation of the Tredegar iron, whatever it may once have been, would not warrant the use of such boiler plates as were liable to crack in bending, or to such rivet iron as would not withstand the working necessary to form a proper rivet head. We have seen the character and application of this iron to these locomotives, and have often expressed fears of its failure. We are not in favor of establishing locomotive shops either in the south or west for the mere purpose of creating a market for materials not otherwise able to command a satisfactory sale.

Standard of Time of the New York and Erie Railroad.

The means of ascertaining and imparting a correct knowledge of time is of great importance to all railroads, and especially to those not thoroughly protected at every point by watchmen and signals, as while in the general case it is the only test of promptness, it is in the latter case the primary means of safety. The New York and Erie railroad company have perfected very complete arrangements for this end, and are able to guarantee that no accidents shall occur on their line owing to any excusable ignorance of time.

Mr. R. H. Bull, the astronomer, is retained in the service of the company to ascertain the correct time from the heavens each day, and to regulate the company's chronometers thereby. The time is then dispatched daily, at noon, to every telegraph station on the road. The principal chronometer of the company is kept at the superintendent's office, foot of Duane street, in this city. It is of Dents construction and cost five hundred dollars. By its movements the station clocks at

Delaware, Susquehanna and Hornellsville are regulated and these become the standards for the divisions of the road terminating respectively at those points. The following is a copy of the standing order issued to the telegraph operators on the line, for their instruction in regard to transmitting the standard time.

NEW YORK AND ERIE RAILROAD.

Office of Superintendent of Telegraph,
Elmira, Nov. 22. 1852.

TO ALL TELEGRAPH OPERATORS:—

After the present week, the line will be connected through at the Delaware, Susquehanna, and Hornellsville Offices, every day, (Sundays excepted), at precisely 4 minutes before 12 M., for the purpose of sending the time to all offices. At precisely 4 minutes before 12 o'clock, the Operator who is to send the time, will commence beating seconds with his key, and will continue to do so until 12 o'clock, in order to give every Operator an opportunity to adjust his instrument. At precisely 12 o'clock, he will commence saying "i i," which he will continue to repeat for one minute, immediately after which he will sign. The connecting offices will then disconnect each division of the line, and after 4 minutes past twelve business will go on as usual. It must be understood, by those interested, that all other business must be suspended, and that no operator, except the one who is sending the time, will be allowed to open the circuit after 4 minutes before 12, until 4 minutes past 12, under any circumstances whatever. In case any Operator is unable to get the writing from the one who is sending the time, he must be very careful to keep the circuit closed during the time specified above, even though he may suppose the time is not being sent.

L. G. TILLOTSON, Superintendent.

Approved.

CHARLES MINOT, Supt. N. Y. and E. Railroad.

Virginia.

Northwestern, Va., Railroad.—The Parkersburg (Va.) Gazette states that unusual vigor and activity characterize the operations on this road at present. The estimates show a larger amount of work for the last month, than was ever before performed within the same length of time, and on the 12th inst. \$90,000 were paid out at Parkersburg for work during the month.

Railroad Meeting in Alabama.

A railroad convention was held at Prattsville on the 12th ult., at which resolutions were passed to the effect that a railroad from the city of Montgomery by the most direct and practicable route to Selma, through the county of Autauga, extending from thence to the Mississippi line, in the direction of the chain of railroads which are soon to connect the Atlantic and Pacific oceans, and that a railroad running on the most direct and practicable route from the city of Montgomery, through the counties of Autauga and Shelby, and from thence through the north-western counties of the state, to some point on the Tennessee river, is of the utmost importance in effecting a development of the mineral resources of the state of Alabama.

Committees were appointed to take the necessary steps to procure a charter and to attend conventions at Elyton on the 24th of August, and at Montgomery on the 2d of November, to prepare a

charter and to aid in the organization of a company to prosecute the work.

American Railroad Journal.

Saturday, September 3, 1853.

Mr. Stephenson, the celebrated English engineer, at a dinner given him on his arrival at Montreal, expressed himself as favoring the consolidation of railroad lines, and especially lines connecting the place to which they lead, and maintains that it is beneficial to all parties. He gave a striking illustration of the extent to which this has been carried in England. The London and Birmingham railway which had an original length of 112 miles, was increased to 700, by amalgamating with other lines; and the Midland counties originally but 60 miles, but already augmented to an extent of 500 miles, now contemplate a union, which will make them a single company of some 1,300 miles, and a bill is now pending in Parliament for the purpose.

New Car Stove.

In the Canadian department of the Crystal Palace we notice a stove, designed for railroad cars, by H. Ruttan, of Cobourg, Canada West. It is constructed not for heating, as used in the ordinary sense, but for warming fresh air to a genial temperature, and for a rapid and efficient ventilation. It is equally adapted for halls, offices, drawing rooms, or other house apartments, or for railroad cars, for which it has been used and successfully tested on the Rochester and Syracuse railroad. In any house apartment, fitted for the purpose, it is claimed to throw over 400 cubic feet of fresh air per minute, and according to the amount of air kept in circulation, at one half the expense for fuel. From the motion of railroad cars its action is increased so as to renew the air in an ordinary car at the usual speed every four minutes.

We can attest from our own observation that it is very compact and very ornamental in appearance. Information in regard to it may be had of the inventor at the Crystal Palace, or of John Johnson & Brother, 111 East Eighteenth street, in this city.

Stock and Money Market.

The condition of the Stock and Money Market is not on the whole much changed since last week. There have been considerable fluctuations in the mean time, with a corresponding variation in the price of fancy stocks. While money has been gradually becoming easier, there is no decided tendency toward a greater abundance. The apprehension that a tight market may be before us, has a tendency to check operations on time, and induces people to take measures to strengthen themselves in case matters take an adverse turn. The public mind is unsettled as to the future, and is exceedingly cautious in its action. To-day money is apparently abundant; to-morrow it can hardly be had on any terms. Lenders, though they refuse to take long contracts, seem determined to keep up the rates on short loans; so that, though there may be no actual scarcity, rates continue high, even upon short and well-secured contracts. In the meantime, trade is very active, and payments from the country are made with great promptness. Crops of all kinds bid fair to be

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	100
Androscoggin and Kennebec..	55	809,878	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland.....	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth..	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland.....	20	285,747	341,100	713,605	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	108
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47
Northern	82	3,016,634	.....	.....	328,782	163,075	5	57½
Manchester and Lawrence....	24	717,543	.....	.....	.....	.....	6½	97
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord....	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan.....	26	.....	.....	873,500	.....	.....	none	12
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	40
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,589	none	30
Vermont Central.....	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	14½
Vermont and Canada.....	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	101
Western Vermont.....	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	98
Boston and Maine.....	83	4,076,974	150,000	4,092,927	659,001	338,215	7	105½
Boston and Providence.....	53	3,160,390	390,000	3,546,214	469,656	227,434	6	86½
Boston and Worcester.....	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch.....	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River.....	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92
Fall River.....	42	1,050,000	none.	1,050,000	229,445	99,589	8	104
Fitchburg.....	66	3,540,000	112,805	3,623,073	574,574	232,787	6	98½
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County.....	26	547,015	819,743	1,245,927	67,251	23,415	none	62
Old Colony.....	45	1,964,070	282,300	2,293,534	322,213	101,510	none	93
Taunton Branch.....	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99½
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	62
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	126
Housatonic.....	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	104
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester.....	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	52½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line.....	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira.....	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna....	35	687,000	400,000	1,070,786	74,241	23,499	none	.....
Erie, (New York and Erie)....	464	9,612,995	24,003,865	31,301,806	3,537,768	1,691,623	7	74½
Hudson River.....	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	69½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	56
Long Island	95	1,875,148	516,246	2,446,391	205,068	44,070	none	32½
New York Central	504	22,858,600	2,111,824	.....	.....	.....	.....	114½
Ogdensburg (Northern).....	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	28½
Oswego and Syracuse.....	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal....	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga....	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington....	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington....	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland.....	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston.....	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome.....	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,885	478,413	10	150
Morris and Essex.....	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central.....	63	986,106	1,500,000	2,379,880	280,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East.....	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading....	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	84
Philad., Wilmington and Balt.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	77½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	98
Philadelphia and Trenton..... "	30	.....	.....	.....	.....	.....	.....	110 1/2
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	61
Baltimore and Ohio..... Md.	381	9,188,300	9,827,123	19,542,307	1,325,663	615,384	7	.....
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna..... "	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg..... "	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac..... "	76	1,000,000	503,006	1,531,238	254,376	113,256	7	105
South Side..... "	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee..... "	60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac..... "	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh..... N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina..... S. C.	110	.....	.....	In prog.	.....	.....	.....	.....
Greenville and Columbia..... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia..... "	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western..... "	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	60	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River..... Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston..... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point..... Miss.	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
East Tennessee and Georgia..... "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga..... Ky.	.....	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Covington and Lexington..... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Frankfort and Lexington..... "	65	.....	.....	.....	.....	.....	.....	.....
Louisville and Frankfort..... Ohio.	100	1,289,450	1,371,000	2,963,756	194,429	123,306	6	96
Maysville and Lexington..... "	71	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh..... "	135	3,027,000	408,200	3,655,000	777,793	483,454	12	132
Cleveland, Painesv. and Ash..... "	46	.....	.....	2,000,000	.....	.....	.....	98
Cleveland and Columbus..... "	61	.....	.....	.....	.....	.....	.....	.....
Columbus, Piqua and Indiana..... "	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	106
Columbus and Lake Erie..... "	.....	.....	.....	In prog.	.....	.....	.....	72 1/2
Cincinnati, Ham. and Dayton..... "	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Cincinnati and Marietta..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Dayton and Western..... "	36	.....	.....	.....	.....	.....	.....	70
Dayton and Michigan..... "	31	.....	.....	.....	.....	.....	.....	.....
Eaton and Hamilton..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Greenville and Miami..... "	84	2,370,784	.....	2,634,157	526,746	314,670	10	119 1/2
Hillsboro..... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Little Miami..... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Mansfield and Sandusky..... "	57	.....	.....	In prog.	.....	.....	.....	.....
Mad River and Lake Erie..... "	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	97
Ohio Central..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania..... "	.....	.....	.....	.....	.....	.....	.....	.....
Ohio and Indiana..... "	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	.....
Scioto and Hocking Valley..... "	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Toledo, Norwalk and Cleve'd..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Xenia and Columbus..... "	131	.....	.....	.....	.....	.....	.....	.....
Evansville and Illinois..... "	83	.....	.....	.....	.....	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern..... "	.....	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine..... "	62	.....	.....	In prog.	.....	.....	.....	.....
Lawrenceburg and Ind..... "	88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Lafayette and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	70
Madison and Indianapolis..... "	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Peru and Indianapolis..... "	.....	.....	.....	.....	.....	.....	.....	.....
Terre Haute and Indianapolis..... Ill.	92	1,932,361	500,000	In prog.	473,548	286,152	.....	136
Rock Island and Chicago..... Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	124
Chicago and Mississippi..... "	282	4,000,000	4,067,396	8,614,193	.....	.....	8	110 1/2
Illinois Central..... Mo.	.....	.....	.....	.....	.....	.....	.....	.....
Galena and Chicago..... "	.....	.....	.....	.....	.....	.....	.....	.....
Michigan Southern..... "	.....	.....	.....	.....	.....	.....	.....	.....
Michigan Central..... "	.....	.....	.....	.....	.....	.....	.....	.....
Pacific..... "	.....	.....	.....	.....	.....	.....	.....	.....

very abundant. The health of the country is unusually good (with one melancholy exception), so that all the elements of prosperity seem to exist in uncommon profusion. The only real cause of a tightness in the money market are the immense calls for our railroads; but with favorable advices from California and Europe, these calls may be met with comparative ease. A very considerable portion of the money expended in the construction of our railroads, goes into the hands of our farmers for supplies of provisions, etc., and is again to return to the city in the regular channels of trade.

The foreign demand for bonds is still light, the season for active operations in these not being yet commenced. It is believed, however that the demand during the dull season for the present, is fully equal to the demand for the same time the past year.

The bank returns for the past week are regarded as favorable. The following statement will show their comparative condition for the weeks ending Aug. 20, and 27.

	Loans.	Specie.
Aug. 20.....	\$93,866,976	\$11,092,552
Aug. 27.....	92,386,953	11,319,047
Increase.....	.....	\$226,495
Decrease.....	\$1,480,023	.....
	Deposits.	Circulation.
Aug. 20.....	\$57,817,718	\$9,414,896
Aug. 27.....	57,431,808	9,427,191
Increase.....	\$114,090	\$12,295

The coin on hand in the Banks and Sub-Treasury, is as follows;

	Sub-Treasury.	Banks.	Total.
Aug. 6.....	\$8,406,000	\$9,746,000	\$18,152,000
Aug. 27.....	9,024,250	11,319,047	20,343,305

The following statement will show their condition as by their several reports since February, 26th 1853.

	Loans.	Specie.
Feb. 26, 1853.....	\$95,274,876 1/2	\$8,991,680
June 11, 1853.....	95,520,656	12,174,509
Aug. 6, 1853.....	97,899,617	9,746,452
Aug. 13, 1853.....	92,562,277	10,654,618
Aug. 20, 1853.....	93,866,970	11,092,552
Aug. 27 1853.....	92,386,953	11,319,047
	Circulation.	Deposits.
Feb. 26, 1853.....	\$9,274,025	\$57,556,507
June 11, 1853.....	9,084,106	59,078,171
Aug. 6, 1853.....	9,510,465	60,994,668
Aug. 13, 1853.....	9,451,945	58,166,712
Aug. 20, 1853.....	8,414,696	56,817,718
Aug. 27, 1853.....	9,427,191	57,431,808

The redemption of the debt of the general government goes on steadily. The amount redeemed from the 13th to the 20th of August is as follows.

	Loans outstanding.	Redeemed since.	Outstanding.
Aug. 13, 1853.	.....	.....	Aug. 50, 1853.
1842.....	\$7,950,277	\$22,000	\$7,928,277
1843.....	548,900	15,500	533,400
1846.....	4,920,489	29,200	4,891,239
1847.....	23,948,100	112,400	23,837,700
1848.....	15,317,400	20,450	15,276,950
Texas Indem.	5,000,000	.....	5,000,000
Do. not issued.	5,000,000	.....	5,000,000
Total.....	\$62,684,117	\$199,550	\$62,485,567
Old Funded debt.....	.....	.....	\$114,118
Treasury Notes outstanding.....	.....	.....	115,011
Debt of Corporate Cities.....	.....	.....	720,000
Total.....	.....	.....	\$63,434,697

This shows a reduction of about \$5,000,000 since Jan. 1.

If the holders of the government securities would surrender these at anything like fair rates the whole debt might be paid from the rapidly accruing surplus in the Treasury in two or three years.

The imports for the same time have been as follows:

	1852.	1853.
Dry Goods.....	9,347,060	8,890,949
Other.....	6,241,216	7,800,384

Total.....15,588,276 16,191,533

Included in the general merchandise for the week, are \$440,080 in iron, (of which \$219,187 were rails.

The following is the coinage of the mint for the month of August.

Gold.	Pieces.	Amount.
Double Eagles.....	83,730	\$1,674,600 00
Eagles.....	22,005	220,050 00
Half Eagles.....	26,860	134,300 00
Quarter Eagles.....	108,264	270,660 00
Gold Dollars.....	215,121	215,121 00

Total.....\$1,514,731 00
In bars.....605,198 85

Total.....\$2,119,929 85

SILVER.

Total.....1,802,000 \$850,000 00

COPPER.

Cents.....559,460 \$5,594 60

GOLD BULLION DEPOSITED.

From California.....	\$4,469,000
From other sources.....	43,000—\$4,512,000
Gold in July.....	\$3,505,331
Gold in August.....	4,512,000
Silver bullion.....	\$360,000

The following is a comparative statement of the deposits at the Mint during the first 8 months of 1851, '52 and '53.

	1851.	1852.	1853.
Jan.....	5,071,669	4,161,688	4,962,097
Feb.....	3,004,970	3,010,222	3,548,523
March.....	2,880,271	3,892,156	7,533,752
April.....	2,878,353	3,691,037	4,766,000
May.....	3,269,491	4,335,578	4,425,000
June.....	3,637,500	6,689,474	4,533,000
July.....	3,127,517	4,193,880	3,491,000
August.....	4,135,312	2,671,563	5,370,800
Total....	\$28,005,143	\$32,045,598	\$38,631,172

COINAGE OF 1853.

	Gold.	Silver.	Total.
January.....	4,809,388	93,750	4,903,138 79
Feb.....	2,981,280	97,300	3,078,580 31
March.....	5,693,808	163,800	5,857,608 31
April.....	5,305,080	419,007	5,724,087 54
May.....	2,823,506	608,509	3,432,015 19
June.....	4,774,246	650,000	5,424,246 32
July.....	4,459,469	710,000	5,169,469 28
Aug.....	2,119,920	850,000	2,969,920 60
Total....	32,916,706	3,592,366	\$36,509,072 29

The copper coinage during the same period has been \$32,718 89, which makes a part of the above aggregate.

The export of specie for the year, up to August 27, has been as follows:

Total 13th to 27th Aug.....	345,034 09
Previously reported.....	13,395,020 49

Total for 1853.....\$13,740,054 58

Showing a coinage of \$23,000,000 during the year over exports, a large portion of which must have gone into circulation.

Paterson Locomotives.

The New Jersey Locomotive and Machine company, at Paterson, are now engaged upon an extensive order of freight and passenger engines for the Columbia railroad of Pennsylvania. These engines conform to the design established, for some time, by this company for their outside connected engines, and which presents some particular merits of arrangement and construction worthy of notice. The attachment of the cylinders to a round instead of flat sided smoke box, and to sheets of double thickness, secures, we believe, a permanence not attained in many outside connections. The heavy cast iron bed plate is dispensed with, the truck pintle being secured against the under side of the smoke box. The frame is strongly braced immediately before and behind the cylinders and being bent downwards in front of the main driving axle to the level of the center of the cylinder, makes a direct distribution of the strain in working, so as to prevent all unequal strains upon the cylinders. As the boiler must expand when heated, and as it is firmly tied to the frame at the forward end, the "expansion brace" is introduced at the back end to connect the fire box with the frame, by which, although the boiler is firmly held vertically and laterally, it can expand freely in the direction of its length to the extent of one quarter of an inch, thereby relieving the seams of rivets around the crown sheet from any strain.

The form of the boiler is of the best description, having the angles of the furnace rounded and having a high wagon top crown, giving an abundance of steam room. To provide for an equal draught of steam, all the boilers have two domes, with a steam pipe fed one half in each. The valve motion is the shifting open link suspended on a principle peculiar to these engines and securing the nearest practicable equality in the steam admissions. The truck frames are of the center-bearing kind, and are made with the most substantially trussed bodies. The suspension of the driving springs upon the equalizing levers is made so as to gain the greatest width of firebox between the sides of the frame, and the jaws are made so as to afford much stiffness to the frame, besides admitting of easy repair if they should become broken or bent.

Of the materials used in these engines we believe they are of the best quality. The boiler iron used is of the best Pennsylvania manufacture, costing on an average six and a half cents per pound. We have a specimen of cast iron broken from one of the cylinders, poured from Stirling pig, which exhibits a fibrous structure quite remarkable for a casting. It was handed us by Mr. Samuel Smith, the manager of the foundry. The company are putting in an average of two tons of best brazed copper tubes in each boiler, costing upwards of \$1500.

They have in some cases made a successful application of wrought iron tubes having copper ends brazed on for two inches at the furnace end. Of a large number sent out upon the Erie railroad none have given trouble by reason of leakage. The use of brass tubes by this company show some peculiar results worthy the attention of builders and of those otherwise interested in the success of these tubes. It appears that when the tubes were placed quite close together in the boiler, and put under a hard heat while new and clean

from scale or soot, they became bent and broken near their forward ends. The great heat applied to tubes so nearly in contact, probably caused a dispersion of water and an exposure to over heating, which brass could not so well stand as copper or iron. The brass tubes being thinnest next their forward ends, would naturally, under a hard heat, give out soonest there.

This company are turning out at the rate of 30 engines per year, and under the present demand for engines, generally have a years' work ordered ahead.

Baltimore and Ohio Passenger Engines.

We published recently a brief description of these efficient and serviceable engines, stating also what they had achieved in their performance over the mountain grades of the great iron pathway of the Alleghanies. We have seen a short paragraph to the effect that the Baltimore and Ohio company own one hundred and forty three locomotives many of which are of a capacity to run eighty miles per hour. Leaving this statement of speed for what it is worth, we will state that in May last, 141 of these engines were running on chilled wheels, the larger portion being fitted with the removable slip tire. These substantial pattern of engines described by us were provided with the removable chilled tire. The fastest and heaviest passenger engines run upon chilled tires, and out of some 1500 used on different engines, but two, as we have before stated, have ever broken. The failure of these can be easily accounted for in an insufficient thickness of iron, and in view of this fact, which can be established beyond doubt, we believe no mechanical improvement can boast of more success. The Master of Machinery states that these tires on the passenger engines continue to run seventy five thousand miles before being worn out, while on the level road between Baltimore and Washington they have been known to run 100,000 miles, before becoming so badly worn as to require renewal. 50,000 miles is an average duration of these tires under the heavy freight and stock engines, running over the mountains.

We would advise master mechanics of our railroads, when traveling South, to visit the Mount Clare shops of the Baltimore and Ohio road, and witness the application and operation of these tires. They will find it a matter of much interest to see the condition of the tires in use and of those taken from under the wheels, to see the facility with which they are fitted and applied, and to learn the great economy which has attended their use. They will find in Mr. Hayes, a gentleman of sound views upon the subject of locomotives, and able and willing to extend to them every possible opportunity for information.

Montreal and Bytown Railroad.

We are happy to inform our readers that at a special meeting of the municipal council of the county of Two Mountains, held on Monday last, it was determined to adopt the Montreal and Bytown line, and the council thereupon unanimously passed a by-law authorizing the mayor to borrow £62,000 to aid in the undertaking. The popular vote to be taken on this by-law was fixed for the 19th and 20th day of September next. This, with the sum of £225,000 from the city of Montreal, and what is expected from our municipalities, leaves no doubt of this line being put under contract at an early day.—*Montreal Gazette.*

Boston Locomotive Works.

The origin and progress of this establishment has been a fair example of that of the railroad system of America. Although not the oldest works in operation, it was commenced and conducted before railroads had attained the importance which they now possess, and when railroads and locomotives were mysteries to a large portion of our people. But under the recent order of things establishments like the above have multiplied, aiding and deriving in return, their growth and support from railroads. The business of building locomotives has now become a large and important branch of industry, employing in the United States alone, over 6000 hands, who receive \$2,700,000 yearly for labor, and turn out \$8,000,000 in value of manufactured products. The capital invested in the business at the present time is not probably less than \$3,000,000. There are full one thousand locomotives built per annum, sufficient for replacing the depreciation of all the engines in use, and for the equipment of nearly three thousand miles of railroad, in addition.

Prominent in this branch of business stands the above company, whose long experience and extensive and powerful establishment have made them known wherever American railroads have penetrated.

The work of building locomotives commenced in Boston, in 1840, by Holmes Hinkley and Gardner P. Drury.

The business of their establishment previous to 1840 was confined to building steam engines, and other common machinery employing from 40 to 50 men, and turning out from 40 to \$50,000 worth of work in a year. The business was done in one building say, 80×40 feet. In 1840 the first locomotive was commenced upon—the construction of which was considered a mysterious business at the time; as the Locks and Canals Co., at Lowell, was the only establishment where any locomotives had been built in Massachusetts. The first engine put on to the track by the Boston Locomotive Works then carried on by Hinkley and Drury, was a six wheeled engine of outside connections, with one pair of drivers and a truck, weighing about 18 tons, which was considered a heavy class at that time. This engine being of quite a different model from the Stephenson engines, which were built by the Locks and Canals Company, there was great trouble in disposing of it, even at two-thirds its cost—but it was finally purchased by the Eastern Railroad Company,—and is yet in operation on the Portland end of that road. It worked so successfully that it induced the builders to set up six locomotives, of the same model, before they received any orders. But before they were completed they were all contracted for—besides several others of different model; so that in 1842 ten were delivered. This being so great an increase of the business it was found necessary to increase the capacity of the buildings, by adding another shop 100×50. This rate of delivery continued through 1843 and 1844. In 1845 the deliveries were twenty-six; the most of them eight wheeled engines of about 16 tons each. This increase of the business called for further addition to the shops, and another building was erected 130×65 feet.

In 1846 thirty were delivered, and in 1847, fifty-five, which called for still further increase of

shop room; and there were added, one range of buildings 430×80 and an addition to the old range of 170×65, and also an L of 50×40. Making the buildings as they stand; one range 430×80, and another range 400×65, with various out-buildings. The buildings and yard-room covering a surface of about four acres.

These facilities of shop room enabled the company to employ about 400 men; turning out about seven locomotives a month besides other railroad work.

The styles of engines built for the first five years of the operation of the establishment were the outside connected engine of two or four drivers and a truck frame, and a pattern of freight engine resting wholly on four coupled drivers. These were simple and strong engines and large numbers of them are yet in use. In 1845 the first inside connected engines were completed, and in a short time the crank engine was the leading style coming out of this establishment. They combined much originality of design and construction in the valve motions, pumps, truck frames and other parts, and proved a determination on the part of the builders to keep up with the progress of the mechanical science of the day. And since that time improvements have been regularly carried out in each successive lot of engines, by which they have approached perfection to a degree that would once have been little dreamed of.

On the 13th of March 1848, the works which had so long been carried on by Hinkley and Drury were incorporated by act of the Massachusetts legislature, under an organization bearing the present name and style of the company. Mr. Drury, who, for so long a time, was identified with the success of the works, has since withdrawn, while Mr. Hinkley still retains his connection with the company in the capacity of president and superintendent.

Under the present organization, and during the hard times of the years 1849, 50, and 51, orders for locomotives decreased, so that the average deliveries for those three years were only at the rate of 43 a year.

In 1852 business revived again and the deliveries that year were 70.

The present year, 1853, the deliveries will be over 80, and the demand has been such, that twice that number could have been disposed of, if the Co. had possessed facilities for building so many.

The whole number of hands employed is above 400, all of which are employed under master mechanics who contract for the different departments of the work. The weekly payments of wages are between three and four thousand dollars.

In the foundry connected with these works, and carried on by Mr. I. Van Kuran, a large business is done in the manufacture of chilled car and engine wheels. For freight engines the chilled driver is becoming quite generally adopted in New England, and the Boston Locomotive Works are doing a serviceable work in their introduction.

The works at present consist of two ranges of buildings running parallel and forming a hollow square. The locomotive shop is upwards of 400 feet long, sixty-five feet wide and two stories high; the other range embracing the boiler shop, blacksmith's shop, and brass and iron foundries, is 432 feet long and 80 feet wide. These two ranges are

connected by the copper and sheet iron shop, which is sixty by 85 feet, and the entire area of the property owned by the company is ten acres.

The whole number of engines built and delivered by the company is 467, the last engine bearing that number, being the "Onward" delivered to the Fitchburg railroad company of Massachusetts, a line already stocked with the best engines from this company's shops.

The present styles of passenger engines built at these works have full cranks and four coupled drivers and truck. The boilers are made of a strong form, the union of the furnace and cylindrical part being made by an offset formed into a beautiful curve. The frames are formed of side plates riveted to stout bars, and have wrought iron jaws riveted in. The jaws have wedges to take up the wear of the boxes. The boiler braces are round and are turned and polished, giving them a neat appearance. The trucks have rockers, by which the truck adjusts itself readily to any rail, and tracks the engine with ease around curves. The link motion or Vee-hooks are employed for working the valves. The pumps have the same stroke as the piston, and have the check valves near the forward end of boiler. The expansion valve where vee-hooks are used, is the graduated variable cut off, known as Gray's expansion valve. The domes are large and placed near the middle of the boilers. The steam passages are of the most approved proportions and dimensions. Lowmoor or Pennsylvania iron is used for the boilers, and Lowmoor iron for much of the running work. The tires are of Bowling iron. The tubes are always of solid brass, from the American Brass Tube company. Matthew's Sparkers are much used by this company, and they have made arrangements to supply them direct from the manufacturer to roads in want of them.

The dimensions of the twenty-two ton passenger engines are 15 inch cylinder, 20 inch stroke, 5 feet six inch drivers, 42 inch boiler containing 131 two inch solid brass tubes, 10 feet four inches long. Furnace forty inches long, forty inches wide and 52 inches deep. Two and one-fourth inch blast pipes; steam ports 12 inches by 1½ inches, and exhaust two inches wide. Travel of valves 4 inches. The tube surface amounts to 709 square feet, the firebox area to 64½, and the grate 11½ square feet. The tenders have eight wheels and contain 1¼ cords of wood, and 1700 gallons of water.

The Boston Locomotive Works have adopted the plan of a large driver and long stroke in their recent freight engines. A stroke of 26 inches with a five feet wheel is now allowed, and the freight engines so proportioned are found to be very efficient and to afford a very advantageous application and economical maintenance of power.

Large Trains.

The Engine "Rocky Mountain" recently drew a train over the Michigan Central road, consisting of one hundred and ten cars weighing about 1000 tons, the freight alone weighing 544 tons. Another engine brought into Detroit a train of one hundred and eighteen cars.

The name of this Engine was the "Salamander." For ordinary business trains we believe these will equal the "capacity" of any Gauge, wide or nar-

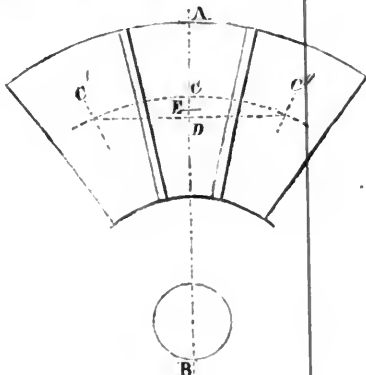
Balancing Locomotive Drivers.

FROM D. K. CLARK'S RAILWAY MACHINERY.

(Continued from page 567.)

4th, In four Segments, fig. 25.—Find as before, the centers c, c', c'', c''' , of the segments; draw $c-c'$ and $c''-c'''$, cutting the line AB ; bisect the interval so enclosed at e , for the common center of gravity.

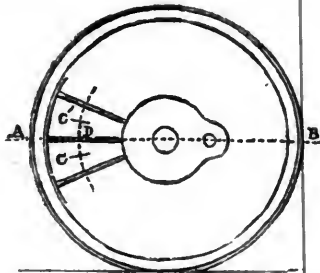
Fig. 23.



Method of finding the common center of gravity of three segments.

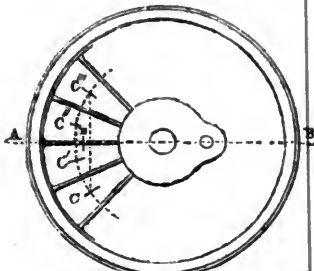
When the counterweight occupies only a part of the space between the arms, the center of gravity may either be found as above or approximated to by bisecting its radial center line.

Fig. 24.



Driving Wheel and Counterweight in two Segments.

Fig. 25.



Driving Wheel and Counterweights in four Segments.

Calculation of the required Counterweight.—Having found the weight to be balanced in the wheel, referred to the crank pin, it may be thence referred to the center of gravity of the counterweight, by multiplying it by the length of crank, and dividing it by the distance of the center of gravity from the center of the wheel. In the sample engine, fig. 1, the weight to be balanced was found to be 540 lbs., referred to the crank pin; and if the counterweight be in one segment to fill one space, its center of gravity is, by the method just given, at 22 inches radius, and

$$\frac{540 \times 11}{22} = 270 \text{ lbs.}$$

the required counterweight, in this case exactly one-half of the weight at the pin. To find the proper thickness if it be of cast iron, and formed exactly to fit the space a, c , fig. 20, this space has 191.5 square inches area, and as cast iron weighs 26 lb. per cubic inch, it requires $270 \div 26 = 1038$ cubic inches of metal. Now $1038 \div 191.5 = 5.4$ inches, the requisite thickness of the counterweight.

If it be of lead, which is weightier than cast iron in the ratio of 1 to 1.6, the thickness will be $5.4 \div 1.6 = 3.4$ ins.

Again, if in the same engine, the weight is to be equally distributed in three segments, over three entire spaces, fig. 22, the common centre of gravity would be at 20.82, or 20 18-16 inches radius, and the whole counterweight would be.

$$\frac{540 \times 11}{20.82} = 285 \text{ 3lbs.}$$

The united area of surface would be $191.5 \times 3 = 574.5$ inches, and $285 \div 26 = 1096$ cubic inches of cast iron required; therefore $1096 \div 574.5 = 1.9$ inches, the necessary uniform thickness of metal.

Our next business is to show by experiment to what extent a compromise may be effected between the respective claims of longitudinal and lateral disturbances on the rails, in the adjustment of the counterweight, and to give a number of rules for practice.

Experiments of M. Nollau, 1848.*—One of these experiments was made with an inside cylinder engine of the following dimensions:—Cylinders 15 inches by 20 inch stroke, 26 inches apart centers; driving wheels, six feet diameter, leading and trailing, $3\frac{1}{2}$ feet, and 11 feet apart. Weight of crank referred to the pin and the half of connecting rod, 152 lbs., crank, connecting rod, piston and appendages, 500 lbs.

Counterweights were applied at thirty inches radius, between the spokes of each driving wheel; and to balance 152 lbs., the revolving weight on a ten inch crank, $152 \times 10.30 = 51$ lbs. was applied and the engine suspended from the roof clear of the rails, free to vibrate any way; the centrifugal action was perfectly balanced, as there was not the slightest vertical action even at 250 turns per minute. The fore and aft motion was however decided; but it was entirely destroyed by a weight of $400 \div 10.30 = 133$ lbs., balancing the entire moving weight. In this case again, the excess of centrifugal force, caused a vertical action of the machine; and there was also considerable sinuous movement, owing to the greater leverage of the balance weights, being double that of the pistons, etc., measured from the center of the axle.

As 51 lbs. was too light, and 133 lbs. too heavy, a mean of them was applied, $(132 + 51) \div 2 = 92$ lbs.; and the engine was set to work on the rails with this counterweight on each wheel. Such was the improved action of the engine, that after a twelvemonth's work, there did not appear the slightest wear and tear of the draw gear; while formerly even with buffing and draw springs, the bolts wore rapidly, and even the foot plate was occasionally buckled or otherwise strained.†

Experiments of Le Chatelier.†—In the workshops of the Orleans railway, an outside cylinder, long boiler locomotive, like fig. 1, was freely suspended from the roof of the building, eight inches clear of the rails, by ropes about 12 feet long.

* Quoted in Le Chatelier's work on Stability.

† Though the details of this experiment show that M. Nollau was in the right direction, it is plain that he did not recognize the divided action of each crank and its appendages in the two wheels nor the necessity for perfect equilibrium, of placing the balance weights at an angle with the center lines of the cranks. This was reserved for Le Chatelier to work out.

‡ The author has converted the results from French into English measures.

The following were the weights of the moving parts:

Crank, referred to the pin.....	93 lbs.
Connecting rod.....	188
Piston and rod.....	174
Crosshead.....	64

Total.....519 lbs.

Three counterweights were applied: 1st, a block of lead, which filled nearly the whole space opposed to the crank, and weighed 141 lbs. Its center of gravity was 26 inches from the center of the axle, and as the length of crank was 11 inches, it would balance a weight of 333 lbs. at the crank pin, for

$$\frac{141 \times 26}{11} = 333 \text{ lbs.}$$

2d, two extra weights, together equal to 88 lbs., were placed, one on each side of the first weight, the center of gravity of each being $28\frac{3}{4}$ inches from the center, and their common center of gravity $26\frac{3}{4}$ inches from the center of the axle; they would therefore balance 212 lbs. at the crank pin, for $88 \times 26\frac{3}{4} \div 11 = 212$ lbs. The total counterweight was thus equivalent to $333 + 212 = 545$ lbs. at the crank pin, which is somewhat in excess of 519 lbs., the weight of the moving parts.

To register the horizontal oscillations, a pencil was fixed to the buffer-beam, which traced the movement on a sheet of paper placed below it, the paper being so disposed as to yield to the vertical movements of the pencil.

Observations were made at various speeds of the engine on its driving axle, up to three turns per second, or an equivalent of 36 miles per hour on the rail, under three conditions.—1st, without any counterweight; 2d, with the partial balance of 333 lbs. referred to the crank-pin; 3d, with the total balance of 545 lbs. Though the speed was limited as above, it was established that, in the same state of balance, the extent of free oscillation was not affected by speed, as the diagrams described by the pencil were the same for all observed speeds,—an experimental result which was plainly predicable from the nature of moving forces for, though, at higher speeds, the intensity of the disturbing force was increased, the time for each oscillation was also shorter. Oscillation diagrams were obtained. No. 1 was described during the free action of the machine, without counterweight; it is elliptical in form, and indicates the combined action of the two varying forces, which cause fore-and-aft motion and sinuous motion, and showing a range of action both ways of about $\frac{1}{2}$ inch. No. 2 was described under the influence of a partial balance of 333 lbs., which, though much below the equilibrium-load, reduced the range of action either way to about .08 or 3-32 inch. When the full counterweight of 545 lbs. at the crank-pin was applied, the horizontal oscillation was effectually extinguished, and the diagram, No. 3 dwindled into a simple point.†

These results show not only the nature and extent of the disturbing action, but the efficacy of counterweights in extinguishing it. When the engine was placed on the rails, with its counterweights attached, it ran with steadiness at 50 to 60 miles per hour, subject only to shocks from the imperfections of the way. The balances being removed, the engine resumed its customary oscillatory motions, violently concussing the draw-gear, and working the spring even at much lower speeds.

The experiment was repeated with the same results, on a six coupled wheel goods-engine, with outside inclined cylinders, and 4 feet 3 inch wheels. This class of engine had been found very unsteady on the rails, and required frequent repair. Counterweights equivalent to 1100 lbs. at the crank-pin, were equally distributed between the three wheels on each side of the engine, well worn by long service; they were placed exactly opposite the cranks, the total weight being less than would exactly have balanced the engine.—With a train of 44 waggons, at 30 miles per hour, the engine

ran with steadiness, though the wheels had already been well worn by long service, and the axle boxes had considerable play. The counterweights being removed, the engine was again set to work with the same train; it was then found impossible to exceed the speed of 25 miles, as the engine ran so unsteadily and was affected with very violent oscillation and fore-and-aft motion.

Similar experiments were made, on the Northern railway of France, upon a six coupled wheel goods engine, with outside horizontal cylinders, by suspending it in the workshops. When unbalanced, and put in motion, it described a curve, at the buffer-beam, showing a compound lateral and fore-and-aft vibration equal to about $\frac{5}{8}$ inch. A counterweight equivalent to 882 lbs., or about seven-eighths of the whole weight was applied on each side of the engine. The engine had just been turned in for repair, on account of the play at the bearings and other parts, and was thus under very unfavorable conditions for a trial. It was disconnected from the tender, and with 4 feet wheels ran alone at a speed of 40 miles per hour, with a satisfactory steadiness; there was no fore-and-aft motion at all, and only a slight degree of sinuous movement. Four of the five blocks for balancing being then removed, leaving only an equivalent balance of 176 lbs., or 17 per cent, of the whole weight, the engine alone could not get above 31 miles per hour, and at this speed the unsteadiness was "fearful." When the tender was screwed up to the engine, the fore-and-aft movement was partially destroyed; but the lateral was as violent as before.

SPRINGFIELD, MASS., Aug. 23d, 1853.

MR. EDITOR,

Dear Sir: In your Journal of the 20th inst., I noticed an article headed "Large Drivers." I do not know the author of that article, but if the proportions given of the other engines named are as far from being correct as those given of the "Whistler," the public cannot be much wiser for such information.

The engine built at the Western Railroad Machine shop, called the "Whistler," instead of having a 15 inch cylinder and 26 inch stroke, has a 16 $\frac{1}{2}$ inch cylinder and 22 inch stroke. The speed of the piston then, in the room of being the same as with a five feet three inch wheel and 20 inch stroke, would be the same as with a six feet and two inch wheel and 20 inch stroke.

Now it is found by comparing the working of the "Whistler," on an express train of five or seven eight wheel cars with another engine with the same sized wheel and a four inch longer stroke, (the cubic contents of the cylinders of each engine being the same) that if the stroke of the "Whistler" is wrong either way it is too short.

If I were to express an opinion as to what has been the cause of a failure to obtain satisfactory results from locomotives with large drivers, I should attribute it more to a lack of sufficient boiler than to the proportions of the cylinder. Having no other object in view but simply to correct an error, I remain very respectfully yours,

W. E.

We are obliged to our correspondent for correcting our error into which we were led by the statement of a friend to the effect that the cylinders of the "Addison Gilmore" and "Whistler" were identical in proportions. It was in fact our intention to have said that the cylinders of the Whistler were 15 $\frac{3}{8}$ inch, but the types misrepresented our meaning. As to the other engines we are positive except with regard to Mr. Milholland's of which we also believe we gave the correct proportions. We quite agree with our friend that

the failure of high wheeled engines is due to an insufficient boiler capacity, a deficiency which has been amply supplied in Mr. Eddy's engines, and (what is equally worthy of consideration,) they have the least "dead weight" of any locomotives in New England. The superiority of the "Addison Gilmore" pattern was confirmed at the Lowell trial, Oct. 1, 1851, where it received the gold medal for its performance in competition against six other passenger engines from the shops of the oldest and most experienced builders in New England.

Journal of Railroad Law.

THE CONSEQUENCES OF NEGLIGENT TRANSPORTATION.

At the late Oxford Circuit, in England, the following case was tried before Mr. Justice Cramp-ton.

Hadley, the plaintiff, was a miller, and Paxendale and Co., the defendants, were carriers. The plaintiff having injured a crank of his engine, sent it by defendant to a neighboring town for repairs. It was delivered to defendants on Saturday, and they were told that it was highly important that it should be expeditiously carried and returned.

They "promised to deliver it for repair on the ensuing day." But so far were they from fulfilling their engagement, that they did not so deliver it until the Friday after the day originally appointed.

The plaintiff showed that his damage from being so long deprived of the crank, amounted to £25 per day. The defendants had paid £24 into court, as a reasonable indemnity for all the damages sustained by the plaintiff. And it was upon the true measure of damages that the case turned.

The Counsel for defendants exerted themselves zealously in order to mitigate damages,—although some of their pretenses were the unfailing signs of a hopeless cause.

They urged that the whole crank was not worth over £10—and that their compensation for carrying would not net more than 100. They insisted that as there was no gross but only casual negligence, they could not be required to pay exemplary damages.

The Judge over-ruled all these positions. The value of the crank and the compensation for carrying it he said were matters entirely irrelevant to the case. The jury must inquire what under all the circumstances would have been a reasonable time for delivering the crank in compliance with the contract between the parties, and also, what were the natural and probable consequences of non-delivery in regard to the plaintiffs,—and what was the damage therefrom resulting.

In view of damages there was no difference in this case between wilful and casual negligence. The jury rendered a verdict of £50 for plaintiffs.

It may not be amiss here to briefly notice the legal principles which are applicable to several questions, frequently arising, in relation to matters of a nature kindred to that of the case above stated.

When goods are entrusted to a carrier to be delivered and they are not so delivered, the ordinary measure of damages, is the value of the goods with interest thereon from the day when they should have been delivered.

But shall the value be computed at the place where the goods have been delivered to the car-

rier, or at the place of destination? In some cases a question of extreme importance.

It seems to be well settled that the value must be computed at the place of destination. In such a case the probable profits of an adventure and the foreign market are proper subjects of inquiry. But a party desirous of having goods transported must not willfully enhance the damage growing out of the carriers refusal to convey in compliance with his stipulation. If another conveyance can be found by using ordinary diligence, the plaintiff should avail himself of it. Then the measure of damages will be merely the difference between the freight, or price of carriage agreed on with the defendant, and the sum (if greater) which the plaintiff has been obliged to pay others on the same account. *Elliot vs. Russell* 10 J. R. 1.

It is fully established, that in a case of negligent transportation of goods, the subsequent acceptance of the goods is no bar to an action for injuries growing out of such negligence. Nothing but an express release, or an accord and satisfaction constitutes a bar, under such circumstances. Although of course, when goods negligently transported by a common carrier have been accepted by the party entitled, such acceptance may be given in evidence for the purpose of mitigating damages, and limiting the recovery to the actual loss sustained by the owner. *Story of Bailments* § 532.

Suppose that in consequence of the negligent transportation of goods it is necessary to remove them for sale to another place than that of their original destination. Can the expenses of such removal be regarded as an item of the damage sustained by the owner?

It would certainly be unjust for the carrier to answer for experiments of the owner. But if the owner can show that the removal for sale was necessary, the expense of such removal may be recovered. The jury however are the judges as to the existence of the necessity alleged. *Black vs. Paxendale* 1 Exch. Rep. 410.

By what means shall the value of articles negligently lost, be arrived at? In our State an action was brought against a carrier for delay in forwarding Alpine Mulberry trees, in consequence of which a portion was lost. The plaintiff claimed the market value, four shillings each. The defendant offered to show that it had been ascertained since the delivery, that the trees were worthless, in view of silk-culture, for which purpose they were bought. Judge Nelson adjudged that the true test of the article was its market value at the time of the loss. *Smith vs. Griffith* 3 Hill 333.

When goods delivered for carriage are lost on the way, as in the foregoing case, it will be perceived that the measure of damage differs from that of a case where goods are brought to the place of destination and then lost.

In both cases, the value of the goods at the time of the loss governs, but in the one case the test is the general market price at the time of the loss, in the other the market price at the place of destination.

Boston and Providence Railroad.

Daniel Nason, who has been Master of Transportation on the Boston and Providence Railroad, at Boston, since the opening of the road, has been appointed Superintendent, in the place of William Raymond Lee who resigned to take the presidency of the Vermont Central.

Georgia.

South-Western Railroad.—We have received a copy of the Sixth Annual Report of the President of the South-Western Railroad Company, to the Stockholders. It sets forth a very interesting and prosperous state of its affairs.

The earnings of the road for the year ending Aug. 1st, 1863, have been \$140,008 25, being an increase over the previous year of \$10,613 25.

The current expenses of the past year, \$98,200 66, leaving a balance of nett profits of \$76,807 59; from this sum, a dividend at the rate of 8 per cent. per annum has been paid, besides interest on Bonds outstanding to the amount of \$11,865 00 and annuity to the City of Macon of \$1,250 00, leaving the sum of \$9,628 19 carried to reserved fund.

The excessive rains and heavy freshets in the months of August, September and November last, seriously injured the road and rendered transportation almost impossible throughout a great portion of South Western Georgia, thereby greatly diminishing the business of the road.

That portion of the road from Oglethorpe to Americus (23 miles,) commenced in April last, is progressing satisfactorily with a force of about 300 hands. It is being constructed by subscriptions separate from the general stock of the present company, but when completed and in operation, will be merged in the common stock.

It is expected that this extension will be completed in time to transport the next crop after the one now growing.

There have been carried over the South Western road within the two years of its operation, 91,235 passengers. Of this number only one was injured and he not seriously. The individual injured attempted, while intoxicated, to get in the cars while they were in motion.

But one run off has occurred since the road was put in operation.

Total number of bales of cotton transported for the year, 38,834.

Average number of passengers per day, 106.

Railroad Items.

On the 10th inst., an additional section of the Virginia and Tennessee railroad, from Salem to the Big Spring in Montgomery, a distance of twelve miles, was opened by the passage of a train of cars over it.

We are informed that the work on the Chicago and Mississippi Railroad, in the direction of Bloomington, is progressing at a very rapid rate. —The rails are down for some distance beyond Elk Hart Grove, and it will not be long before the cars can go to Postville, a distance of thirty miles from this city. At Joliet, we learn the company are putting up a fine depot, machine shops, &c. Between that place and Bloomington, the grading is nearly in a condition to receive the track.

The Albany Northern Railroad has been completed and the first passenger train was run through from Eagle bridge to Albany on Tuesday the 16th inst.

A contract has been completed between the Madison and Indianapolis and Jeffersonville Railroad companies by which the former carry over their road all the passenger and freight cars of the latter company. The construction of the Jeffersonville road from Edinburgh to Indianapolis has consequently been abandoned.

Brunswick Railroad Meeting.

The Brunswick Railroad meeting, held at Thomasville Thomas Co., Georgia, on the 28th ult., was well attended considering the unfavorable state of the weather. We suppose there were some eight hundred or a thousand persons present.

The meeting organized under a spacious arbour by the appointment of Judge Love President and Rev. Mr. Sharpe, Secretary.

Judge Love in a short and appropriate address, explained the objects of the meeting. The report of the delegates to the Shareholders' meeting at Brunswick, was read. It was a favorable account of the progress of the Company; of the good faith of the parties engaged; and of the prospect that the road will be built according to contract.

The meeting was addressed by Col. Young and Judge Hansell, of Thomas by N. W. Collier, Esq., of Baker, before dinner: and by Judge Baker and Judge Mays, of Florida. Col. Tift of Baker, and Col. Steward of Thomas after dinner.

The amount of stock subscribed, for which notes were taken during the meeting, was \$26,000.

—The whole amount subscribed, in Thomas Co., was \$125,500. We learn that other considerable amounts of stock were promised; and from the spirit which seemed to be awakened at the meeting, we have no doubt that the amount of \$200,000 will immediately be made up by subscriptions in Thomas county. This is the amount for which Thomas county is pledged; and her citizens, we are sure, understand their interests to well to leave leave room for a doubt as to the direction of the road.—They will redeem their pledge, and secure the road to Thomasville.—*Albany Patriot.*

New York Central Railroad.

The Albany "Evening Journal" gives a statement of the improvements in progress by this company, and says: "When the Board of Directors held their first meeting on the 7th of July last, the Executive committee were authorised to take measures for laying a double track on the road from Syracuse to Buffalo, without delay; and to adopt all such measures as, on examination, they might deem necessary to put the entire line from the Hudson to Lake Erie, its rolling stock and machinery, in the very best possible condition.

These instructions are now being faithfully carried out. Action has been taken by the committee, upon a scale commensurate with the resources of the road, and the requirements of the immense tide of travel passing over it. Ten thousand tons of iron have already been ordered. This is now in course of delivery. Competent engineers have been engaged in examining the entire line, and have nearly completed their labors. As they proceed, they report; and the board at its meeting on the 20th of July, promptly ordered the repairs and improvements suggested by them, to be made under the direction of the executive committee.

Twenty-seven additional locomotives have been purchased or ordered. Fifty first class passenger cars are soon to be built, and about four hundred freight cars are now in process of construction.

Five hundred tons of new iron have already been laid in place of old rails that have been taken up. All the rolling stock of the road is now undergoing the most thorough examination and repair.

At Buffalo, the accommodations for freight are to be largely increased. All along the line extensive improvements in the buildings are progressing.

At Albany a new engine house and freight depot are in process of erection. Ground has been

purchased for a spacious passenger depot, comprising the entire block bounded by Steuben, Columbia, Montgomery and Water streets.

These various improvements, it is estimated will cost over three millions of dollars. To meet this expenditure, the \$3,200,000 of now unappropriated stock are set apart.

To effect all this will doubtless require time.—But it is all commenced, and will all be rapidly carried forward. It is determined to make the whole road from the Hudson river to Lake Erie, a completely appointed double track of 328 miles, in all its arrangements and accommodations inferior to none, if not superior to any on this side of the Atlantic."

Manufacture of Iron in Detroit.

A correspondent of the Detroit Daily Advertiser says of the manufacture of iron:

Should the manufacture of iron be entered into at Detroit, the very best quality of boiler iron, now worth from \$80 to \$85 per ton, can be made cheaper and with more ease than the blooms themselves are produced by the other process. With this understanding the following article will be read with benefit:

Estimated cost of making charcoal pig iron at Detroit, in large blast furnaces, railroad to the mines and canal built.

1 1/4 tons of ore at \$1.....	\$6 00
130 bush. charcoal, at 4c.....	5 20
Flux 50c. labor \$2.....	2 50
Repairs 50c. superintendence 50c.....	1 00
Interest, general expenses.....	1 00

\$16 70

Cost of converting into bar iron not given.

The expenses of manufacturing at Lake Superior are as follows:

Estimated cost of a ton of blooms made on Lake shore.

Two tons of ore, quarrying and hauling 12 miles, at \$2.....	\$4 00
Roasting same at \$1.....	2 00
Stamping and screening at 50c.....	1 00
250 bush. charcoal, at 8c. (actual cost).....	20 00
2 bloomers at \$8 2 helpers at \$1, or same amount by actual contract.....	8 00
Repairs \$1, superintendence \$1, interest \$1.....	3 00
General expenses.....	2 00

Cost on Lake Shore.....\$40 00

Shipping, freight, carting, storage, commission..... 15 00

Cost when sold at Cleveland.....\$55 00

At Hudson, New York, are two anthracite furnaces of sixteen feet across the boshes, which make over one hundred and eighty tons each one, of pig iron per week. The furnaces of Messrs. Cooper & Hewett, which are run with the Andover ores, are twenty feet across the boshes, and have produced 220 tons each per week. The machinery to obtain this requires a large outlay of capital. The two furnaces at Hudson complete cost about \$175,000.

Charcoal furnaces would be considerably less expensive, but though it might be expedient to begin with only one or two, an engine and blooming apparatus ought to be provided sufficient for a large number.

Railroad Opening.

On Wednesday, August 24th, the first twenty miles of the Philadelphia and Sunbury railroad, from Sunbury to Shamokin was formally opened.

The Lake Erie, Wabash and St. Louis railroad is being pushed forward with energy. A contract has recently been made for 10,000 tons of Winslow's patent compound rail for the road.

Lyons, Iowa, Central Railroad.

Every mile that our railroad system is extended west from the Mississippi, is so much gained toward a railroad to the Pacific. While government is investigating and deliberating, private enterprise, and private capital, are pushing railroads to the very verge of our own western settlements, so that when the former is prepared to act, it will find more than half of this great work already accomplished, while the steadily increased confidence which our success is securing to our people in our ability to construct a railroad to the Pacific, will render this work a comparatively easy task when finally undertaken.

The pioneer line based upon Chicago, which occupies, probably, the most conspicuous place in public attention, is the Lyons, Iowa, Central Railroad. The line of this road commences at Lyons, on the Mississippi river, very nearly due west from Chicago, and extends in the same direction to the Missouri river, a distance of 335 miles. Lyons is about 132 miles west of Chicago, making the distance from that city to the Missouri, about 467 miles.

Upon the first division of this road, extending 100 miles from the Mississippi, a stock subscription of \$1,000,000 has been raised, and the work of construction is progressing rapidly. Already, are 400 men at work upon this portion of the line. From Lyons to Iowa city, the capital of the state, a distance of 75 miles, the graduation is contracted to be done by the first day of March next, and the road will be completed to this point as soon after as the rails can be laid, so that in the whole of the coming year 75 miles of this road will be in active operation.

Active measures are in progress to raise the necessary means for the several divisions of the road of 100 miles, and we learn that a stock subscription of \$700,000 has already been secured. As soon as \$1,000,000 are raised, the work will be commenced upon it. This division will carry the road to the limit of the settlements that have moved west of the Mississippi. There are, however, extensive settlement on the Missouri that have gone up that river, and in a year or two more, the rapid immigration into the state will unite these settlements, so that soon the entire line of this road will be teeming with an active and thrifty population.

There is probably no more attractive State in the Union than Iowa. The whole territory may be said to consist of a rolling prairie, of great fertility, a larger portion of it underlaid with coal, tolerably well wooded. Fever and Ague are almost entirely unknown. The water is excellent, the climate admirable. It is filling up with great rapidity, and in the eastern portion of the State, all the elements necessary to furnish a lucrative traffic to a railroad exist in abundance.

The parties who have this work in charge are well known for their energy and capacity. They are pushing forward their work with commendable vigor. The route of the road is an excellent one in a business point of view. It cannot fail of proving a vast benefit to the State, and we see no reason why it should not prove equally profitable to the Stockholders.

Although the road is been constructed with a view to the accommodation of the local traffic of the route, it is believed by the parties having it in charge, that it will ultimately prove the trunk of

the great lines to the Pacific, through the South Pass. Chicago, evidently must become the terminus of a road to the Pacific, and the road that reaches a given point on the Missouri, or Platte rivers, in the shortest distance from that city, must be the one selected as a portion of the Pacific road. This advantage is claimed for this road over all rival projects.

The Stanstead and Chambly Railroad.

The Sherbrooke (Canada) Gazette says of the late railroad meeting at Stanstead—

The business of Stanstead has for many years been almost exclusively with the States, and the inhabitants of the country take a much greater interest in the southern than in the northern extension. They look upon the Stanstead, Shefford and Chambly Road as the means for procuring the continuation of the Passumpsic line. Were this secured, they would probably deem it more to their interest to unite with the wealthy and thriving St. Lawrence and Atlantic, than with the contemplated road to Chambly.

Appointment.

Mr. George Burrows has been appointed superintendent of that branch of the New York Central railroad, heretofore known as the Rochester, Lockport and Niagara Falls road.

Catawissa Railroad.

The workmen are now engaged in laying down the iron on the Catawissa road. The road is near or quite all graded to Tamaqua, and the bridges over ravines and creeks in the Catawissa valley, will be completed this summer.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMullen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required. Aug. 10, 1853. 3m Office No. 25 Cliff street, New York.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

BRANDS' LIQUID,

FOR DISSOLVING AND PREVENTING INCRUSTATIONS IN STEAM BOILERS, IS acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel gratis to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents, Messrs. BOURRY & ROEDER, Consulting and Mechanical Engineers,

Aug. 10, 1853.

323 Broadway, N. Y.

N. York and N. Haven R. R. NOTICE OF SUMMER ARRANGEMENTS.

Commencing Monday, May 9, 1853.

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation for New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
6.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.

New Haven, May, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe in FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New York and Erie and Buffalo and New York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent, No. 193 Broadway, corner Dey-st., N. Y.

GREAT WESTERN MAIL LINE.—SIXTY MILES DISTANCE SAVED, by taking the MICHIGAN SOUTHERN and NORTHERN INDIANA RAILROAD.

Through tickets for Chicago, St. Louis, Milwaukee, Racine, Kenosha, Waukegan, and Sheboygan, by New York and Erie Railroad via Dunkirk, and Buffalo and New York City Railroad; People's Line of Steamboats, Hudson River Railroad, via Buffalo, connecting at Buffalo with the splendid steamers EMPIRE STATE, J. WILSON, Commander, Mondays and Thursdays; SOUTHERN MICHIGAN, D. PERKINS, Commander, Wednesdays and Saturdays; NORTHERN INDIANA, I. T. PHEATT, Commander, Tuesdays and Fridays; leaving Buffalo every evening (Sundays excepted.) These steamers are low pressure, built expressly for the Lake trade, and for finish, speed, strength and safety, have no superiors anywhere.

The connections with the Express Trains at Toledo and Monroe, for Chicago and St. Louis, are perfect, and can be relied upon.

Forty hours from New York to Chicago. Time and money saved by taking this Line.

Passengers preferring it, can take the Lake Shore Railroad to Toledo, the Michigan Southern and Northern Indiana Railroad to Chicago, thence by the Rock Island Railroad to La Salle, forming the only continuous line of Railroad to the Illinois river. For through tickets or freight apply to

JOHN F. PORTER, Agent, 193 Broadway, cor. Dey st.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. York City R. R., without change of baggage or cars; and also for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Susquehanna and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAT, at 3½ p. m. for Delaware and all intermediate stations. NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7 p. m. for Dunkirk and all intermediate stations. On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

Notice to Contractors.

PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile railroad, will be received at the Railroad Journal Office, New York, on the 1st of October next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 225 miles; commencing at Girard, in Russell County, on the west bank of the Chat-tahirchu river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.
GEO. S. RUNEY, Chief Engineer.
Girard Railroad Office, 8th July, 1853.

To Contractors.

SEALED PROPOSALS will be received at the Office of the Chesapeake and Delaware Canal Company, No. 64½ Walnut street, Philadelphia, until the 15th day of September next, for the construction of the **NEW LOCKS** to be made on the Chesapeake and Delaware canal. Plans and specifications for said Locks will be exhibited at the office of the Company on and after the 8th of September.

ANDREW C. GRAY,
President Ches. and Del. Canal Co.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
80 South 3rd Street
Philadelphia.

May 1st, 1853.

SEYMOUR DRAPER, No. 46 Pine-st., offers for sale, a variety of **RAILROAD BONDS** and **STOCKS**; also **CITY, TOWN** and **COUNTY BONDS**, among which are—

1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R.	New York, 1867
7 per ct.—Western Vermont R. R.	1861-71
7 per ct.—Columbus, Piqua and Indiana.	1862
7 per ct.—Catawissa, Williamsport and Erie.	1867
8 per ct.—Peoria and Oquawka.	1863
6 per ct.—Maysville and Lexington.	1870
6 per ct.—Dauphin and Susquehanna Coal Co.	1877
1st Mortgage Bonds:	
7 per ct.—Corning & Blossburg.	1873
7 per ct.—Buffalo and New York City.	1866
7 per ct.—Mansfield and Sandusky.	1860
7 per ct.—Toledo, Norwalk and Cleveland.	1861
7 per ct.—Vermont Valley.	1861
7 per ct.—New Jersey Central.	1860-70
7 per ct.—Brunswick Canal Co.	1857
7 per ct.—Troy and Bennington.	Troy, N.Y. 1862

Also, second Mortgage bonds of many of the above companies, and—

7 per ct.—Saratoga and Washington R. R. New York, 1862	
7 per ct.—Troy and Boston.	1864
7 per ct.—Muscoogee Railroad.	Savannah, 1862
7 per ct.—Huron and Oxford.	New York, 1862
10 per ct.—Mansfield and Sandusky R. R. Co.	1856-57
7 per ct.—Township of Portland, Ohio.	1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R. R.	1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio.	Huron, 1861
7 per ct.—Town of Newark, O.	New York, 1860
7 per ct.—City of Sandusky, convertible into Junction R. R. Stock.	1866
7 per ct.—State of California.	1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co.	1855
12 per ct.—Improvement Scrip of the State of Wisconsin for improvement of Fox River.	1869

Rutland and Whitehall Stock, with guarantee of dividend by Saratoga and Washington Railroad.
Stock in the Western Vermont R. R. Co.
Stock in the Mad River R. R. Co.
Stock in the Buffalo, Corning and New York R. R. Co.
Stock in the Mansfield and Sandusky R. R. Co.
Stock in the New York and Virginia Mail Steamship Company, paying 20 per cent. dividends.



WHITE'S SUSPENSION BRIDGE, OF
WOOD OR IRON.

A Model may be seen at the office of CHARLES T. GILBERT, 80 Broad St. N. Y.

Length of span, anything short of 1,500 feet with perfect safety for every kind of travel. The above cut represents a Wooden Bridge with a roof. The arrangement for the Iron Bridge is such as to avoid all the bad effects of changes of Temperature. For a full description, see pamphlets; for further information, respecting models, rights, &c., apply, by letter or otherwise, to ALBERT WHITE, or JOSEPH P. TRAYER, Provincetown, Cambridgeport, Mass.
Office next door to the Athenaeum.

Notice to Contractors.

JEFFERSONVILLE RAILROAD.

SEALED Proposals will be received at the office of the Company at Jeffersonville, Indiana, until 10 o'clock, A. M., on Wednesday, the 7th day September, 1853, for the clearing, grading and bridging the road between Edinburg and Indianapolis.

Proposals may be made for sections, divisions, or the entire line, about 30 miles, payable in the 7 per cent mortgage bonds of the Company or part bonds and part cash, and also for payments entirely in cash.

The company reserves the right to accept such proposals as in their judgement will best secure the prompt construction of the road, and to reject all, if none are satisfactory.

The route traverses a fertile country, furnishing abundant supplies of all kinds, and the line is easy of access at all points.

Bidders will please give their post office address.

WILLIAM G. ARMSTRONG, President.
Jeffersonville, July 9, 1853.

Notice to Contractors.

THE UNDERSIGNED will receive proposals, at the railroad office in Indianapolis, to construct the Evansville, Indianapolis, and Cleveland Straight Line Railroad from Evansville to Indianapolis. The proposals will be for the whole line, 150 miles, more or less, or for either of the three sections of about 50 miles each. First from Evansville to the crossings of the Ohio, and Mississippi railroad in Davise's Co.; second, from that point to Spencer, Owen county; Third, From that point to Indianapolis. The bid will be for the whole work the company finding the iron, chairs, and spikes), up to the rolling machinery, or for the earth and rock-work alone. The proposal will state what part of the pay will be received in real estate, bonds, and stock of the company.

O. H. SMITH, President.

WILLARD CARPENTER, Vice President.
Augt. 13, 1853.

Railroad Spikes.

THE Subscribers are manufacturing Railroad Spikes with SWETT'S Patent Improved Machines; and are prepared to execute orders for any quantity, on the most favorable terms. These Spikes are made of the best quality of iron, and, for shape and finish, are superior to any others. Railroad companies and others in want, are respectfully solicited to order a sample before purchasing elsewhere. All orders will receive prompt attention.

Pittsburgh, Pa., August 25, 1853.

OFFICE CINCINNATI, HAMILTON and DAY-TON Railroad Company.—Cincinnati, Aug. 9th, 1853.—The directors of this company have this day declared a dividend of five per cent. on their capital stock, payable to the stockholders registered in Cincinnati on demand, and to those registered in New York, on and after the 25th inst., at the office of the Ohio Life Insurance and Trust Company, in New York.

1m. FRANK S. BOND, Sec'y.

Book and Job Printing.

The undersigned have added to the **PRINTING ESTABLISHMENT** of the "RAILROAD JOURNAL," an extensive **OFFICE** for **BOOK AND JOB PRINTING**, which they are now prepared to execute in the **BEST** manner, and with **DISPATCH**. They respectfully solicit from **RAILROAD COMPANIES**, orders for the **PRINTING** of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1821.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 37.]

SATURDAY, SEPTEMBER 10, 1853.

[WHOLE No. 908, VOL. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, September 10, 1853.

Are we Building too many Railroads?

In the last number of the *Journal*, we discussed at some length, the prospective calls of our railroad companies, and the means of our people to meet them. Since then we have examined this subject somewhat more critically, and we find that the projects now before the public, embracing such of our roads in operation as will require more money to complete their improvements, will, during the present and coming year, call for loans fully equal to \$200,000,000! This sum is in addition to stock subscriptions, though it is intended to embrace the stock subscribed by corporations of various kinds, which are usually paid for by the sale of the credits of such corporations.

Having stated the probable amount of loans that will be attempted to be negotiated, the public must judge to what extent this can be done. It will also be well to consider what consequences will result provided a considerable number of our

companies should fail in their attempts to supply their necessities by borrowing.

We are satisfied that money cannot be had as fast as called for to carry out all our projects.—With all we are receiving from abroad, our people cannot lend \$100,000,000 a year to our railroads. These are our convictions. It must be borne in mind that while our railroads are making such progress, innumerable enterprises of a different character are brought forward, and which present equal attractions, and are as clamorous for money as are our railroads. Were the opportunities for investment fewer, or were capital in this country more concentrated, as it is in England, for instance, we might perhaps carry forward simultaneously all our schemes. But such not being the case, we must make a compromise between all the projects presented, and take such as offer the greatest attractions.

We are satisfied from reasons drawn from experience in railroad construction, that money is going to be tight for these projects for some time to come. Wherever an uncommon effort is made, a corresponding repose, or rest, is demanded. This is a natural law. We have made an uncommon, a tremendous effort, to build our roads. Every argument and every appliance has been made use of, to enlist the sympathies and support of our people, and to get their money. Now under all the inducements held out, is it reasonable to suppose, that their money has been expended faster than it has been replaced by their earnings? In other words, our people have been investing their surplus capital, consequently they have it not in hand for new projects. There future subscriptions to the stock and bonds of new works must, to a considerable extent be made from accumulations of new earnings, requiring greater or less time. In the mean time, from the extent of our operations, money is going to be in active demand, and will command high rates. The whole country may derive an useful lesson from the experience of the people of Massachusetts in this very matter. The railroad mania that prevailed in that State a few years since, caused to be invested in its railroads, a very considerable portion of the *monied capital* of its people. Not only was *Boston*, but every village in the State, exhausted. All the money hoarded by petty capitalists, by farmers, by me-

chanics, and by professional men, was drawn from its hiding places by the tempting offers of railroad companies. While the work of construction was going on, and the money was being spent, no particular inconvenience was felt by the immense expenditures. It stimulated every branch of business, and created an apparent prosperity, which was attributed to the influence of railroads. Soon however, a change came over this apparently prosperous state of affairs. It was found that in the heat of the moment, too great a proportion of the capital of the State had been invested in railroads, and that not enough had been reserved to carry on easily and economically the ordinary business operations of the community. Money became in active demand, and remained so a number of years. The ordinary interests of the community suffered in a corresponding degree. The market value of property depreciated, and a general depression affected, unfavorably, the value of those investments which caused it. The only remedy for these evils was to supply the *hiatus* created in the capital of the State by new earnings, a process requiring time, and during which, numerous sacrifices were submitted to, and a general languor prevailed in every industrial interest throughout the State. In other words, the people went beyond their means, and suffered the natural consequences.

Now we admit that the cases cited are not parallel in many respects; consequently some qualification is necessary in reasoning from one to the other. Railroads cost more in Massachusetts than in any other State. Numerous and very expensive competing roads were built. The comparatively small saving effected by these roads, in transportation and travel, required a long time for them to return their original outlay. It is well known, too, that the New England roads which depend upon agriculture for their local business have generally proved *unprofitable*. The reverse is the case with the roads of the States lying to the south and west. Agriculture in New England furnishes scarcely anything for export; every little community, consuming all that it raised.

The Western roads in the other hands find full and profitable employment in carrying to the consumer. The vast surplus of the regions they traverse and in a very short time, reimburse their

first cost. But this fact does not render it impossible for our people to go beyond our means in their construction, or to incur to some extent the consequences that follow their over constructions in New England.

We may not construct those that are *not* needed and may not be useful, but we may place an undue proportion of our means in them. In such cases an *over* effort must be followed by a season of *rest* in which to recruit our exhausted strength. That our people will feel the need of this rest, and will take it, we feel certain. We are equally satisfied that the calls of our companies in operation will exert a much stronger tendency in postponing the claims of new works than at any former period.

It appears to us that ordinary experience leads to such a conclusion. Every kind of business has its periods of progress and retrocession, as regular as are the ebb, and flow of the tide. Our railroads have a long time been moving forward upon the flood of the tide. We must sooner or later to see an ebb.

With these views, we do not design to intimate the idea that our people are not going to continue the rapid construction of new works; nor that our roads in operation are not going to be profitable. When we shall have 30,000 miles of railroad, the necessity for the construction of *new* works will be as strongly felt as at the present time. We have in fact only *commenced* their construction. We have, too, as much confidence as any reasonable man can have, in their success. We believe, too, that numerous lines, not yet undertaken, would pay, provided the means for their construction could be obtained. Were an issue raised upon these points, we should take the affirmative. It is the probable *lack of capital* to meet the demand that we wish to insist upon, and to urge upon companies the necessity of proceeding with great caution, and not incur liabilities which they cannot see their way clear to meet.

We believe that companies who have had their work in progress for a considerable length of time, to be in a generally sound condition. We do not anticipate any state of things that shall render it difficult for any one in good condition at the start, to carry out their plans. The idea of any general embarrassment is without good foundation. Our whole system will continue to move forward with regularly increased strength. We may in fact be making the most *rapid*, when we are making the least *apparent*, progress. Neither do we regard the present stringency in the money market as an evil. We need such, as checks to excesses to which we are liable. They indicate at short periods the *tendencies* of any course we may be pursuing, and enable us to correct our mistakes, without suffering any serious consequences from them.

Rutland and Ogdensburg Railroad.

Henry M. Holbrook has been chosen treasurer of the Ogdensburg railroad, vice Wm. T. Eustis, resigned.

Geo. M. Dexter, treasurer of the Vermont Central railroad has tendered his resignation to the directors; and Henry M. Holbrook is talked of as his successor.

The Rutland railroad will still retain its present excellent and efficient treasurer, Peter Harvey.

These three roads are embraced in the contemplated plan of consolidation.

St. Louis and Iron Mountain Railroad.

We briefly alluded to this work in our last number. We now give in full the report of the committee appointed to prepare a memorial addressed to the voters of the city, upon the subject of the proposed subscription of \$500,000 to the stock of the road which has been since made, by a vote of 1094 to 14. The road is one of the most important in Missouri, or in the country. It is as follows:

At a meeting of the Board of Directors of the St. Louis and Iron Mountain railroad company, held on the 14th August, the undersigned were appointed a committee to solicit from the city of St. Louis a subscription of five thousand shares to the stock of said company, the directors believing with this sum added to the subscriptions already obtained, they could put the whole road under contract, and provide for its completion at an early day.

The engineers in the employ of the company, have lately completed the preliminary surveys for the road, in which thorough examinations were made of all the routes claimed to be practicable; and the one selected is a great improvement upon the line first reported upon—being 264-100 miles shorter, with five feet to the mile less grade, coming north with less curvature, and a saving of seven bridges; which in view of the character and quantity of the freight to be transported over this road, becomes an important consideration.

There are now two parties engaged in a detail survey necessary to an accurate location of the route, and to enable correct estimates for construction to be made, and if sufficient means can be obtained to justify the company, they expect to put the road under contract within a few weeks.

The speedy completion of this road is important to St. Louis—indeed, to the whole State of Missouri. Five-sixths of the iron sold in this market is brought here from Pittsburgh, Wheeling and other distant points; and more than one million five hundred thousand dollars are sent annually from St. Louis to pay for iron and nails sold here, besides the cost of pig metal used by our foundries. By constructing this road to the Iron Mountain and Pilot Knob, rolling mills and nail factories would soon be built up in our city, and the foreign articles driven out by the manufacture of better iron at home.

These manufactures would add to our wealth, and greatly increase our population. Look at Pittsburg. More than 50,000 of the population of that city and her suburbs are supported from the manufacture of iron, and the annual products amount to millions. In Cincinnati about 5000 men are employed in the manufacture of iron, and more than 20,000 of her population are supported from that source alone.

We have thus briefly alluded to our sister cities in order to practically illustrate what St. Louis may justly expect when the rich ores of Missouri are brought within her reach.

With a geographical location unsurpassed by any inland city in the world—centrally located in the Valley of the Mississippi—possessing many important natural channels of communication with every part of this valley—with inexhaustible masses of the richest ore in her vicinity, St. Louis has but to arouse herself with energy to become the most important iron mart of America. She can not only put a stop to the large importation of iron, nails and castings, which is now necessary to supply our wants, but can successfully compete with our sister cities in supplying the markets of the south and west.

Within the next four months we shall be in the daily receipt of coal from the Illinois Bluffs by three different railroads. And in 18 months we can have the Canal coal from the Osage, brought here by the Pacific railroad.

With these assurances of an abundance of fuel, we only need the iron to give a new impulse to the iron manufacturing interest of our city.

By the construction of the road to the Iron

Mountain and Pilot Knob, we can obtain the rich ores of that region at a price that will defy competition, and in quantities that almost defy computation.

From an estimate made by one of the engineers engaged in surveying the road, it appears that there is ore enough in the Iron Mountain above the level of its base, to make one hundred and five millions tons of iron. And the Pilot Knob and Shepherd's Mountain, and the adjacent banks would probably furnish a still greater quantity.—So that, within eighty miles of St. Louis, and within a space of seven miles, we have iron enough to supply the world for centuries to come, without descending below the base of those mountains.

The quality of these ores is well known. For the manufacture of steel and for all malleable purposes, they have no superior. It is just what we need at this time for our own railroads.

But before this iron can be brought into extensive use—before iron manufactures can be built up in our city, increasing our industrial population, adding to our wealth, and securing to us our "boasted destiny" as a commercial metropolis, we must have the railroad to transport the ore to our city. In this opinion every one concurs; and every day's delay in the construction of this road, delays the commencement of a new era in the prosperity of St. Louis.

Build this road, and rolling mills, nail factories and foundries would soon spring up and find constant employment in supplying our home market. These rolling mills would not be confined to the making of assorted bar iron, boiler plate, etc., but another and important branch of the manufacture would be added, to wit: the making of railroad iron.

It will require for the completion of the Pacific railroad to Kansas, and the southwest branch, sixty thousand tons of rails; for the North Missouri road thirty thousand tons, and for the Iron Mountain road ten thousand tons—making an aggregate of one hundred thousand tons, and costing at present prices, over seven millions of dollars.

We ask, shall this money be sent to England to buy an inferior article, or shall it be retained to enrich St. Louis and develop the resources of our own State? But the manufacture of railroad iron will not stop with the completion of the above named roads. The road to the Pacific must be built. Allowing the distance to be two thousand miles, and that it will take one hundred tons of iron per mile, it will require two hundred thousand tons for that road alone—costing at present rates, over fourteen millions of dollars, and the making of this iron would give constant employment to three rolling mills for seven years.

The manufacture of railroad iron at this point in sufficient quantities, would be one of the strongest arguments in support of our claims to the starting point in the road to California, that we could offer. Let it be announced that St. Louis is prepared to furnish the rails for this road as fast as the road is graded—rails of superior quality, made from the "famed" Missouri iron, and it will give us advantages that cannot be overcome by the influence of conventions.

Other roads are contemplated all around us, including the continuation of the Iron Mountain road to Little Rock and Fulton, and thence to N. Orleans. And a few years will increase the demand for iron to an extent beyond our most sanguine expectations. St. Louis, if true to herself, will reap the benefits.

There are now parties ready and anxious to commence the manufacture of railroad iron in this city, but deem the completion of the road necessary to ensure success. Others are more confident and propose commencing to build at once if the road is to be constructed. And we have good reason to believe that if we put our road under contract this fall, we shall be able to contract for all the rail to be manufactured in St. Louis, and of Missouri iron.

The road and its equipments will cost at the present high prices, about three millions of dollars. We have about \$800,000 of the stock subscribed.

If the city of St. Louis takes a half a million dollars of stock, it will give us thirteen hundred thousand dollars. And we expect to obtain from the city of Carondelet, and individuals, one hundred thousand dollars more. With this amount we shall be able to dispose of stock and the bonds of the company in other markets, to an amount sufficient to complete the road.

The estimate of the engineer, makes the road when built, pay over seven per cent, and these estimates of business were only intended to show a seven per cent stock, and are too low, both as regards freight and passengers, only allowing 60,000 tons of metal and ore, and 15,000 tons of granite and marble per annum—and other articles in a like ratio.

The granite near the Iron Mountain is of a superior quality and beauty; and it is believed that the opening of the road will bring it into extensive use in our city not only for building purposes but for paving our streets. The expense for the latter will only be that of quarrying and transportation.

This road when built, will bring to our market not only the pig metal and blooms made at the points named, but will bring all the ore needed for manufacturing here as well as for shipment to other points—and this last will become an important item of trade—as it has been ascertained that from the quality and richness of the ore, it will bear shipment to different points on the Ohio when costing ten dollars per ton at St. Genevieve. By railroad it can be furnished at our wharf at three dollars per ton.

The road will pass through the counties of Jefferson, Washington, St. Francis, and into Madison; and will accommodate the lead mines of these counties, and give new impulse to business. It will also draw the trade of the counties of Dent, Shannon, Oregon, Ripley, Wayne, and Dunklin.

It will also draw the trade of northern Arkansas, that now comes to us by way of Cape Girardeau, which will meet us at the mountain until our road is extended further south.—That the stock will be good paying stock, we do not entertain a doubt. But if it was otherwise, if the city subscription should prove a total loss, it would still be a judicious investment if the road be built, as the city would be amply compensated for her loss in the establishment of manufactures, in the increase of her population, and in the increased wealth drawn from this inexhaustible source to be subject to city taxation, and thereby greatly increase her revenue. At this time strong efforts are being made to draw off our produce trade, and with it to draw the dry goods trade from large sections of country heretofore considered tributary to St. Louis. And these efforts may succeed unless we build up manufactures; and by furnishing the staple articles that are indispensable, overcome these efforts, and make our rivals tributary to St. Louis.

We have endeavored, thus hastily, to sketch a few reasons why the city should subscribe, and, by her aid, ensure the early completion of the road.

We do not ask this subscription as a favor to the Company, but as securing an important benefit to St. Louis; one in which the capitalist, the merchant, the mechanic, and the laborer are all interested. If our unparalleled growth, as a city, is to continue, we must have manufactures. If we would defy the competition of rival cities, we must supply the Mississippi Valley with Iron, in its various forms, and that without delay. If we would draw the millions to St. Louis, that will be otherwise sent to England to purchase Railroad Iron, we must prepare to make Railroad Iron here.

In Europe, "the Iron Mountain of America" is considered one of the wonders of the world, and the quality and purity of the ore considered almost fabulous; while here, it has, so far, been treated with neglect. While we have such quantities of ore within eighty miles of our city, so pure that it can be made directly into rails, we send to England to buy an inferior article, to be paid for by the shipment of our gold, or the issue of State bonds.

By the prompt action and aid of the city we can soon reverse this order of things, and, in a few

years, make St. Louis the Birmingham of America, and add to her attractions as a great commercial center.

All of which is respectfully submitted:

WM. M. McPHERSON
WM. H. BELCHER,
THOMAS S. O'SULLIVAN. } Committee.

Exhibit of the Lake Erie, Wabash and St. Louis Railroad.

The valley of the Maumee River, from its mouth on Lake Erie to Fort Wayne, and that of the Wabash River, thence to its south bend near Lafayette, form in their course a direct track, as far as the last named point, between Toledo and St. Louis. The work herein presented under the name of "The Lake Erie, Wabash, and St. Louis Railroad," is a constituent part of line from Toledo to St. Louis, and represents the Indiana portion of that line, in length, 163.54 miles.

The following remarks, unless otherwise expressed, refer to the road in Indiana. The Ohio portion, from Toledo to the State Line of Indiana, 75 miles in length, under the title of the "Toledo and Illinois Railroad," will be prosecuted at the same time and by the same parties, (though necessarily under different organization,) for which due arrangements have been made, by a perpetual lease of the Ohio road to the Indiana Company. These combined lines will introduce us into an existing chain of roads now nearly completed through Illinois to Alton and St. Louis, and command, also, the other outlets of the Mississippi as high as Burlington.

CHARTER.

The Company derives its charter under the general Act of the Legislature of Indiana, of May 11, 1852, "To provide for the incorporation of Railroad Companies." Its organization was completed by the election of officers on the 1st day of September, 1852. A thorough survey of the line has been made, under the direction of William Durbin, Esq. an experienced civil engineer, the results of which are very satisfactory.

Traversing one of the most extended and productive valleys in the West, whose staples for many years have swelled the markets of New Orleans, and more recently (since the Wabash and Erie Canal was completed) those of Toledo and Buffalo, following the lines of commerce, starting from the most western extreme of Lake Erie, and approaching the city of St. Louis this work began very soon to attract public attention in the Atlantic States. For the cities of Boston and New York especially, the Wabash valley has ever been regarded the natural route to St. Louis. It would have been sooner occupied with a railroad track, but that the jealousy of Ohio and Indiana for their canals denied to companies a charter, until a more enlarged policy under their new constitutions, opened the way to private enterprise by the general railroad laws of each of those States, lately passed.

SUBSCRIPTIONS.

Subscriptions to the capital stock of the Lake Erie, Wabash, and St. Louis Railroad have been made to the amount of two millions of dollars. Of this, \$700,000 were taken in Indiana, and \$1,300,000 in New York. Among the shareholders are names prominently connected with our oldest and most successful railroad enterprises, and well known in that relation, both in Europe and America. An instalment of ten per cent. has been paid, and further requisitions will be made monthly, as it is intended the work shall advance with the utmost rapidity.

CONSTRUCTION.

A contract has been made with Messrs. Boody, Ross & Co. of New York, to build, furnish and equip the entire line of road by the first day of May, 1855. The contract covers the road-bed and its superstructure of wood and iron, with the necessary side-tracks, station-houses, machine-shops, and other buildings and fixtures, including a suitable and specified outfit of rolling stock, all to be finished and furnished as a first-class

road. The contractors, being men of great experience, and having built with great success other important roads, (among them and most recent, the "Rochester, Lockport, and Niagara Falls," and the "New Jersey Central") the Company have the most reliable assurance that their work will be well executed and with signal dispatch.

COST OF THE ROAD.

The contract cost of the road, with its furniture and equipment, will be a near approximation to four millions of dollars. As this covers everything but right of way and depot grounds, with some small amount of contingencies, the entire cost of the road in motion, with a suitable outfit of rolling stock, may be set down (including interest during construction) at \$4,500,000. The work has been apportioned to sub-contractors, some of whom are at work, six corps of engineers being engaged in preparing the line. Releases of right of way are being taken, which in Indiana are generally voluntarily, or will cost but an inconsiderable amount.

LOCAL BUSINESS.

No better illustration of the probable productivity of this stock or of the business of the road can be given, than its position on the map, indicating its connection with the western system of land and water carriage. A brief explanation, however, of some of its local and domestic resources, will be appropriate.

Pursuing a middle latitude, it passes through a region where wheat and corn equally abound, and reaches at its western end the country of pasturage. More cattle have passed the Wabash river at Attica, (where the road leaves the river,) than at any other point. The Maumee and the Upper Wabash sections are forest lands, covered with a steady growth of burr and white oak, black walnut, poplar, wild cherry, curled maple, &c. At Lafayette, the road enters the eastern margin of the prairie world, which, stretching west to the Rocky Mountains, requires its supply of timber from behind. This timber will go westward to the Mississippi, for house building, fencing, cabinet work, cooperage, and other mechanical uses. The lumber traffic is now a profitable one on every Ohio and Indiana road, and on none more so than those approaching the prairies. The market for lumber west of Lafayette is boundless, and this article alone would furnish a daily train of cars. Steam saw-mills are arising every five miles on our newly finished roads.

DANVILLE COAL FIELD.

At Danville, 45 miles west of Lafayette, we enter the "Illinois Coal-field." The quality and extent of this deposit at Danville has been partially made known in the paper of the Illinois Central Railroad Company. The measure at Danville is inexhaustible; it is found there in a stratum from 9 to 11 feet thick, and is easily mined. Its analysis shows 42.1 per cent. of bituminous matter; 48.5 per cent. of carbon; only 4.3 per cent. of ashes. It forms 52.8 per cent. of coke. This coal is nearer to the western harbors of Lake Erie by 100 miles than any deposit that can be supplied by another road. It must furnish the steam marine of that lake at Detroit, Toledo, and Sandusky, and will meet the Pennsylvania coals at Cleveland. Add to this its consumption for household and mechanical purposes, in the Wabash and Maumee valleys and adjacent country reached by the lateral roads.

LIVE STOCK.

An appropriate business for American railroads, and in which there is no competition through other channels, is the carrying of live stock, particularly fat cattle, hogs, and horses. It is computed that when our lines are made direct and more continuous to New York, and cheap facilities are provided for resting and feeding stock by the way in proper pens a fat bullock may be sent by rail from Attica to New York for \$2. This at the present difference between Wabash and New York prices, would leave the owner a margin of \$16 profit on a bullock weighing 1000 lbs.

The "Madison and Indianapolis Company" car-

ried on their railroad of 86 miles, from 1847 to 1852 inclusive, an average each year of 81,055 hogs, for a distance which averaged 30c. per hog. The Lake Erie, Wabash, and St. Louis road in its greater length will probably transport 100,000 hogs a year, at 50c. per head.

WAY TRAVEL.

Among the items of local traffic on this road may be put down, as one of the most profitable constituents, *the way travel*. Touching from Toledo to Danville more market towns than any road of the same length in the Western States, the amount of personal intercourse between those towns must be very great. Following in its entire length a great line of intercourse already established, the roads from the interior will at every point deliver their contributions of travellers and again in turn receive them from this road. Not only the commercial, but the *civil* and *municipal* business of the surrounding communities is concentrated on this line. From Toledo to Danville it passes through numerous towns and villages, of which *twelve* are the seats of justice of their respective counties. Meeting the lateral railroads at their *termini*, exchanges are more cheaply and easily made with those roads than at other points, which secures it against the rivalry of parallel roads omitting the towns and business points. These results are accomplished without losing more than six miles over an air line from Toledo to Danville.

POPULATION AND SETTLEMENT.

But without descending further to particulars, the breadth and fertility of the Wabash valley are known over the continent. Some of the counties are partially undeveloped, having from their beauty and richness continued to be the last abode of the native tribes in Indiana, but whose emigration is now effected. Yet these counties, though constituting not a tenth of the geographical area of the State, comprise one-ninth of her whole population. Their increase in numbers for the last four years has been 9 per cent. *per annum*, nearly; although the average population of Tippecanoe County to the square mile has now reached 61, and others are rapidly approaching the same density. The agricultural portions, so far as population is concerned, are not one-fourth part developed, in some places not one-tenth, and while the towns are growing, some of them to the dimensions of cities, it is easy to see that this favored section, (situate relatively to Indiana, as the counties on the Erie Canal are to N. York, and drawing sustenance from Lake Erie, the Wabash and Erie Canal, and the Wabash River,) must continue to increase in the elements of population and wealth.

IMPORTANCE OF TOLEDO AS A TERMINUS.

The large and growing commerce of Toledo is well known, but a glance at her position as a railway focus may not be uninteresting. Situate with a fine harbor at the south-western extreme of Lake Erie, she is the natural shipping point for the productions of Southern Michigan, Western Ohio, Northern and Western Indiana, and Central Illinois. No port on our Western Lakes levies its contributions in so large and productive a field. Having no navigable river from the interior, her channels of supply have hitherto been only the Wabash and Erie and Miami Canals, and very lately the Michigan Southern Railroad. The same causes mark Toledo as the landing place for all the merchandize from the Atlantic Cities destined for the same extensive country, including St. Louis and other towns on the Mississippi. The railroad distance from Toledo to St. Louis by the route here proposed, is *not equal to the length of the Erie Road*. The navigable distance between Toledo and Chicago through Lakes St. Clair, Huron, and Michigan, is 700 miles, on which a high rate of insurance prevails. It is a reasonable calculation that most of the valuable packages shipped for St. Louis, will go over the Lake Erie, Wabash and St. Louis Railroad.

FREIGHTS.

Freights are the same from New-York to Toledo as to Cleveland, and Toledo is 100 miles nearer to

St. Louis by rail than Cleveland is. It is a problem not admitting of doubt or argument, that Toledo must be the Lake *entrepot* for commerce passing between New-York and St. Louis, and the country west of Lake Erie. Every road touching Lake Erie is favorably affected by the navigable privileges to which it stands related on that Lake; and these have a more important influence on a Toledo and St. Louis road than on any other. The commerce represented at Toledo has hitherto been local to the valleys occupied by her canals. The steam carriage will henceforward connect her with the entire basin of the Mississippi, and amplify her commerce beyond calculation.

The writer has heard it suggested that a canal running near and alongside of the railroad for a greater part of the distance, may injuriously affect its business. Experience in this country has uniformly proved the reverse; for which may be cited the "New-York Central Railroad" running parallel to the Erie Canal, and between the same *termini*. The Cleveland and Columbus road, draining the same country with the Licking Canal; the Cleveland and Pittsburgh road, draining the same country with the Beaver Canal; the Cincinnati, Hamilton and Dayton road, running on the margin of the Miami Canal, and the Chicago and Rock Island road, running the whole length of the Illinois Canal. These are, without exception, among the most prosperous roads in our country; and the fact may be accounted for in the circumstance, that a railroad so located, runs through all the towns and the concentrated settlements of the neighborhood, making up in travel what it loses in transportation, the aggregate of which, however, is greatly increased on such a line by the very means of the canal. It appears, from exhibits furnished by the Trustees of the Wabash and Erie Canal, that the increase of tonnage in 1852 over the preceding year, from Lafayette to the East line of the State alone, was about 40,000 tons.

THROUGH BUSINESS.

Chicago and Toledo are the two principal gates through which the large internal commerce of the United States, passing between the Atlantic seaboard and the Gulf of Mexico, must be discharged. This business is condensed upon our chain of inland Lakes from Champlain to Erie and Michigan, gathering the accessions of several thousand miles of coast in the territories of Canada and the U. S. And what gives to the Lake routes advantages over those falling South into the Ohio basin, is, that the transit is nearly equal *both ways* in quantity and value. During the season of canal and lake navigation, the water of the Ohio, below Cincinnati, is often too low for any but the smallest class vessels. The railroad distance from Cleveland to Cincinnati is 255 miles, while that from Toledo to St. Louis is but 425. Again, the valley of the Ohio is south of the wheat-growing region, of which the upper Wabash and Illinois rivers occupy the centre. The Lake Erie, Wabash, and St. Louis Railroad traverses a level country, (unlike the Ohio region,) through an endless series of corn-fields, of which bulky article it may receive its supply from the very margin of the road. A belt of fifteen miles on either side will produce an amount beyond the capacity of the road to transport.

PRINCIPAL SOURCES OF REVENUE.

To Recapitulate.—The staple business of this road, setting West, will be:

Merchandise from the Atlantic cities, and salt from the N. Y. salines
Pine lumber, lath, and shingles, from Lake Huron and the Canadian forests.
Fish from the upper lakes.

Oak, poplar, walnut, cherry, and other lumber; hoop poles, staves, heading, tan bark, &c.; from the forests of the Upper Wabash and Maumee, for the supply of the prairies.

Furniture, tools, machinery, &c. going west, and the outfits of a large emigration yet destined for Illinois and Missouri, and still further for our frontier and Pacific settlements.

Lime, limestone, &c. for the neighborhoods west of Lafayette, who are dependent on the quarries near Delphi and Logansport.

The Eastern shipments will be:

The cereal products of Illinois and the entire region contiguous to the road, or gravitating to a northern market through the lateral roads, of which the present statistics (by no means inconsiderable) are mere foreshadowings.

Live stock of all kinds, but chiefly fat cattle, hogs, and horses.

Bulk and barrel meat, lard, grease, leather; the product of the farm and dairy: in all its variety. Pot and pease arhes; ship timbers for Lake Erie, and sometimes New-Orleans groceries, brought to St. Louis or Lafayette by steamboat.

Stone coal from Danville.

And in both directions:

Way and through passengers.

Mails and express packages.

ENLARGEMENT OF THE ERIE CANAL—ITS EFFECT.

No period more auspicious than the present for this enterprise could have happened. The measure lately authorized by the New-York Legislature, *the enlargement of the Erie Canal*, will so cheapen and facilitate freights as to bring Toledo as near to New-York, commercially speaking, as Buffalo or Rochester have hitherto been. It will relieve the glut of Western produce at Buffalo and Dunkirk, and by lessening the cost of transportation, will increase the value of every bushel of grain in the prairies, and better enable the producer to meet the expense of carriage at the western end. As a transportation road, therefore, this single event will add immensely to its value, and call into requisition every western avenue to keep up the circulation of trades.

THROUGH TRAVEL.

As a thoroughfare for travel between the East and West, it adopts a line of already established and familiar intercourse. The travel on the Wabash and Erie-Canal, for the past two seasons, has been equal to 100 through passengers a day, from Toledo to Lafayette, one way. All experience proves that railroad facilities and more extended outlets will increase travel five-fold over the poor accommodation of a canal. This would yield between Toledo and Danville, from travel alone, \$766,000 per year, at two cents per mile.*

COMPARISON—EARNINGS OTHER WESTERN ROADS

The gross earnings of the western roads, Cleveland and Columbus, Columbus and Xenia, Little Miami, Michigan Central, Michigan Southern and Northern Indiana, and the Madison and Indianapolis, having 863 miles of aggregate length, were for the year 1852, *four millions three hundred and fifty-eight thousand seven hundred and fourteen dollars*, being an average of \$5,050 per mile. Each of those roads has steadily increased in its business about 40 per cent. *per annum*; and those earnings which have been made while they might be considered frontier roads. By the period fixed for the completion of the Lake Erie, Wabash, and

* Besides its great commercial advantages, this route as an express line will compare favorably with other routes from St. Louis, east, as the following table of distance will show, viz:—

St. Louis to New York, by Lake Erie, Wabash, and St. Louis Railroad, Cleveland, Buffalo and Albany.....	1166 miles.
St. Louis to New York, by Terre Haute, Indianapolis, Cleveland, Buffalo, and Albany.....	1154 "
St. Louis to New York, by Lake Erie Wabash, and St. Louis Railroad, Cleveland, Dunkirk, and Erie Railroad.....	1140 "
St. Louis to New York, by Indianapolis, Cleveland, Dunkirk, and Erie Road.....	1128 "
St. Louis to New York, by Lake Erie, Wabash, and St. Louis Railroad, Detroit, Great Western, (Canada,) and Niagara Falls.....	1147 "
St. Louis to New York, by Vincennes, Cincinnati, Cleveland, Buffalo, and Albany.....	1234 "
Do. by Cincinnati, Cleveland, and Erie Railroad.....	1208 "

St. Louis Railroad, at least 1200 miles in Illinois, and 400 in Missouri will have been constructed behind it. Of lateral roads several are already finished to the Wabash, and others nearly so. This Radial line will find a business matured, and will not be compelled to abide the result of uncertain and dubious connections.

There is no safer test for a new enterprise than analogy and experience. The best array of estimates and statistics may be baffled, or, though right in its conclusions, may err in the premises or be mistaken in the detail. No economist could have noted down, with an approach to accuracy, the elements that have given success to our leading railroads. The map and features of the country occupied; the quality of the soil; the domestic and habitual local business on which it may rely; the security of its alignment in respect to market towns and its pursuing the tract of frequent and accustomed intercourse; its lateral, terminal, and exterior relations; its capability of further increase; these united to a moderate cost and the mechanical properties of light gradients and straight lines, are the points to be enquired into by those who would make investments in a road. If strangers, they will further ask, "Is its management committed to skillful and faithful hands?"

COMMANDS BOTH SIDES OF LAKE ERIE

A road from St. Louis along the continuous valleys of the Wabash and Maumee, commands what no other St. Louis road can do, both shores of Lake Erie, and connects itself thus, with almost equal directness, with both the Canadian and American systems east of Toledo. Public opinion has already settled in favor of this as one of the cardinal routes, and as uniting not only large cities, great waters, and entire systems in our own country, but as part of a continental work connecting two nations, and adding to an internal water commerce already very extensive, the increased facilities of a land commerce by steam, at the very moment when our neighbors are endeavoring to make that connection available from the Detroit River, to the mouth of the St. Lawrence.

BONDS.

To supply the means required to complete the Indiana road beyond the \$2,000,000 of stock subscribed as above, the Lake Erie, Wabash, and St. Louis Railroad Company will issue their convertible coupon bonds to an amount not exceeding \$2,500,000, and bearing 7 per cent. interest per annum, payable semi-annually. The bonds will bear date August 1, 1853, and be made redeemable August 1, 1855. Interest and principal payable at the office of "the Farmers' Loan and Trust Company," in the City of New-York. The convertible privilege to continue for six years from the date of the bonds. These bonds will be secured by a first and only mortgage on the road, its furniture and franchises, given to the Farmers Loan and Trust Company, in trust for the holders of the bonds.

Any further information in regard to these securities may be had from the President, Treasurer, or either of the Board, and this Exhibit procured by application to EDWARD WHITEHOUSE, Esq. the Treasurer, 56 Wall-Street, New-York. These bonds are considered an unquestionable security, the amount of cash subscriptions, and the standing of the gentlemen of the Board, and the stockholders generally, giving a warrant for both its ample means and the able and judicious management of the work.

ALBERT S. WHITE, *President.*

NEW-YORK, July 12, 1853.

Phoenix Mining Company.

There has been quite a flare up in this company occasioned by the fraudulent issue of some 4,500 shares stock. The transaction being an illegal, was an improper one, but not much harm appears to have been done, as it is doubtful whether the authorized or unauthorized, stock be the most valuable.

Balancing Locomotive Drivers.

FROM D. K. CLARK'S RAILWAY MACHINERY.

[Concluded from page 573.]

Conclusions.—It is clear that with inside cylinders, though the weight required to balance exactly the sinuous action is much less than that for fore and aft action, yet the general stability of the engine is well secured by the exact adaptation of the counterweight to the sinuous action. In the first experiment, by Nollau, a counterweight only 69 per cent of the whole disturbing weight yielded very good results, and was less than would have been found by calculation to meet the sinuous action. In Gouin's inside cylinder engine, referred to in last chapter, which worked steadily, the balance weight was but 60 per cent of the whole disturbing weight, while 78 per cent would have been required to meet the sinuous action exactly. In outside cylinder engines, particularly with coupled wheels, complete stability cannot be effected with less than an equivalent of seven-eighths of the whole disturbing weight.

In general, for inside cylinders, a counterweight in the wheels equivalent to three-fourths of the gross disturbing weight on each side of the engine is practically sufficient to secure the external stability of the engine on the rails. For outside cylinders it ought to be equivalent to the whole, or in single engines, not less than seven-eighths of the whole disturbing weight.

Secondly, the application of suitable balance-weights is attended by a sensible reduction of resistance on the rails at high speeds; as in the experiments of Le Chatelier, the engine unbalanced could not reach the same speed as when balanced. This is corroborated by the writer's observations on the single and coupled passenger engines of the Caledonian railway. Also by some results obtained by Le Chatelier, from the Orleans' goods engine. This engine was continued at work with the counterweights attached, after the experiment already described, without having anything done to it, in the way of repairs. In the hands of the same driver, at the same kind of work, the following are the mean consumptions of coke during 3 months:

1848, December,	49.5 lbs.	Without counterweights.
1849, January,	50.3 lbs.	
" February,		Mean of 12 trips, of which ten only were made with counterweights.
	42.3 lbs.	

Of course a single result like this can hardly be considered a clincher: but it affords a strong presumption of the material economy of combustible effected by a suitable use of counterweights.

Thirdly, the balance weight in all cases should be distributed over at least two or three spaces to distribute and reduce the unequal wear of the tyres by vertical action, and the tendency to slip at high speeds.

Fourthly, the experiments of Le Chatelier show the limited extent of even free oscillation in a single engine, and how much greater it is in a coupled engine with outside cylinders. This difference explains the greater liability of the latter engines to violent concussions laterally against the rails.

Fifthly to reduce so far as practicable the reciprocating weights, and the severe and unavoidable strains they throw on the crank pins at high speeds, the pistons should be of wrought iron, the cross-heads and slides should be hollowed out,* and the connecting rods as simple and light as possible.

Sixthly, the more nearly the width of the cylinders is equal to that of the wheels, the more exactly may both the longitudinal and lateral actions be balanced by a given counterweight in the wheel. Thus, outside cylinders are susceptible of a more

* Mr. McConnell has lately patented a light form of wrought iron piston, and the formation of piston rods and connecting rods from wrought iron tubes; the object being to combine lightness with strength. This, we apprehend would be a serviceable idea for outside cylinder coupled engines.

perfect balance than insides, and the closer that inside cylinders are placed, the less perfectly can they be balanced in the wheels.

From all that has been said we derive the following practical rules for the application of counterweights.

RULE I.—To find the counterweight for outside cylinder single engines. Find the total weight in pounds, of the revolving and reciprocating masses for one side, namely the piston and appendages, connecting rod, crank and crank pin, (the crank being referred to the pin)—multiply by the length of crank in inches,—and divide by the radial distance, in inches, of the center of gravity by the space to be occupied by the counterweight. The result is the counterweight in pounds to be placed exactly opposite the crank.

RULE II.—To find the Counterweights for outside Cylinder coupled engines. Find the separate revolving weights, in pounds of crank pin, coupling rods and connecting rod for each wheel—also the reciprocating weight of the piston and appendages and half the connecting rod; divide the reciprocating weight equally between the coupled wheels and add the aliquot part so allotted to the revolving weight on each wheel. The sums so obtained are the weight to be balanced at the several wheels for which the necessary counterweight may be found by rule I.

RULE III.—To find the Counterweight for inside cylinder single engines. 1st, To find its value. Find the total weight, in pounds, to be balanced on each side, as in Rule I.—multiply it by the sum of the widths apart centers of the cylinders and the wheels, in inches,—and divide by twice the width apart of the cylinders;—subtract the quotient (A) from the total weight, leaving a remainder (B)—square the quantities A and B, add the squares, and find the square root of the sum. This root is the resulting weight in pounds, to be balanced at the crank-pin, for which the counterweight may be found by Rule I.

2d. To find its direction. Divide the greater weight (A) by the less (B). The quotient is the denominator of the fraction of which the numerator is 1, which expresses the inclination of the direction sought, with the center line of the near crank diverging from the off crank.

RULE IV.—To find the Counterweights for inside cylinder coupled engines. Find the value and direction of the counterweights for the inside revolving and reciprocating masses to be balanced as in Rule III.; and key the driving wheels on the axle in such positions as to place the outside cranks in the direction so found, or key on the cranks themselves as required, if independent of the wheels;—find the total weight of the outside cranks and coupling rods referred to the inside crank pin,—and if less than the inside weight, subtract the outside weight from it, and distribute the difference between the coupled wheels, to be balanced according to Rule I.;—or if greater, balance the difference by counterweights opposed to the outside cranks.

Note I. The counterweight for inside cylinders may be found approximately by assuming three-fourths of the whole disturbing weight as the weight to be balanced in the wheel.

2. Inside cylinder coupled engines as they stand usually fall within the requirements of Note I.

3. Though Note I contains a good general rule for general stability, the other rules should be employed where exact equilibrium is required, so as to balance as well as possible every internal strain.

4. For the method of referring the weight to the crank pin, see page 556.

5. For the method of finding the center of gravity of the counterweight—see page 572.

6. In the use of Rule 4, the outside weight for four coupled wheels is usually found to be less than what is required; and for six coupled wheels greater.

7. To substitute lead for cast iron counterweights, divide the volume found for the latter by 1.6 to find the equivalent volume of lead.

8. Examples of the application of the rules are given in previous chapters.

Railroad Bridges.

The skill of our engineers and bridge builders has been bestowed upon the arrangement of bridge trusses until it can be asserted that American timber bridges are the best in the world for strength and lightness. They have been made safe against dangerous deflection and absolute failure by the scientific combination of their parts, so that for the mere purpose of carrying a load they are as safe as the costly stone and iron structures of the public works of other countries. But there is one point wherein many of our railroad bridges are wanting, one which could always be remedied at a very slight expense. It is the want of side protections, to prevent trains which may have left the rails from going over the sides of the bridge.

A train is as liable to leave the rails while upon a bridge as at many other places on the line. This may occur from an obstacle upon the rails, from the failure of a wheel or axle from the flanges of the wheels riding the rails or from other causes. The train once off the rails pursues a course in the general direction of the bridge, and expends its greatest momentum in that direction, but may have acquired a lateral tendency by means of which, after running a few feet it comes to the edge of the bridge, whence with nothing to prevent, the cars must go over. Now it appears reasonable that a stout timber firmly bolted to the sides of the bridge or between the rails, would keep the train on the bridge even if off the rails.

Accidents have often occurred from the want of such precautions. We remember seeing a train which had been precipitated over the edge of a high bridge on the Erie road. The engine was laid bottom up, and several freight cars demolished. This accident was attended with loss of life. The Cascade bridge and Starucca viaduct, the great works of art on this line, are also open to the same calamity. The Starucca viaduct is 1200 feet long and nearly a hundred feet in height, and although in the descent of a heavy grade has no side protection! The Cascade bridge is about 400 feet long, and 175 feet above the stream. This bridge is also in the descent of a heavy grade, and at the termination of a bad curve. Indeed the curved rails rest upon one end of the bridge. The only protection upon the sides is a light wooden railing. No accidents have occurred here, and we pray that none ever may.

Upon the York and Lancaster road also, about one mile east of Lancaster, is an "open top" bridge seventy five feet above the stream. A train of cars left the rails here, and fortunately stopped (as the train was going slowly) just upon the edge of the bridge. Some reckless person endeavored to prove in a communication to one of the Lancaster journals that the bridge was every way safe, and that side protections were useless.

The apology for a bridge which exists on the line of the Paterson railroad, (at the crossing of Hackensack river) is dangerous for the same if for no other reason. The Connecticut river road has one very high bridge without any protection.

The railroads running out of Boston necessarily cross long bridges: the Worcester road has two, the Lowell two, the Fitchburg three, (one of over 1600 feet.) The Maine road is mostly a bridge for the first five miles of its length, and the East-

ern road has also one or two similar bridges. Accidents have occurred on the Fitchburg and Maine railroad bridges, by which the passengers have barely escaped. These were caused, as others may yet be, by the want of side protections. Already some of the heaviest stockholders in those and neighboring roads are aroused and are urging the better protection of these structures. The *Boston Courier* has contained several of these appeals.

A subject fraught with so much importance in its possible and probable results, should not lie unnoticed.—There can be no possible harm in driving an extra row or two of piles, or of laying down a few extra stringers. Without them the road is not secure, but is open, as sad experience amply proves, to very serious accidents.

Crystal Palace.

The "Machine Arcade" is gradually filling up, and assuming an appearance of order and arrangement. The steam engines from Lawrence and from Providence have both commenced running, and many of the machines have commenced operating. The present contributions in the Machine Arcade are wholly of American production.

Among these we notice a Cylinder, with valve, piston rod, etc., complete for an Oscillating Engine, well designed and finished, from the Allaire Works, of this city. The Allaire Works also contribute the original cylinder of the steamship Savannah, the first which ever crossed the Atlantic, in 1819.

A small portable steam engine and boiler, from the Seneca Lake Foundry, Geneva, New York, John R. Johnston, proprietor, Kemble, agent, 28 West st., New York.

A model of a steam engine, to work without stuffing boxes or guides, by Edmund Moody, Birmingham, Conn.

A model of a beam engine, having two cranks at right angles, worked by two connecting rods, from one beam. The stroke of piston is one-sixth shorter than in ordinary engines with the same length of crank. By Joseph Harris, Jr., Boston, Mass.

An operating model of a rotatory steam engine, by Ebenezer Barrows, 228 Water street N. York.

A small Rotatory engine from Benj. H. Wright, of Rome, N. Y.

We see but few machinist's tools. The Saco Water Power company, of Biddeford, Maine, contribute one large and one small shaping engine, both of excellent design and apparently of the best construction.

There is a slide lathe from Leonard and Clark, of New Windsor, exhibited by Baldwin and Many, 49 John street, New York. A lathe also from Henry Steele of Jersey city.

Among cotton machinery we notice a beautifully made Cotton Gin from Tarver and Co., East Bridgewater, Massachusetts; a patent Cop Spinner, combining the self acting Mule and Throstle, by George H., and John C. Dodge, of Dodgeville, Massachusetts; Brundred's throstle from B. Brundred & Co., Oldham Works, near Paterson, N. J.; four of the Empire Looms, from the Empire Works of Benjamin and Reynolds, of Stockport N. York.; and Looms from Alfred Jenks and Sons, of Bridesburg.

There is a good collection of Boiler, Steam, and Gas Tubes, a screw cutting machine, Taps, Dies etc., from Morris, Tasker and Morris, of Philadel-

phia, and a case of steam and gas cocks from Wood and Hunter.

There is a Hydraulic Veneering Press, combining very ingenious principles, contributed by D. F. Robinson, of Hartford, Connecticut. The inventor is Jacob Burnap. Large machines of this kind are now constructing for veneering Piano cases.

Wm. Kumble of this city has a large lot of his oak tanned belting on exhibition.

There are various applications of David Dick's Presses, mostly from the Hadley Falls Company of Holyoke, Mass.

The Lubricating Balance box, invented by Theodore S. Mianiss, of Meadville, Pa., presents a new principle in supporting gudgeons of mills, turntables, etc.

The nature of the invention consists in sustaining and upraising the gudgeons of shafts of mill spindles and other revolving bodies, upon or by the pressure of fluids, in such a manner that the friction is vastly diminished. The invention is based upon the particular principle that a hollow body will sustain as much weight, when suspended in liquid, as the weight of the liquid it can contain, such as, a vessel that will contain 50 lbs. of liquid will support that amount of weight in the liquid.

By this invention the most heavy shaft can be sustained in equilibrium, thus obviating the friction caused by the weight of the shaft.

E. Doster of Bethlehem, Pa., exhibits an improved Hanger for Shafting, susceptible of easy adjustment vertically or horizontally.

There is a well finished spike machine from the Manomet Co., of Sandwich Mass.

The Collins Company of Hartford, Connecticut, have a large and well filled case of edge tools and picks, sledges, &c.

W. H. Saunders of Hastings, New York, has a large lot of his axles on exhibition. Agents, Smith, Van Horn and Co., 278 Pearl street New York.

The contributions of Railway Machinery are limited in number and variety. Horatio Ames, of Falls Village, Conn., sends two rolled and compressed, and one finished, flange Tires; and finished Engine Crank, a Car Axle and an axle bent double to show the quality of iron.

The Glendon Company of Boston, Mass., send a finished flange Tire, specimens of Axles, and specimens of Ores, Coal, etc., used in their manufacture.

P. C. Brink, of Camden N. J. has a pair of his wrought iron Car Wheels, fitted to the Tubular Axle.

Cast Iron Chilled Car Wheels of N. Washburn's patent are exhibited from the foundries of Richardson, Barnum & Company of Salisbury, Conn., and from the Brandon Company of Brandon, Vt.

A model of Freight Car with White's patent truck is exhibited by Payne and Olcotts of Corning, New York, also St. John's patent Steel shod Frogs by the same company.

Mr. Wendell Bollman Road Master of the Baltimore and Ohio Railroad has, on exhibition, a model of his suspension bridge, which has been applied with the most satisfactory results on the Baltimore and Ohio Railroad.

Safety Anchors and Rollers are exhibited by H. Strait of Cincinnati, Ohio, and H. D. Taylor of Newark, New Jersey.

The Machine department represents as yet but few of the standards of perfection in machinery, and but few of the great achievements in physical science for which our own times are especially distinguished. It is an *interesting* exhibition, and might be so if but of half its extent, but it fails to show what the world is doing in the way of material progress. The Railway, the foundry and the factory are better represented in their remote results than in their applications, a remark which will apply to the whole exhibition.

Journal of Railroad Law.

THE CRIMINAL LIABILITY OF RAILROAD CONDUCTORS.

When the popular verdict of Connecticut acquitted Conductor Comstock of the New Haven R. R., it was not difficult to foresee the result of the subsequent criminal trial to which he was subjected. But his legal acquittal was in part due to certain principles of the common law which have lately been very materially modified both in our own state and in Connecticut. In most parts of the Union however, no such modification of the common law has yet obtained.

By the common law a party could be held civilly liable for personal injury occasioned by mere omission of duty, but he could not in such a case be held guilty of a crime. A crime implied a positive act.

But the exigencies of modern locomotion have introduced a change of this lenient doctrine.

The 12th section of our own railroad law of last session is as follows:

Sec. 12. If in consequence of the intoxication or any gross or wilful misconduct or negligence on the part of any conductor, engineer, switch or bridge or brake tender, or signal man or any other servant of such corporation, any loss of life shall result or the breaking of a limb shall occur such servant or servants shall be deemed guilty of a felony and shall be punished by imprisonment in the State Prison for a term of not exceeding 10 years.

The recently enacted Connecticut law contains a similar provision.

The indictment of Comstock, which was founded on the old common law, stated the duty of a conductor, and averred that the train was out of time, and that the conductor negligently performed the duty imposed upon him, and caused and permitted the train to run at such a negligent and reckless rate of speed as to result in the calamity described.

The States attorney urged that the draw was lawfully open, and the train behind time, that exceeding care in approaching the draw was required, that the speed was excessive under the circumstances, and that the conductor should have checked by signaling by the strap to the engineer;—the speed was from thirty to thirty-five miles per hour as was illustrated by professor Olmstead, and should, according to Whistler, not have exceeded twenty, the conductor had most negligently run the train, that on a railroad any negligence was gross, and that he was guilty of manslaughter.

It was insisted by the prisoner's counsel that the prisoner must not be made to suffer in consequence of any mismanagement on the part of the company, whose servant he was, that the rate of speed was not unusual, that he was shown guilty of no positive act of negligence, that the engineer must

look ahead under the rules of the company, as his position enables him to do, while the conductor is only responsible for starting and stopping trains and for collisions, that the public would have speed and must take it with the consequences, and that the conductor has merely supervision over the engineer, with no right to employ or discharge him.

The judge charged, "that the jury are in criminal cases judges of the law and fact. The law authorizes me to instruct the jury upon the law, but does not require the jury to obey that instruction."

One agent is not responsible for the act of another, and there is a difference between a civil and a criminal prosecution. The law will hold a party civilly liable, when it will not hold him criminally responsible. The defendant claims that he was in the discharge of a lawful duty at the time, and that the prosecution must show that he did some act tending to evince carelessness, and recklessness in conducting that train. Such is undoubtedly the law; but I further instruct you that if that train was going at an improper rate of speed, and if you believe that it was the duty of the conductor to check it, and that he negligently discharged his duty in permitting the train to run around that curve at such an improper rate of speed as alleged by the prosecution, he would be clearly liable to the charge of manslaughter. But if you have any reasonable doubt, the defendant should have the benefit of that doubt. Gentlemen the facts and the law are now with you, and you will return such a verdict as you may think proper."

Comstock was after two hours deliberation acquitted.

We have been able to procure only a most meagre report of this case, and present the foregoing merely as a faint sketch of the proceedings.

If his honor really told the jury that they might or might not regard his instructions as they pleased, he gave them a pretty wide latitude. Admitting the right of the jury to be judges both of law and fact in such cases, we should not suppose a sworn judge to be quite independent of legal information furnished by a duly constituted adviser.

We subjoin an abstract of the principles of the common law, by which questions of criminal liability for negligence are governed.

Where death is occasioned by the hand of a party engaged in the performance of a lawful act, (as was the Conductor in the case alluded to,) it may by the common law, amount to murder, manslaughter or mere misadventure, according to the circumstances by which it is accompanied. The usual illustration is that of workmen throwing rubbish from a house in the ordinary course of their business, by which a person underneath happens to be killed. If they actually saw the danger or betrayed any consciousness of it, and yet gave no warning, it will be murder, on account of the gross impropriety of the act. If they did not look out or not until it was too late, and there was even a small probability of a person's passing by, it will be manslaughter. But if it was in a retired place and there was no probability of a person's passing by, it would be no more than accidental death—Caution enacted from persons employed as above described must be proportioned to the apparent necessity for it. And what is not

apparent in the view of sound judgment, the law does not consider as existing.

The same principles will apply to the negligent driving of vehicles or engines of every kind. Death thereby occasioned will be murder, manslaughter or mere misadventure, according to the circumstances of the case.

If a man drives his cart carelessly and it runs over a child in the street, if he saw the child, and yet drove upon him, it is murder; if he did not see the child it is manslaughter.

Whoever seeks to excuse himself from having unfortunately occasioned the death of another by any act of his own, ought at least to show that he took that care to avoid it, which persons in similar situations are accustomed to do.

To make the Captain of a steam vessel guilty of manslaughter, in drowning a person by running down a boat, the prosecutor must at Common Law show some act done by the Captain, and a mere omission on his part in not doing his whole duty is not sufficient. But if there were sufficient light and the Captain of the steamer were either at the helm, in a situation to be giving the command, and does that which causes the injury, he is guilty of manslaughter.

A prisoner was indicted for manslaughter, and it appeared that it was his duty to attend a steam engine, and that on the occasion in question he had stopped the engine and gone away. During his absence a person came to the spot and put it in motion,—but could not stop it again, whereby deceased was killed. Baron Alderson said that the prisoner must be discharged—for the negligence was not his own but another person's.

It is often difficult to draw the line between manslaughter and misadventure occasioned by negligence, but it is believed that the foregoing brief summary of the principles ordinarily governing the case are those which have been sanctioned by Russel, Roscoe, Archbold, and other leading authorities in regard to Criminal Law.

Fall of the Rivers Detroit, Niagara and St. Lawrence.

A correspondent of the Ohio State Journal has taken the trouble to ascertain from the Canadian Engineers of Public Works, the following particulars relating to the fall from Lake St. Clair to tide water, and locks of the canals along the line of the rivers. He finds, among other things, "that the St. Lawrence canals, known as the Williamsburg, Cornwall, Beauharnois, and Lachine canals, have 23 locks, a lockage of 204 feet, and a total rise of 221 feet, between Montreal and Kingston, a distance of 179 miles; that the fall at Williamsburg is 20 feet, at Cornwall, 49 feet, at Beauharnois, 48 feet, and at Lachine, 45 feet; that the Welland canal around Niagara Falls has 26 locks; with a lockage of 330 feet in 28 miles; that the distance from Buffalo to Montreal is, by these canals, 367 miles; that the rise from Lake Erie to Lake Huron is 30 feet, making a grand total in ascent, between Montreal and Lake Huron of 594 feet, in the distance of 760 miles. The locks upon this improvement are generally 7 and 11 feet, though some are 14 feet lift. They are 200 feet long, and 45 feet wide, capable of receiving a vessel 176 feet long, and 44 feet wide. It generally takes 15 minutes to pass a lock, and the vessels are 18 hours in going up to Ogdensburg, whilst they are only 9 hours coming down. There is also an inland communication to lake Huron, up the Ottawa river, down the Rideau river to Kingston, up the river Trent to Rice Lake, thence Locking up to Lake Balsam, 800 feet above tide water level, and thence by the Talbot River to Lake Simcoe, and by the Severn River to Lake Huron, a distance of 542

miles, through 156 locks, with a lockage of 1,367 feet. Few people in the States are aware of this route, or of the extent of the public works constructed in the Canadas by the "home government."

American Railroad Journal.

Saturday, September 10, 1853.

Cleveland and Toledo Railroad.

The Stockholders of this road which is composed of the consolidated lines of the Toledo, Norwalk and Cleveland, and the Junction, Roads, at their recent meeting at Norwalk, declared the following Board of Directors:—Hon. Samuel F. Vinton, Galipolis, O.; Hon. E. Lane, Sandusky, O.; C. L. Boalt, Norwalk, O.; E. C. Litchfield, New York; John Stryker, Rome, N. Y. Wm. Jarvis, Middletown, Conn.; E. B. Litchfield, N. Y.

Hon. Samuel Vinton was chosen President, and E. B. Litchfield Secretary and Treasurer.

The above constitute as strong a list of Directors, as could be made up of an equal number of names in the whole country. Mr. Vinton is well known to be one of the most eminent and respectable men in the west, and no man is probably better fitted for his new position, or better calculated to inspire confidence in the management of the road at which he stands at the head. Mr. Litchfield is also well and favorably known in our business circles from his connection with some of the leading and most profitable Western Roads, and to whose efforts, they have been largely indebted for success.

We regard the above road as occupying the great central route of travel and commerce for the United States, and ultimately for the continent. The position of the great lakes compels the trade and commerce between the interior and all the great eastern commercial towns, to deflect around their southern shores. To possess a monopoly of way around them, is to hold the key to this commerce. It was the appreciation of this fact that gave rise to the animated contest between the two Michigan roads for the right of way around lake Michigan. Our Ohio friends have pursued a wiser policy. Instead of securing the position they occupy through expensive contests, they have wisely joined hands and united their projects, each of which will have a sufficiently lucrative local support without reference to the great volume of through business. They waste nothing by an useless contest, and while the public is satisfactorily accommodated, the company have secured to themselves a position of first rate importance, and a route, the business capacities of which are not excelled in this country.

Madison and Lake Erie Railway Co.

We learn from the Madison Banner that the above named Company has been duly organized. The \$50,000 required by law to be first subscribed by law to be first subscribed being taken. The following Board of Directors were elected, viz.: David White, John O. McIntire, Milton Stapp, John R. Cravens, M. Powell, R. C. Neal, W. Clough, Wm. C. Hillis, and John King. The Board of Directors met Friday morning, and elected David White, President, and Gen. Stapp, Secretary; and afterward appointed a committee, consisting of one from each ward, to ascertain the sense of the people in reference to the subscription on the part of the city of two hundred thousand dollars to the road.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	100
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland.... "	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	108
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern	82	3,016,634	.....	.....	328,782	163,075	5	58 1/2
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6 1/2	97
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,500	.....	.....	none	20
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	40
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	30
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	14 1/2
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	.....	.....	.....	101
Western Vermont..... "	51	392,000	700,000	.....	.....	.....	.....	.....
Vermont Valley	24	.....	.....	.....	.....	.....	.....	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7 1/2	98
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	105
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	86 1/2
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2 1/2	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern..... "	75	2,850,000	500,000	3,120,391	488,793	241,017	7 1/2	91
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	104
Fitchburg..... "	66	3,540,000	112,305	3,623,073	574,574	232,787	6	98
New Bedford and Taunton... "	20	500,000	.....	520,475	164,230	43,950	7 1/2	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	62
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	94
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4 1/2	59 1/2
Western..... "	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6 1/2	98 1/2
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	62
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	126
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progress	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	105
Naugatuck..... "	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	.....	.....	.....	.....
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4 1/2	54 1/2
Buffalo and New York City... N. Y.	91	900,000	1,550,000	2,550,500	.....	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progress	.....	.....	.....	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	.....	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progress	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	9,612,995	24,003,865	31,301,806	3,587,766	1,691,623	7	77
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	69 1/2
Harlem..... "	130	4,725,250	977,463	6,102,935	681,445	324,494	5	55
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	32 1/2
New York Central..... "	504	22,858,600	2,111,824	.....	.....	.....	.....	114 1/2
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,894	480,137	195,847	none	32
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	.....	.....	.....	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	.....	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	237,690	100,000	329,577	.....	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	.....	.....	.....	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	100 1/2
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,400	1,388,385	478,413	10	150
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3 1/2	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	.....	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,382	10,427,800	17,141,987	2,480,626	1,251,987	7	85
Philad., Wilmington and Balt. "	98	8,850,000	2,403,276	6,813,889	667,785	888,501	6	77 1/2

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn. 250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	98
Philadelphia and Trenton.....	" 30	.....	.....	.....	.....	.....	.....	110½
Pennsylvania Coal Co.....	" 47	.....	.....	.....	.....	.....	.....	61
Baltimore and Ohio.....	Md. 381	9,188,300	9,827,128	19,542,307	1,325,563	615,384	7	105
Washington branch.....	" 38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.....	" 57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange.....	Va. 65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	" 27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	" 64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville.....	" 73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg.....	" 22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac.....	" 76	1,000,000	503,006	1,531,238	254,376	113,256	7	105
South Side.....	" 62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central.....	" 107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee.....	" 60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac.....	" 32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N. C. 161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina.....	S. C. 110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.....	" 140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina.....	" 242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester.....	" 191	3,100,000	306,187	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga. 211	4,000,000	1,214	3,378,132	945,508	508,625	8	115
Georgia.....	" 101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Macon and Western.....	" 71	.....	.....	In prog.	.....	.....	.....	.....
Muscogee.....	" 50	586,887	150,000	743,525	129,395	71,535	8	.....
South Western.....	" 55	.....	.....	.....	.....	.....	.....	.....
Alabama and Tennessee River.....	Ala. 93	776,259	400,000	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	" 33	879,868	.....	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	" 88	688,611	.....	1,330,960	173,542	76,079	8	.....
Montgomery and West Point.....	Miss. 80	835,000	541,000	In prog.	.....	.....	.....	.....
Southern.....	" 125	2,093,814	850,000	In prog.	.....	.....	.....	.....
East Tennessee and Georgia.....	Tenn. 125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.....	" 125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky. 29	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.....	" 29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	" 65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	" 100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	96
Cleveland and Pittsburgh.....	Ohio 71	.....	.....	.....	.....	.....	.....	.....
Cleveland, Painesv. and Ash.....	" 135	3,027,000	408,200	3,655,000	777,793	483,454	12	132
Cleveland and Columbus.....	" 46	.....	.....	2,000,000	.....	.....	.....	98
Columbus, Piqua and Indiana.....	" 61	.....	.....	.....	.....	.....	.....	.....
Columbus and Lake Erie.....	" 60	1,694,000	906,000	2,600,000	321,793	200,967	.....	106½
Cincinnati, Ham. and Dayton.....	" 40	310,000	550,000	925,000	.....	.....	.....	72½
Cincinnati and Marietta.....	" 20	.....	.....	In prog.	.....	.....	.....	80
Dayton and Western.....	" 36	.....	.....	In prog.	.....	.....	.....	.....
Dayton and Michigan.....	" 31	.....	.....	.....	.....	.....	.....	70
Eaton and Hamilton.....	" 37	.....	.....	In prog.	.....	.....	.....	.....
Greenville and Miami.....	" 84	2,370,784	.....	2,634,157	526,746	314,670	10	119½
Hillsboro.....	" 84	2,370,784	.....	2,634,157	526,746	314,670	10	119½
Little Miami.....	" 84	2,370,784	.....	2,634,157	526,746	314,670	10	119½
Mansfield and Sandusky.....	" 167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Mad River and Lake Erie.....	" 57	.....	.....	In prog.	.....	.....	.....	.....
Ohio Central.....	" 187	1,750,700	2,450,000	.....	.....	.....	.....	97
Ohio and Mississippi.....	" 187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Pennsylvania.....	" 187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana.....	" 187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Scioto and Hocking Valley.....	" 87	552,000	800,000	1,317,140	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd.....	" 54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Xenia and Columbus.....	Ind. 31	.....	.....	In prog.	.....	.....	.....	.....
Evansville and Illinois.....	" 131	.....	.....	.....	.....	.....	.....	.....
Indiana Central.....	" 83	.....	.....	.....	.....	.....	.....	.....
Indiana Northern.....	" 83	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine.....	" 62	.....	.....	In prog.	.....	.....	.....	103
Lawrenceburg and Ind.....	" 88	1,650,000	750,000	2,400,000	516,414	268,075	10	80
Lafayette and Indianapolis.....	" 40	.....	.....	In prog.	.....	.....	.....	78
Madison and Indianapolis.....	" 72	632,387	663,100	1,353,019	105,944	71,446	4	85
Peru and Indianapolis.....	" 72	632,387	663,100	1,353,019	105,944	71,446	4	70
Terre Haute and Indianapolis.....	" 72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	" 186	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.....	Ill. 92	1,932,361	500,000	In prog.	473,548	286,152	.....	124
Illinois Central.....	" 315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	125
Galena and Chicago.....	" 282	4,000,000	4,067,396	8,614,193	.....	.....	8	110½
Michigan Southern.....	Mich. 282	4,000,000	4,067,396	8,614,193	.....	.....	8	110½
Michigan Central.....	" 282	4,000,000	4,067,396	8,614,193	.....	.....	8	110½
Pacific.....	Mo. 282	4,000,000	4,067,396	8,614,193	.....	.....	8	110½

Dayton and Toledo Railroad.

This Company is organized by the election of a Board of seven Directors. The Stockholders met in Dayton last Monday. We learn that all the Stock subscribed was represented at the election, which resulted in the choice of the following Board:—D. Beckel and J. D. Phillippis, Dayton; P. V. Hersting, St. Marys; J. H. Voke, Meinster; N. N. Martin and H. M. Curtis, Delphos; William Castor, Defiance. D. Beckel was elected President, H. M. Curtis, Secretary, and Wm. Dickey, of Dayton, Treasurer. The work is speedily to be placed under contract.

Lake Erie, Wabash and St. Louis Railroad.

We give in our present issue, the recent exhibit of this company, which sets out their present condition and purposes, with a view of the prospective business of their road. The line of this road occupies the natural route of travel between lake Erie and St. Louis, the valley of the Wabash, which is not only the most direct, but the center of business, for the surrounding country. These facts secure the above road two capital advantages, shortness of line and the business of the country it traverses. We shall take occasion to refer to this project again. In the mean time we refer the reader to the exhibit.

Stock and Money Market.

There has been a gradual though not decided improvement in monetary affairs since our last. Money continues in active demand. The calls of our railroad companies are larger, without a corresponding demand for their securities. A more active business is anticipated as the season progresses. The prices of all kind of railroad securities are well sustained. There has been a larger advance in most of the fancy stocks, showing the increasing abundance of means. The earnings of our roads show a most satisfactory increase, and every department of business and trade seems to be unusually prosperous.

The receipts of the Erie railroad for August were about \$404,000. The figures are—

August 1853.....	\$403,683 72
August 1852.....	313,601 71

Increase 29 per cent..... \$90,082 01

The receipts of the Hudson River railroad were as follows:

August, 1853.....	\$130,627 76
August, 1852.....	79,465 97

Increase 61 per cent..... \$31,172 29

The Little Miami road realized the following earnings for the quarter ending Aug. 31:

	1852.	1853.
June.....	\$59,556 99	\$75,703 35
July.....	63,323 60	74,288 55
August.....	70,102 03	88,495 89

Total..... \$192,884 62 \$238,487 76
192,884 62

Increase in three months..... \$45,603 14

The August earnings of the Michigan Southern and Northern Indiana line reach \$154,063, of which \$91,957 was derived from passengers, and \$62,106 from freight. The contrast with the same month last season is:—Increase 60,033. The Cincinnati, Hamilton and Dayton receipts are \$40,085, against \$25,011 last season. The Rock Island were \$44,482; and of the Ohio and Pennsylvania, \$98,485.

The earnings of the Little Miami railroad company in the months of June, July and Aug., 1852 and 1853, were:

	1852.	1853.
June.....	\$59,556 99	\$75,703 35
July.....	63,323 60	74,288 55
August.....	70,102 03	88,495 89
Total.....	\$192,884 62	238,487 76
		192,884 62

Increase in three months over corresponding time of last year.....\$45,603 14 or nearly 24 per cent.

This does not include the way freight, which for the last month is between \$4000 and \$5,500.

The earnings of the Milwaukee and Mississippi road for August are:

Freights.....	\$9,472 30
Passengers.....	8,782 40
Total.....	\$18,254 70

The increase over the receipts of July is \$2,069 85, and over those of August, 1852, \$12,736.48.

The expenses of working the road are stated at 35 per cent of the earnings.

The receipts of the Chicago and Rock Island railroad for the month of August were:

Passengers.....	\$31,399 56
Freights and mails.....	12,083 33
Total.....	\$44,482 88

The receipts of the Buffalo and New York City railroad, in May, June, July and August 1853, were:

Months.	Pass'ngers.	Mail.	Freight.	Total.
May.....	\$9,785	\$325	\$5,097	\$15,208
June.....	12,118	325	6,084	18,521
July.....	15,855	325	6,846	23,026
August.....	21,576	325	8,204	30,105
Total.....	\$59,329	1,300	\$26,232	\$86,862

The condition of the New York City Banks since February last is shown by the following table:

	Loans.	Specie.
Feb. 26, 1853.....	\$95,274,876	\$8,991,630
June 11, 1853.....	95,520,656	12,174,500
Aug. 6, 1853.....	97,899,617	9,746,452
Sept. 3, 1853.....	92,562,277	10,654,618
Aug. 20, 1853.....	94,148,396	11,092,552
Aug. 27, 1853.....	92,386,053	11,319,047
Sept. 3, 1853.....	91,741,338	11,268,049
	Circulation.	Deposits.
Feb. 26.....	\$9,274,025	\$57,550,567
June 11.....	9,084,106	50,078,171
Aug. 6.....	9,510,465	60,994,568
Aug. 13.....	9,451,845	58,166,712
Aug. 20.....	9,114,636	56,317,718
Aug. 27.....	9,427,191	57,431,708
Sept. 3.....	9,554,294	57,502,970

The coin on hand in banks and sub treasury is shown as follows:

	Sub treasury.	Banks.	Total.
Aug. 6.....	\$8,406,000	\$9,746,000	\$18,152,000
Sept. 3.....	9,143,372	11,268,049	20,411,421

As compared with August 27, the result is as follows:

	Loans.	Specie.
Aug. 27.....	\$92,386,953	\$11,319,047
Sept. 3.....	91,741,338	11,268,049
Decrease.....	\$645,615	Dec. \$50,998
	Deposits.	Circulation.
Aug. 27.....	\$57,431,808	\$9,427,191
Sept. 3.....	57,502,960	9,554,294
Increase.....	\$71,152	\$127,108

	Loans.	Specie.
Aug. 6.....	\$97,899,499	\$9,746,441
Sept. 3.....	91,741,338	11,268,049

Decrease.....\$6,158,161 In. 1,521,608

	Deposits.	Circulation.
Aug. 6.....	\$60,579,797	\$9,513,053
Sept. 3.....	57,502,960	9,554,294

Decrease.....\$3,076,837 In. \$41,241

The following is an official statement of the tolls collected on all the New York state canals, in each of the following years, viz:

NEW YORK STATE CANALS—TOLLS COLLECTED.

	4th week in Aug.	Total to Aug. 31.
1846.....	\$83,787	\$1,507,779
1847.....	134,918	2,215,426
1848.....	122,629	1,656,204
1849.....	114,265	1,666,683
1850.....	150,292	1,662,800
1851.....	128,848	1,938,247
1852.....	129,278	1,737,038
1853.....	133,142	1,795,704

A comparison of receipts from two years to August 1, 1852, and 1853, showing the general course of trade is as follows:

	1852.	1853.	Dec.	Inc.
On up freight mdse..	\$439,413	\$508,469	....	\$69,056
On down do from other states.	758,377	730,420	\$27,957	....
On down freight from this state.	539,248	556,815	....	17,567
	\$1,737,038	\$1,795,704	\$27,957	\$86,623
				\$ 27,
Increase.....				\$58,666

Negotiations Abroad.

The recent attempts to negotiate loans for railroads, in gross, in the London market, appear to have failed. We understand that Mr. Robb, who went out on account of the New Orleans, Jackson and Great Northern railroad, has just returned unsuccessful, and reports from other parties are not encouraging. This want of success we have no doubt, is owing more to the unsettled state of the public mind in Europe, and to the active demand for money in England, than to the quality of the securities offered. Perhaps Englishmen see it is better to order through reliable houses on this side of the water, than to buy directly from the purchaser, and in large blocks.

Whatever may be the cause it is certain that the investments made by English capitalists in this country have not been so judicious and successful as those made on continental account, and our enterprises consequently are not held in such favor in the former country as in France and Germany. The people of these countries have thoroughly studied the physical condition of this country; its capacities and wants, the general course and direction of trade, the resources of the people, the instrumentality that railroads exert in developing these resources, and the relations that our railroads bear to our material progress. They are as skillful in deciding all the shades of difference in the value of a railroad security, as they are in determining the different grades of cotton or tobacco. Foreseeing that the necessity for railroads in this country must secure their construction to an

indefinite extent, they have gone into these works at apparent risks, at times, for the purpose of making money out of a legitimate business, much preferring to get hold of a bond when selling at 85, than to give par for the same article.

The fact that first purchasers could get at 85 or 90 what was worth par, was the great cause of the introduction of our securities into the continental markets. A solvent 7 per cent ten year bond of a railroad company, when its character becomes well known, is worth a handsome premium in any market. A purchaser therefore, who was satisfied that a bond offered at 85 was really worth par, or more, had every inducement to purchase, because he could sell at an advance, provided he could inspire other people with his own convictions. He had every inducement to diffuse among his own correspondence or connections, the grounds that produced conviction in his own mind. As the first purchaser contented himself with a small profit, the second took the security, with similar interested motives attached, so that the margin for profit was the premium that our people offered for the service of a large number of agents in making known our wants and our strength. The purchaser for investment was well satisfied in securing a seven per cent bond at 10 or 20 years at par. Every party to the transaction was equally so with his profits, and consequently well disposed to take up another security as soon as he had disposed of the first. By understanding how to buy, continental purchasers have got our very best securities, and at rates that have given them a large profit, and the success of their investments have opened for us very large and constantly increasing demand from that quarter.

On the other hand as a general rule, Englishmen who have invested in our roads, have not been led to do so from a conviction of their value, from a practical examination of the working of our roads, either as a system, or in detail. His own judgment had nothing to do with the matter. He buys because he is advised to do so by a banker, who wishes to sell the security offered. His interest is measured by the commission he gets, and his knowledge upon the subject by what his principal tells him. This is likely to be a flattering story, as it is just as easy to tell a good as a bad one, and vastly more agreeable. Trusting entirely to others, they would not examine the subject themselves, and both from habit education and from his mental characteristics, the Englishmen know nothing of this country. Their most distinguished men, members of Parliament, or in high official positions, on coming to this country, ask questions about us that would disgrace even a school boy at home. Such ignorance to the inquisitive race of Yankees, is quite incredible. The result is just what might be expected. Buying without judgment, they have made no money, and are consequently indisposed to push the business. The most considerable purchases they have made, have been of comparatively unsaleable stocks at very high prices, altogether too high to allow them to be worked off at a profit. They could offer no inducement to second and third parties to come in, consequently a large portion of what their Bankers and capitalists have taken, still stick in first hands. This fact is quite notorious in well informed circles on both sides of the water. To work off their loads the common method of fir-

titions quotations are resorted to, and we often find a security quoted as active at rates 3 or 4 per cent. higher than it can be bought in this, or the London market. This fact is too well known to make it necessary for us to instance particular cases.

Our English readers will certainly give us credit for endeavoring to protect their interests. When necessary we have never omitted to suggest caution. We have been well aware that to allow an unsound security to be negotiated abroad, would only injure our people ten times as much as any body else. We have felt convinced too, that we were only injuring ourselves by being enabled to borrow money for works that were not really needed, and for which a sufficient business did not exist to afford a lucrative support. We have been exceedingly desirous to see the subject of railroad construction in this country thoroughly understood in England. Properly invested in our roads, the surplus capital of that country could be made vastly useful to us, and profitable to parties investing. We regret that matters have not taken a more fortunate turn. The investments hitherto made, have not been of a character to encourage further negotiations. This is the fault of their people not of our own. We cannot be complained of, for being desirous of selling at a good price. It is for the purchaser to see that he does not pay too much. Contrasted with the continental, the English investments make but a poor figure, even comparing the market prices of the two at the present time, though the former were made at, at least, ten per cent lower rates. One class bought understandingly, the other without any understanding at all. But the English never make a good foreign investment. Just look at the history of them the world over, in proof.

Cahaba Valley Railroad Company.

The commissioners appointed by act of the legislature to carry out the preliminary step to the organization of this company, being notified that a sum beyond that required to the capital stock thereof, had been subscribed, on due notice given, the stockholders, met at Sulphur Springs, St. Clair county, the 8th August, 1853.

On an election held pursuant to the charter for directors of said company, the following persons were elected: Benjamin F. Porter, John Oliver, George W. Ash, N. J. Morris, James Forman, J. I. Thomason, Thos. Johnston, Jas. J. Bothwell, and Alemeth Byers.

Whereupon, said directors being called together, Dr. J. J. Bothwell was called to the chair, and Jno. I. Thomason appointed secretary, *pro tem.*

Whereupon, an election was held for president of the company, and Alemeth Byers was unanimously elected.

John I. Thomason was then unanimously chosen secretary of said company.

Peyton Rowan was unanimously chosen treasurer.

On motion of James Forman,

Resolved, That the president be authorised to make a contract with James H. Oliver, or some other engineer, to make a preliminary survey of the Cahaba Valley Railroad.

The president appointed James J. Bothwell, B. F. Porter and John I. Thomason, a committee to consult with a like committee on the part of the Will's Valley Railroad company, on the propriety of the consolidation of the two companies,

and report to some subsequent meeting of this company.

Pacific Railroad.

Estimates of Mr. Norris of the cost of construction of Locomotives, Cars, and personelle of the road and the net profits thereof.

Estimate of cost for running a passenger train from St. Louis to San Francisco—say 200 passengers, distance 2,000 miles—the train consisting of—

Four first class passenger cars.....\$8,000
One baggage car.....1,500
One mail car.....1,500
One 21 ton engine and tender.....8,500

—the train to run at the average rate of twenty miles per hour, including stoppages, performing the whole distance of 2,000 miles in 100 hours. Thirteen locomotives will be required for this duty, each locomotive running 153 84-100 miles, which will be considered a day's duty, with new sets of hands for each locomotive—the cars to run through.

Wages of 13 engineers, 153 84-100 miles.....\$3 00 \$39 00

Wages of 13 firemen.....1 50 19 50

“ Conductors.....2 00 26 00

“ Baggage masters.....1 25 16 25

“ Breakmen.....1 00 13 00

Wood for fuel and firing up 63 7-10 cords.....2 00 127 40

Oil for engine and tender 19 6-10 gallons.....1 25 24 50

Water used 60,000 gallons, 10 cents per 1,000.....

Oil and grease for cars.....7 00

Repairs and renewal of engine and tender, 9c. per mile.....180 00

Repairs and refitting cars, 9c. per mile.....180 00

Hands at depot, and extra engines.....75 00

Interest on first cost 10 engines and tenders, and 6 cars, allowing six days for a trip.....145 80

Total.....\$860 15

Now, \$860 15 is the full cost of running a passenger train of 200 passengers, 2,000 miles, which includes every expense of motive power, with interest on cost of engine and cars. The sum of 9 cents is nearly two cents per mile more than the average cost per mile for repairs of locomotives in the United States. The wages are high and the wood \$2 per cord.

Cost per passenger of 2000 miles is \$4 30 or a small fraction over two mills per mile for each passenger.

The revenue from the road would be as follows, allowing only 400 passengers per day. This would give in a year 146,000 passengers at \$60, \$8,760,000. Allow \$50,000 per mile of road, equipped and ready for use—2,000 miles at \$50,000 per mile, \$100,000,000.

Interest on cost of road, etc., at six per cent.....\$6,000,000 00

Cost of running 730 trains per year.....627,969 50

Total.....\$6,627,969 50

Add superintendence and office expenses.....30,000 00

Total.....\$6,657,969 50

Revenue for 400 passengers daily for one year.....8,760,000 00

Deduct interest on \$100,000,000 00 \$6,000,000 00

Deduct cost of trains and superintendence.....657,969 50-6,657,969 50

Revenue over and above 6 per cent.\$2,102,031 50

From this estimate the road would pay 8 1-10 per cent on a capital of \$100,000,000 for passengers alone. In all cases large allowances have

been made and in no instance can the cost exceed the estimate. The allowance of only four hundred passengers daily between the two points—St. Louis and San Francisco—is a low estimate of travel. The revenue from freights, mails and gold, would swell the receipts to a much larger amount. And I have no hesitation in saying that the road if built will pay as well, if not better, than any of the New York roads.

SEPTIMIUS NORRIS,

Civil and Mechanical Engineer.

Philadelphia, Aug. 19, 1853.

Uses of our Railroads.

Should the present demand for breadstuffs from Europe continue, our numerous railroads will enable our people to supply that demand with much greater ease and promptness than at any previous period. Up to within a year or two, the wheat and corn from the interior found their way to the seaboard through the Erie canal, which was also reached through the canals in the interior of the country. These canals are closed about one-third of the year, placing an embargo upon all movement, particularly from the Mississippi Valley. Grain that was not brought to tide water during the season of navigation, remained in the hands of the farmer and in the interior, till the re-opening of navigation the next year. This suspension of movement in the winter had a tendency to crowd the canals in the fall and to carry up the rates of transportation to a high figure, and to deprive the farmer and merchant of all advantage of any advance that was likely to take place during the winter months, all of which were felt to be serious evils.

The progress of our railroads, has to a very great extent, remedied these evils. We have now four lines of railroad extending to the Mississippi Valley, and as many more to the great lakes and the St. Lawrence. These channels of commerce independent of all the extremes of heat and cold, stand ready to pour the treasures of the interior upon the seaboard, whenever a demand shall exist. In addition, the principal grain growing districts in the interior are well supplied with railroad accommodation, so that the entire product of these articles, may be made available to meet any emergency that may arise. This is a great point gained. Without railroads, a famine might exist in Europe or in portions of our own country, without our being able to relieve it from our overflowing stores. Now it is hardly possible that a serious want of breadstuffs should be felt either in this country or Europe, so rapidly could our surplus be collected and forwarded to any given point.

The crop of wheat and indian corn for the present year is fully up to our average one, throughout the country, and with a sufficient demand, the supply for exportation would be almost unlimited. Should these articles bear a good price for the next six months they will exert a favorable influence upon our foreign and domestic commerce.

The Europeans are already reaping a double benefit for the assistance they have afforded in the construction of our railroads. They have not only made most satisfactory investments, but they have enabled our people within a few years to nearly double their purchases of foreign merchandise. Witness the immense and steady increase in the amount of our importations. The progress of this country has done more to communicate a new impulse to the industrial interests of the old

world than any one, and perhaps we may say than all other causes whatever. There are no people in the world who so universally indulge in the use of articles of comfort and luxury as our own, and none that have such abundant means for gratifying their tastes and wants. A capitalist of Europe accomplishes a double object in sending his money to this country. A community among us very frequently undertake the construction of a railroad as a means of enlarging and improving their other interests. As commerce is cosmopolitan, an European has the same inducement as our own people to encourage our roads. This he must begin to see, and although we may not expect him to undertake work in this country with such objects in view, we may expect him to look upon his investments with great satisfaction, when he finds himself benefitted in more ways than one.

Railroad Depots.

The *Evansville Journal* makes some sensible remarks on the influence of the location of railroad depots upon real estate, which quite agree with all our own observations upon the same subject.

The *Journal* says: "We have frequently noticed that in Western cities, and by no means excepting Evansville, an undue importance is attached to the location of Railroad depots. In the East, where experience has been the monitor, the difficulties in locating depots spring up from a directly opposite cause to those which arise here under similar circumstances. There, these depots, with the terrible shrieking of locomotives, the eternal rumbling of cars, the noise and confusion of drays, hacks and omnibuses, and the frequent cursing and blasphemy of the collected crowds of people, utterly unfit their neighborhoods for places of residence. Observation teaches us that there depots never create business around them or secure the erection of a number of business houses. What then is their value, that they bring serious difficulties among neighbors, in almost every town or small city, in which a depot is located? Probably the person or persons owning the property selected, are benefitted by its sale, but what good point or neighborhood in a city is especially benefitted by the location of a railroad depot in it; or what one is injured by the location of a depot at a distant place?"

Take the experience of those places in the West where there are old established railroad depots. What has the Little Miami Railroad depot done for that portion of Cincinnati in which it is located? Has it built a single house not used for its own purposes? Has it not actually prevented that portion of the city from improving with the same rapidity of almost every part of its outskirts? And what has its C. H. and Dayton Railroad depot done for a directly opposite portion of the city?—It has vacated dwelling houses, and lessened the value of property. It has almost ruined as a place of choice residence, one of the most beautiful streets of the city—and not a business house has it erected in its immediate neighborhood. A depot for this same road was established at the foot of Main street, Dayton. No person who can avoid it, will now live in that neighborhood. Rents have decreased, and the only thing it has done, has been to build up a few dirty groceries for the benefit of dry passengers, who cannot walk to more distant and respectable places. Several depots have been established in that vicinity, but property holders thereabouts have been injured. What have the railroad depots at Buffalo and Chicago done for the particular neighborhoods in which they are located? They have been for years on the outskirts of those cities, yet there are not much else than vacant lots around them.

Thus we might continue, and prove that where one neighborhood has received essential improvement from the location of a depot in it, fifty have actually had their prosperity retarded from the same cause.

Railroads are, it is natural to presume, built for the benefit of the cities at which they terminate, as well as for the country they traverse. The location of depots in these cities, should be made with reference to the one thing alone; the point most convenient to the road for the general transaction of its business, where land can be procured with proper cheapness. This point must be the selection of which will most benefit the city, one it is that which will most benefit the road, and the one being benefitted in proportion to the other. If the location is fairly made and by the proper persons, all bickering should there after cease, and he be considered a traitor to the interests of the city, who would wilfully throw obstacles in the way of the completion of the improvement, by agitating an unhealthy fever on the subject of depot location, which must have the result to more or less injure the particular railroad enterprise."

Rate of Freights on the Mississippi and Ohio Rivers.

The owners of the steamboats running between Louisville and New Orleans, have agreed upon the following rate of charges for freights between the above cities. We publish the schedule as a matter of general interest:

Through Freight.

25c per 100 lbs. for lb. freight.
60c per bbl. for pork and beef.
75c per tierce for pork and beef.
55c per bbl. for lard.
70c per tierce for lard.
50c per bbl for flour or beans.
75c per bbl for whiskey, oil or eggs.
45c per bbl for apples, onions, potatoes, etc.
15c per keg for lard.
35c per 100 lbs for stoves and light castings, boatmen accountable for breakage.
25c per sack for corn.
8c per bushel for oats.
30c per 100 lbs for bran.
30c per 100 lbs for hay.
12½c per bushel for wheat.
5c per head for cabbage.

Way Freight.

30c per 100 lbs for lb freight.
70c per bbl for pork and beef.
90c per tierce for pork and beef.
65c per bbl for lard.
85c per tierce for lard.
60c per bbl for flour or beans.
90c per bbl for whiskey, oil or eggs.
50c per bbl for apples, onions, potatoes, etc.
20c per keg for lard.
40c per 100 lbs for stoves and light castings, boatmen accountable for breakage.
30c per sack for corn.
10c per bushel for oats.
35c per 100 lbs for bran.
35c per 100 lbs for hay.

25c per 100 lbs gross for tobacco and an additional charge of 50c per hhd if taken from the top of bank or warehouse.

¼ per ct. on all money packages, and in all cases a receipt or bill of lading shall be signed for them, except in cases where money is sent to fill orders to be sent by return of boat.

\$5 per head for mules.
75c per head for sheep.
\$6 per head for horses or cattle.
\$2 per head for calves.
\$8 per head for 2 year old calves.
\$4 50 per head for 3 year old calves.

And all passengers with stock or freight of any description to be charged \$15 passage in the cabin, \$6 on deck when fed, \$3 if not fed, on deck; and charge for extra feed in all cases.

75c for hogs weighing 100 lb and under.
\$1 50 for hogs weighing over 100 lbs.
\$4 per dozen for pigs in coops.
75c per dozen for chickens and ducks.
\$1 50 per dozen for turkeys and geese.

Pacific Railroad.

We give below a characteristic letter of Col. Benton, giving an account of the explorations of his favorite route for a railroad to the Pacific, by Lieut. Beale. We have no doubt that numerous practicable routes exist for a railroad to the Pacific, but we opine that something more than a mere reconnaissance of a traveller on horseback, is necessary to determine the practicability of a route, or its superiority above all others.

WASHINGTON, September 4, 1853.

GENTLEMEN: I send you two letters just received from Superintendent Beale and Mr. Harris Heap, and giving information of their having reached the Great Colorado of the West, and found the country good for a railway settlement all the way out to that river, which they reached in five days, after crossing the divorce line of the waters—*divortia aquarum*—between the Atlantic and Pacific in the middle of that pass, Coo-cha-tope, which Fremont went to find, which Leroux said was there, and which Beale's party has gone through. It is not merely a pass but a valley between two mountains, with a distinct name of its own, "*Sa-urha-che Valley*," some forty miles long, good for railroads and settlements and only wanting the hand of man to make it a perfect garden; and this in addition to the Valley of *Sun Luis*, which connects with it. So that problem is solved at least so far as summer travel is concerned, and Fremont has gone out to solve it in winter.

At the crossing of the Grand River fork of the Great Colorado they lost their arms, ammunition and provision, by the upsetting of a pirogue on her fourth trip, and Bealesent back most of the party to the Taos settlements for supplies, he remaining with a Delaware Indian, a Mexican, and a lad from Chester, Pennsylvania, sheltered by a corral which they had built, i. e. a strong pen to hold wild animals. He would lose two weeks by this accident, but he did not turn back, and would have gone on without arms or provisions if he had felt himself at liberty to treat other people's lives as he would his own.

But the sending a party back had one good consequence; they were instructed into another pass "almost as good as Coo-cha-tope, and one day's travel shorter. This pass is called "*Carnero*," the Spanish word for sheep, or a ram; and in that pass they met hospitable Utah Indians, who gave them a mule load of dried Buffalo meat. It is Buffalo grazing ground, which proves it a good country. Still varying his route, Mr. Heap would return through the pass that Williams was aiming at, when he buried Col. Fremont in the snows of the *Sierra San Juan*, this route being still shorter than the *Carnero* but not so good. So that in consequence of this balk at the river, Beale's party will cross the Rocky Mountains at three different places at the head of the Del Norte.

The Coo-cha-tope Pass was ascertained to be a primeval Buffalo route, and the only one which they now travel in going from the Del Norte to the Great Colorado waters; a fact which has two values with me: first, as being a proof that it is the best route, the buffalo having an instinct at finding his way more unerring than the science of the schools, which always leads him the nearest and best route when he wishes to travel from one country to another; secondly, as being a proof that it is a good country, with grass and water and shade, the said buffalo having another instinct which makes him eschew the countries in which it requires science to make the grass grow, and well diggers to get water. He hates a desert and never goes to it.

It was the season of high waters when Beale went out, which are periodical and made by the melting of the snows on the Wah-satch and on the Rocky Mountains. The streams commence swelling at the vernal equinox and continue till the summer solstice, when they subside and are all fordable except the Upper Colorado, called Green river.

These letters from Beale and Heap cover the only debatable ground on the Central Route. The whole route has now been seen, (for Fremont knows the Grand River, and all beyond,) and the passes traversed; and all found to be good for roads and settlements, and inviting the hand of the farmer to improve it. Nothing is now wanting but the winter exploration, which Fremont has set out to give. He is not afraid of snows in the mountains where there are valleys, and passes, and woods. He has stood upon a mountain in a killing snow-storm and looked down into a valley some thousands of feet below where the sun was shining, green grass covering the ground, and the surface of the water free from ice, and named one of those places in the dead of winter "Summer Lake." He has stood in a valley looking at a snow-storm raging in mountains over head, while the mules were feeding at their ease round his camp. He has been safe in his camp in a grove of wood during a snow-storm which killed all animals on the prairies; witnessed the loss of about a thousand head of Government oxen returning from New-Mexico in 1848, while he, in the same snow-storm, sheltered by woods, lost not an animal, and his men amused themselves in hunting and killing buffaloes. He is not afraid of snows where there are passes, valley or wood; and means to stand in the most elevated of these passes on the Central route in January next. He will have with him Indians and mountain men who are no more afraid of snow than himself.

Besides the letters from Beale and Heap, I have one from Mr. James H. Quinn, of Taos, by the same mail, in which he says: "Mr. Leroux and myself, and others, go up the Rio Grande next week (letter dated July 29th) to examine the different passes between the Arkansas River and the Co-o-cha-tope branch of the Grand River fork of the Great Colorado, and will send you a report of our exploration. Carson has gone to California, and we expect him back soon. Should he come I will get his report upon the route laid down in your letter to the people of Missouri." Another letter says: "Let Fremont come. We will go with him." Thus, there are many passes, some not yet seen by our mountain men, in that quarter. The Utah Indians say there are five through the Sierra Blanca alone, proving Fremont's theory, that the mountains in that region are not continuous ranges, but detached blocks on a table land of six or seven thousand feet high, between which blocks the first topographical engineers, the old buffalo bulls, lay out their roads.

Respectfully, yours, THOMAS H. BENTON.

Baltimore and Ohio Railroad.

The Board of Directors of the Baltimore and Ohio Railroad, have adopted a resolution of laying double track from Piermont to Baltimore, two hundred and six miles—and authorized the President to negotiate for a loan to effect this object. The matter was ably discussed before the Board, and its importance to the business of the road and the trade of the city, was most forcibly and conclusively demonstrated by the President.

The proposition from the Union line of steamboats, which we noticed yesterday, did not come formally before the Board, in the way we stated; but another looking to a more complete identification of the interests of the steamboat line with the railroad, was brought forward. It was an application for the Railroad Company to guarantee the Union line eight hundred dollars a day for passengers and freight westward, on every day that the boats belonging to it shall run, so as to secure them against loss from trips eastward. The subject engaged an earnest debate in the Board, and was then rejected by a majority of four votes. We have not heard what were the arguments used for or against the proposition; but we hope that it will not, in any way interfere with the good understanding between the parties, or lead to any separation of their interests.—*Balt Patriot.*

Ship Canal around the Falls of Niagara.

The company chartered at the recent session of the Legislature to construct a ship canal in this state around the Falls of Niagara has been organized by the choice of the following parties as directors.

William A. Bird, James L. Barton and Dean Richmond, of Buffalo; Benjamin Pringle and Herman J. Redfield, of Batavia; Calvin Hotchkiss and James Van Cleve, of Lewiston; Nathan Dayton, of Lockport; Luther Wilson; Simeon Draper, of New-York; Freeman Clark and John Fisk, of Rochester; E. G. Merrick, of Clayton; George Law, of New-York; and Martin B. Scott, of Cleveland.

The following report and resolution was adopted in the meeting of the corporation.

The Committee appointed to recommend measures to be acted upon by this meeting, beg leave to report that they have considered the matter submitted to them, and that in their opinion it is advisable that the friends of the different routes for the proposed Ship Canal, be requested to present the claims and advantages of their respective routes; that all the friends of the measure should cordially and earnestly unite in presenting its vast importance to the country, and in securing aid and influence for its final consummation. And that, for the purpose of concentrating and duly directing the efforts of its friends, a preliminary Executive Committee of thirteen be appointed by this meeting to take all such measures as they may deem necessary and proper to promote the objects and secure the great ends in view.

For the attainment of these objects the Committee recommend the adoption of the following resolution:

Resolved, That Simeon Draper, Sanford E. Church, Dean Richmond, George Law, E. G. Merrick, George W. Holley, John Fisk, Delos De Wolf, Thomas Kempshall, Martin B. Scott, James Van Cleve, Calvin Hotchkiss, and Luther Wilson, be appointed an Executive and Managing Committee, with plenary powers, to promote this great undertaking to its completion, and that their powers be continued until the Company shall have been organized under its charter.

European and North American Railway.

The ceremony of breaking ground on the European and North American Railway, at St. John on the 14th of September, will be the most imposing affair of the kind that has taken place in that country. Mr. Stephenson, Mr. Jackson, and Mr. Betts, are to be present, with the official personages of all British North America, and full delegations from the United States.

The Quebec and Richmond road is going forward with great despatch, and Quebec will be united with Portland within a twelvemonth.

Fare to Baltimore from Philadelphia.

The Richmond, Fredericksburg and Potomac Railroad Company give notice, that they will be prepared, on and after Monday the 15th inst, to issue through tickets from Richmond to Baltimore for \$6, and to Philadelphia for \$8. The traveler can now overcome the distance between New York in 20 hours, and a cost of \$10, and not exceeding \$11, (the difference depending on which of the trains are taken at Philadelphia)—low enough, certainly, when reference is had to the speed, comfort, and convenience which attend the trip.

The present rates of this road are, we believe, as follows:

From Richmond to Fredericksburg.....	\$2 50
From Fredericksburg to Washington.....	3 00
From Washington to Baltimore.....	1 20
From Baltimore to Philadelphia.....	3 00

\$9 70

The fare from Philadelphia to Washington, will main we presume, as at present \$5 50.

Ohio and Illinois.

The correspondence of the Buffalo Commercial Advertiser speaks as follows of some of the new lines in these states.

The Toledo and Illinois, and Lake Erie, Wabash and St. Louis Railroads, will form a continuous line from Toledo to Dansville, Ill., at which point the line intersects a direct line of roads leading to Alton and St. Louis. The road from Toledo to Dansville passes through the valleys of the Maumee and Wabash rivers, touching every important point on both rivers, and will be at least 50 miles nearer St. Louis than the route via Laporte and Joliet, and about 100 miles nearer Buffalo than the route via Cincinnati. The contractors are at work on every division of this road, and its completion will be announced within 18 months. In a distance of 245 miles, being the length of the road from Toledo to Dansville the deflection from an air line is less than five miles; while from Dansville to St. Louis, a distance of 175 miles, a direct line will be obtained. On the completion of this line of roads, passengers can leave St. Louis in the morning, and be landed at Toledo in the evening in time to take the eastern cars or boats for Buffalo, thus enabling them to reach Buffalo in 24 hours from St. Louis. This will be a "cut off" worthy of note by all western travelers; while in addition to its directness, the line will have the great advantage of connecting the most enterprising inland towns of the West, (Fort Wayne, Peru, Logansport, La Fayette, Attica, &c., &c.) with Lake Erie and its flourishing cities, not omitting Tonawanda.

At Dansville, the Lake Erie, Wabash and St. Louis railroad will connect with a line of railroads running almost due west to St. Josephs, Missouri, a distance of about 475 miles, passing through the richest parts of Illinois and Missouri. Of this line, a portion is already constructed, and I am assured the residue will be completed in eighteen months. Another important tributary to this line of roads is a railroad now projected from La Fayette, Ia., through Bloomington, Pekin, &c., Ill., to Keokuk, Iowa, 245 miles. Over a million of dollars have been subscribed to the capital stock of this Company on the line of the road, and the indications are favorable to its early construction. When completed, this road will bring to the Wabash Valley line the business of Southern Iowa, particularly that of the Des Moines valley, and that of Central Illinois, which now has no direct outlet by railroad.

The Car Wheel Patent Suit.

The Cooperstown Journal of Friday last makes the following mention of this suit, which was before the U. S. Circuit Court during the last week in July:

The suit alluded to last week of Ross Wynans against Eaton and Gilbert, now pending before Judge Nelson, is one of the most important patent suits ever tried in this country, involving interests, private and public, of great magnitude. Wynans applies for an injunction to prevent defendant from manufacturing the common eight wheel cars. Wynans claims to have invented and did patent it, in 1834, which patent was extended in 1848. His first demands against manufacturers were made, we are informed, about 1847, such demands, however, were made against several railroad companies previous to that time. The leading points of defence are, want of novelty and originality—the principle contained in the eight wheel cars it is maintained, having been patented in England in 1812 and was known and published in 1825, by Tredgold; and that its principles are co-extensive with the railroads of this country. Second its apparent abandonment in suffering the principle claimed to go into general use. Gov. Seward is retained by the Central line of Railroads against whom suits are now pending, for the use of eight wheel cars.

Harrisburg R. R.

The annual meeting of the stockholders of the Harrisburg Railroad Company was held at the office of the company, in Philadelphia, a few days since. The president submitted a report of the business of the road for the past year. The income of the road for the fiscal year ending on the 31st ult., is \$263,278, being an increase over receipts of the previous year of \$63,028. Included in the receipts is an item of \$17,000 from the Pennsylvania Railroad Company, earned and due in 1852. The profit, after the expenses and paying interest on the funded debt, is \$107,302 equal to about 13 per cent. The whole number of passengers carried is 128,719 being an increase over last year, of 19,060. The receipts from passengers are \$126,288 being an increase over the receipts of last year of \$5,769. The receipts from freight are \$126,280, being an increase of \$58,198. The current expenses of the year are \$117,305 against \$92,316 last year. The road is reported in good order, and its management, with some felicity, pride themselves on the fact that, for ten years, it has been exempt from any serious accident. The law passed at the last session of the legislature, authorizing the company to enlarge the bed of their road, to make a loan of a million of dollars to meet the payment of loans falling due in 1853, and to enable the company to lay down a second track, has been accepted at a special meeting, the bonds prepared, some of which have already been exchanged, and others are ready whenever holders shall desire to make the exchange.

Great Western R. R. of Canada.

The editor of the Detroit Tribune has been over a portion of the line of this road and gives the following account, of the condition progress of this work.

The length of the Great Western Railroad is two hundred and eighty miles. It is as near an air-line as it could well be made,—several sections upon it being perfectly straight, varying in length from sixteen to fifty miles. No pains or expense has been spared to make it substantial in every respect. Our Canada friends even flatter themselves and assure us that as whole and for its length, it will be the best railroad on the American continent.

The most gratifying result of our trip, is the assurance that the entire road from Windsor to Niagara, and all the equipments, will be completed and ready for regular through trains on the first day of January next. The western section is to be done by the 15th of the present month, when the contractor, now working from Chatham west, will commence work eastward also. The deep cut and heavy work east of Hamilton, the contractor assure us will be ready, and the track laid on the whole line by the 20th of December, so that all the running machinery of the road can be disposed of and every arrangement complete for uninterrupted travel from January 1, 1854. The new wire bridge across the Niagara river is already in a good state of progress. It is to be built over the present bridge,—that having been designed and constructed, we are informed as a platform merely to facilitate the construction of the principal crossing.

Cincinnati Union and Fort Wayne Railroad.

The grading of the entire line of this road was let by the Directors, at Union, on the first day of September instant, at very favorable rates. Twenty miles at each end are to be completed by the first day of September next, and the balance by the first day of March 1855. This will enable the company to lay down the iron from Union to Portland, at the south end, and from Fort Wayne to Decatur, at the north end, in the fall of 1854, and on the remainder of the line in the spring of 1855.

The Company have recently sold some of their first bonds at par. These bonds are based on the land subscriptions to the Company, at their cash

value ascertained by appraisers, and are considered very good security for the money, as they will be much enhanced in value by the construction of the road.

Railroads in Wisconsin.

A contract has been concluded which insures the early completion of the Milwaukee and Mississippi Road to Prairie du Chien. The La Crosse road is under contract, to Portage on the Wisconsin river; the Watertown road is being pushed forward toward completion, and the Milwaukee, Fond du Lac and Green Bay road, (which in connection with the Lake Shore road, will furnish the most direct route from Chicago to the North) has concluded a contract with the LaCrosse company, by which the latter company agree to use twenty miles of the Milwaukee end of the Fond du Lac road, paying therefor eight per cent on the entire cost, thus insuring to the company an income of about forty thousand dollars per annum. They have purchased a sufficient quantity of rails to lay thirty-seven miles of road, and on the fifth inst., one month from the date of their organization, a contract was signed for the construction and equipment of the entire road from Milwaukee to Oshkosh, a distance of eighty miles, to be completed by the first of January.

Considering the present price of iron, the contract is a favorable one, being twenty thousand five hundred dollars per mile for full equipments of the best character, and rails fifty-eight pounds to the lineal yard—the road to be constructed in a manner equal to the best Eastern Roads.

New Arrangements for the New York and Baltimore Travel.

The Philadelphia Ledger states that the Southwark Railroad Company have unanimously resolved to lease their road to the Philadelphia, Wilmington and Baltimore Railroad Company for the term of fifteen years. The terms are that the lessees shall pay 9 per cent. per annum on the part value of the stock, or the whole cost of the road after it has been put in order. An instalment of \$4 or \$5 per share will be called for by the Southwark company, and a new track immediately laid connecting the Baltimore depot at Broad and Prime streets with the property on Washington street wharf, lately purchased by Messrs. Mersey & Pechin. A depot will be built there by the Baltimore Railroad Company, and when the arrangements are completed passengers and freight going through from New York to Baltimore, or vice versa, will be transferred by means of a steamboat from one road to the other without the delay occasioned by the present mode of transportation.

Pan Handle Railroad.

We understand that the Circuit Court of Brooke county (which adjourned this morning,) has granted a rule, on motion of the attorney for the commonwealth in that county, against the parties engaged in attempting to construct the Pittsburg and Steubenville Railroad across the "Pan Handle" of Virginia. The rule requires the parties to show cause why a criminal information shall not be filed against them by the attorney for the commonwealth, for illegally engaging in the construction of the work for the benefit of a railroad corporation of the State of Pennsylvania, to which the Legislature of this State has denied the privilege of constructing it.—*Wheeling Argus, Sept.*

New Albany and Cincinnati Railroad.

A meeting was held Aug. 9th, at Rising Sun, for the purpose of organizing a company to build a railroad from New Albany to Cincinnati. Articles of association were reported and adopted, and Directors chosen.

E. Case, of Switzerland county, was President of the meeting, and M. Gregg, of New Albany, Vice President. The following named gentlemen were chosen directors, viz:

Floyd County—James Montgomery, Thomas L. Smith, John B. Winsteadly, John S. Davis.

Switzerland County—U. P. Schenck, F. L. Grisard, J. McCutcheon, Eliphalet Case.

Ohio County—A. C. Pepper, H. T. Williams, D. G. Rabb, John C. Miller.

Dearborn County—Daniel S. Major.

Marietta and Cincinnati Railroad.

We learn that at a meeting of the Shareholders, held at Chillicothe, Ohio, on the 17th inst, the following gentlemen were elected to serve as Directors for the ensuing year: W. P. Cutler, John Mills, Douglas Putnam, Noah L. Wilson, Beman Gates, John O. Cram, Wm. S. Nye, John Maderia, M. Scott Cook, Francis Campbell, Abraham Heigher, A. B. Walker, Hugh Smart; and at a meeting of the Directors, Wm. P. Cutler, Esq., was re-elected President; Col. John Maderia, Treasurer; and C. W. Ely, Secretary.

Loan and Iron for the Oakland and Ottawa Railroad.

We learn from the *Detroit Tribune* that: The agent of the Oakland and Ottawa Railroad Company has recently returned from Europe, having been entirely successful in effecting a contract for as much of the Iron as the Company desired to procure at the present, and in negotiating a loan of \$3,000,000 on favorable terms. He has contracted for 6000 tons of Iron, at \$46 50 per ton, one third to be paid in the bonds of the Company, and two thirds in cash. The conditions of the loan are two thirds of the amount, (\$2,000,000) in the Company's bonds, and one third, or \$1,000,000, in the stock of the Road. The balance of the Iron required for completing the whole line, could have been contracted for at the same rate, and upon the same terms had the Company desired it at the present time. The loan was negotiated with the same parties as the loan for the Great Western Road.

The Bonds are to be taken at par, bearing 6 per cent. interest, and the Iron is to be delivered immediately. These are much more favorable terms than the most sanguine friends of the enterprise could have hoped.

Central Ohio Railroad Stock.

Five hundred shares of the stock of this Railroad were sold in front of the Court House on Wednesday the 3d ult., by C. W. Spaulding, Auctioneer. It was bought up readily at 94 and 95 cents on the dollar, only a few shares selling for the lowest price named.

The stockholders of the Central Ohio Road, at the election for Directors, on Tuesday, voted on the question of subscribing one hundred thousand dollars of stock to the Cincinnati, Wilmington and Zanesville Road, and by an almost unanimous vote determined to subscribe that amount. This, we have no doubt, will facilitate the completion of that road, and will prove to be a discreet and good investment.—*Zanesville Cour.*

New York Central Railroad.

We learn from the Albany Journal that the Central Railroad Company have commenced clearing away to find space for the new machine shops, locomotive house, &c. and the foundation will soon be laid for the most magnificent Passenger Depot in the Union.

The Straight Line Railroad in Indiana.

The State Sentinel of the 15th ult. contains the following in relation to the meeting of the Board of Directors of the Straight Line Railroad:

We learn that the Board of Directors of the Evansville, Indianapolis, and Cleveland Straight Line Railroad Company, at their session last Week in this city, so far modified their by-laws as to take land lying within ten miles of the line of the road, and within six miles of the Wabash and Erie Canal, south of Terre Haute. Stock was also ordered to be taken, conditioned upon the location of the Road, on each side of the White river, from Indianapolis to Newberry, and upon the completing lines South of Newberry. The Board also directed the proposals to be received subject to the action of the Board at the next session, for the construction of the road from Indianapolis to Evansville, as appears by the notice of the President and Vice President in our advertising columns. Cash stock was made payable in installments not exceeding ten per cent, every ninety days. James Greene, late of Evansville, was unanimously elected Secretary of the Company.

The Board then adjourned to meet on the 11th of October, when the road is to be permanently located from Evansville to Union, and let from Indianapolis to Evansville.—The stock prospect is highly encouraging to the Company, and it is anticipated that the next sixty days will increase it largely.

Freight of Coal from Nova Scotia.

The *Eastern Chronicle* says a larger amount of coal has been shipped from Nova Scotia the present season, up to this date, than has been in the corresponding portion of any season for some years past.—Freights have ranged higher than for the previous two years, and vessels engaged in the trade have been doing a profitable business. Freights are at present as follows:

For Boston (below Bridges,) per chaldron \$2 75.
New York, per chaldron, \$4 Mines measure.
Providence, do \$3 25, custom house measure.
Newburyport, do \$2 75, to \$3 do do
Portsmouth, do \$2 65, to \$2 70 do do
Philadelphia, per ton, \$2 50, on \$3 p. ch. do

There are at present about 50 vessels in port, all of which were chartered previous to, or immediately on their arrival. The above rates are somewhat higher than were given during the months of June and July, and there is prospect of a still further rise from the increasing demand for coal and the comparative scarcity of vessels.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
50 South 3rd Street,
Philadelphia.

May 1st, 1853.

BRANDS' LIQUID,

FOR DISSOLVING AND PREVENTING

INCORUSTATIONS IN STEAM BOILERS.

[It is acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel *gratis* to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents, Messrs. BOURRY & ROEDER, Consulting and Mechanical Engineers,

Aug. 10, 1853.

333 Broadway, N. Y.

N. York and N. Haven R. R.**NOTICE OF SUMMER ARRANGEMENTS,**

Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.

New Haven, May, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN-SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PEAKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

GREAT WESTERN MAIL LINE.—SIXTY MILES DISTANCE SAVED, by taking the MICHIGAN SOUTHERN AND NORTHERN INDIANA RAILROAD.

Through tickets for Chicago, St. Louis, Milwaukee, Racine, Kenosha, Waukegan, and Sheboygan, by New York and Erie Railroad via Dunkirk, and Buffalo and New York City Railroad; People's Line of Steamboats, Hudson River Railroad, via Buffalo, connecting at Buffalo with the splendid steamers EMPIRE STATE, J. WILSON, Commander, Mondays and Thursdays; SOUTHERN MICHIGAN, A. D. PEAKINS, Commander, Wednesdays and Saturdays; NORTHERN INDIANA, I. T. PHEATT, Commander, Tuesdays and Fridays; leaving Buffalo every evening (Sundays excepted). These steamers are low pressure, built expressly for the Lake trade, and for finish, speed, strength and safety, have no superiors anywhere.

The connections with the Express Trains at Toledo and Monroe, for Chicago and St. Louis, are perfect, and can be relied upon.

Forty hours from New York to Chicago. Time and money saved by taking this Line.

Passengers preferring it, can take the Lake Shore Railroad to Toledo, the Michigan Southern and Northern Indiana Railroad to Chicago, thence by the Rock Island Railroad to La Salle, forming the only continuous line of Railroad to the Illinois river.

For through tickets or freight apply to JOHN F. PORTER, Agent, 193 Broadway, cor. Dey st.

New York and Erie R. R.**PASSENGER TRAINS**

leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. York City R. R., without change of baggage or cars; and also for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Susquehanna and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAT, at 3½ p. m. for Delaware and all intermediate stations.

NIGHT EXPRESSES, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7 p. m. for Dunkirk and all intermediate stations. On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

Railroad Iron.

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SIMEON DRAPER, 46 Pine st., offers for sale a variety of Railroad Bonds and Stocks; also, State, City, Town and Country Bonds, among which are:

State of Pennsylvania 5 per cent. coupon Bonds, \$1,000 each, coupons payable Feb. 1 and Aug. 1, in Philadelphia, mature 1877.

State of Georgia 7 per cent. coupon Bonds, \$500 each, coupons payable Jan. 1 and July 1, in Savannah, mature 1861.

State of Wisconsin 12 per cent. coupon Script, for improvement of Fox and Wisconsin Rivers, whole issue \$75,000, coupon payable Jan. 1, in New York, mature 1862.

State of New York 5 per cent. Canal Certificates, interest payable in New York.

City of Troy, N. Y., 6 per cent. Bonds, whole issue \$500,000, Bonds \$1,000 each, coupons payable Jan. 1 and July 1, in New York, mature 1867 and 1872.

City of Newburg 6 per cent. Bonds, whole issue \$100,000 coupons payable March 1 and Sept. 1, in New York, mature 1873.

City of Racine, Wis., 7 per cent. Bonds, whole issue \$300,000 bonds. \$500 and \$1,000 each, guaranteed by the R. J. and Mississippi Railroad, and convertible into its stock, coupons payable Jan 1 and July 1, in New York mature 1872.

First Mortgage Convertible 7 per cent. Bonds of the Buffalo, Corning and New York Railroad, whole issue \$550,000, coupons payable in New York, April 1 and Oct. 1, mature 1867.

First Mortgage Convertible 7 per cent. Bonds the Western Vermont Railroad, whole issue \$400,000. coupons payable in New York Jan 1 and July 1, mature 1861-71.

First Mortgage Convertible 7 per cent. Bonds of the Columbus, Piqua and Indiana Railroad, whole issue of \$600,000, coupons payable in New York Jan. 1 and July 1, mature 1862.

First Mortgage Convertible 7 per cent. Bonds of the Mississippi and Rock River Junction, whole issue \$400,000, coupons payable in New York Jan 1 and July 1, 1863.

First Mortgage Convertible 8 per cent. Bonds of the Milwaukee and Mississippi Railroad, whole issue \$600,000, coupons payable in New York Jan. 1 and July 1, 1802.

First Mortgage 7 per cent. Bonds, Corning and Blossburg Railroad, whole issue \$150,000, coupons payable in New York May 1 and Nov. 1, mature 1873.

First Mortgage 7 per cent. Bonds, Toledo, Now-walk and Cleveland, whole issue \$525,000 coupons payable in New York Feb. 1 and Aug. 1, mature 1863.

First Mortgage 7 per cent. Bonds, Mansfield and Sandusky, whole issue \$730,000, coupons payable in New York Jan. 1 and July 1, mature 1860.

First Mortgage 7 per cent. Bonds Vermont Valley, whole issue \$386,000, coupons payable in New York April 1, Oct. 1, mature 1861.

First Mortgage 7 per cent. Bonds Troy and Bennington Railroad whole issue \$100,000 coupons payable in Troy, New York Jan. 1 and July 1, mature 1862.

First Mortgage 7 per cent. Bonds New Jersey Central Railroad, whole issue \$1,500,000, coupons payable in New York Feb. 1 and Aug. 1, mature 1860/70.

First Mortgage 7 per cent. Bonds, Brunswick Canal Co., whole issue \$200,000, coupons payable in New York Jan. 1, July 1, mature 1857.

Also, Second Mortgage Bonds of many of the above Companies, and 7 per cent Bonds, Saratoga and Washington Railroad, whole issue \$340,000, coupons payable in New York, mature 1862.

7 per cent Bonds Troy and Boston, whole issue \$300,000 coupons payable in New York April 1 and Oct. 1, mature 1864.

10 per cent. Bonds Mansfield and Sandusky Railroad Co., whole issue \$170,000, coupons payable in New York April 1 and Oct. 1, mature 1855/57.

7 per cent. Mortgage Bonds of the Atlantic Steamship Co., whole issue \$700,000, coupons payable in New York, mature 1855.

8 per cent. Convertible Bonds of the Michigan Central Railroad Co., whole issue \$2,459,600, coupons payable in New York April 1 and Oct. 1, mature 1860.

Notice to Contractors.

PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile railroad, will be received at the Railroad Journal Office, New York, on the 1st of October next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 225 miles; commencing at Girard, in Russell County, on the west bank of the Chattahirchu river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.

GEO. S. RUNEY, Chief Engineer.

Girard Railroad Office, 6th July, 1853.

To Contractors.

SEALED PROPOSALS will be received at the Office of the Chesapeake and Delaware Canal Company, No. 64½ Walnut street, Philadelphia, until the 15th day of September next, for the construction of the **NEW LOCKS** to be made on the Chesapeake and Delaware canal. Plans and specifications for said Locks will be exhibited at the office of the Company on and after the 8th of September.

ANDREW C. GRAY,
President Ches. and Del. Canal Co.



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WOOD OR IRON.

A Model may be seen at the office of CHARLES T. GILBERT, 80 Brod St. N. Y.

Length of span, anything short of 1,000 feet with perfect safety for every kind of travel. The above cut represents a Wooden Bridge with a roof. The arrangement for the Iron Bridge is such as to avoid all the bad effects of changes of Temperature. For a full description, see pamphlets; for farther information, respecting models, rights, &c., apply, by letter or otherwise, to AMY WHITE, or JOSHUA F. TRAYER, Proprietors, Cambridgeport, Mass.
Office 201 door to the Athenaeum.

Notice to Contractors.

BUFFALO & PITTSBURGH RAILROAD.
SEALED PROPOSALS will be received at the Engineer's office in the city of Buffalo, until the 20th day of September next, for the gradation, masonry, and for the entire construction of the line of road, (about 75 miles) between the city of Buffalo and the Pennsylvania state line, in the valley of Tunawant.

Plans and specifications will be ready for inspection at the office of the engineer on and after the 10th day of September instant. The proposals may be made for the grading, masonry, ties, fencing and entire construction in a single proposition or for the same and all items separately and in independent propositions; and proposals as above for a single section or any number of sections will be received, the company reserving the right to reject such propositions as are not satisfactory. Any further information desired may be obtained by addressing Hon. Orlando Allen, president of the company, Buffalo.

Proposals are invited from contractors of ability for the whole road. Buffalo, Sept. 1, 1853.

E. R. BLACKWELL, Chief Engineer.

Notice to Contractors.

THE UNDERSIGNED will receive proposals, at the railroad office in Indianapolis, to construct the Evansville, Indianapolis, and Cleveland Straight Line Railroad from Evansville to Indianapolis. The proposals will be for the whole line, 150 miles, more or less, or for either of the three sections of about 50 miles each. First from Evansville to the crossings of the Ohio, and Mississippi railroad in Davise's Co.; second, from that point to Spencer, Owen county; Third, From that point to Indianapolis. The bid will be for the whole work the company finding the iron, chairs, and spikes), up to the rolling machinery, or for the earth and rock-work alone. The proposal will state what part of the pay will be received in real estate, bonds, and stock of the company.

O. H. SMITH, President.

WILLARD CARPENTER, Vice President.

Aug. 13, 1853.

Railroad Spikes.

THE Subscribers are manufacturing Railroad Spikes with SWETT'S Patent Improved Machines; and are prepared to execute orders for any quantity, on the most favorable terms. These Spikes are made of the best quality of iron, and, for shape and finish, are superior to any others. Railroad companies and others in want, are respectfully solicited to order a sample before purchasing elsewhere. All orders will receive prompt attention.

SWETT, ELLIOT & CO.

Pittsburgh, Pa., August 25, 1853.

OFFICE CINCINNATI, HAMILTON and DAY-TON Railroad Company.—Cincinnati, Aug. 9th, 1853.—The directors of this company have this day declared a dividend of five per cent. on their capital stock, payable to the stockholders registered in Cincinnati on demand, and to those registered in New York, on and after the 25th inst., at the office of the Ohio Life Insurance and Trust Company, in New York.

1m.

FRANK S. BOND, Sec'y.

Book and Job Printing.

The undersigned have added to the **PRINTING ESTABLISHMENT** of the "RAILROAD JOURNAL," an extensive **OFFICE** for **BOOK AND JOB PRINTING**, which they are now prepared to execute in the **BEST** manner, and with **DISPATCH**. They respectfully solicit from **RAILROAD COMPANIES**, orders for the **PRINTING** of **Exhibits, Time-tables, Circulars, Tickets, &c., &c.**

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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[WHOLE No. 909, VOL. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, September 17, 1853.

TEXAS.

No State in the Union has gained so rapidly in the good opinion of her sister States, for a few years past, as TEXAS. Wrung, partly by violence, from an independent power, the very antipodes to us in ideas and institutions; settled by a race of pioneers, whose external life presented a striking contrast to the quiet and regular condition of society in the older States; the theatre of more or less violence; the universal attendant of a frontier life; the Northern and Eastern States have been accustomed to regard Texas with all the prejudices which it is natural that a people should feel toward whatever strongly contrasts with their own habits and peculiarities, heightened and aggravated, in the present case, by the reports of lawlessness and personal insecurity, which have reached us from that quarter, which have increased in extravagance in proportion to the distance they have travelled.

But these reports, as all that come from a distant land, every day's experience is proving to be in a great degree, fabulous. As fast as we are becoming acquainted with Texas, we are finding out

that she is very much like all new States; a little more lax in some of her notions, perhaps, for the reason that her original population was made of a more heterogeneous material, and were further removed from the influence of the conservative notions of the older States. But if she possessed greater idiosyncracies in the beginning, than any other state, she is losing them faster, and will very shortly possess the general stamp of features, that characterize the whole country.

The first and most powerful cause in the rapid progress of Texas, in the favorable direction we have noticed, is her immense and varied agricultural resources. Her territory may be laid off into three belts, or zones, each particularly adapted to its peculiar product; the first composed of sugar lands, skirting the Gulf, and extending about 100 miles into the interior; the second, particularly adapted to the growth of an article of cotton, far superior to any raised in the United States, with the exception of Sea Island, and embraced within the 30th and 34th parallels of latitude; the third, a grazing and grain growing region, and embracing that portion of the State lying to the north of what we have described, and running some distance into the cotton zone. In adaptedness for each of the productions named, the different parts of Texas probably excel any other portions of the United States. In climate she is equally favored; without excessive heat in the summer, or cold in winter. There is no doubt that in very many respects, this State is by nature the garden spot of the United States. This fact is fast being understood, and is attracting to Texas an immense tide of immigration from every portion of this country and Europe, which is rapidly introducing new elements into her population, assimilating it in its leading characteristics, to those of the whole country, and making what has hitherto been felt to be a province, a part of the United States.

We are fast finding out what Texas is. Her present population is made up of active and enterprising people, who have emigrated thither within a few years past from all the other States of the Union. They naturally wish to carry with them all the arts of life, and all the contrivances of ingenuity and industry, that distinguish the communities they have left. Whatever was valuable in the older States, they see may be made still

more valuable in Texas, from the greater resources of that State. From her physical peculiarities, some of these contrivances are still more necessary in Texas, than in any other part of the country. One of these is the RAILROAD. The presence of railroads is now felt to be the great want of Texas; the great hindrance to her rapid material progress. With superior advantages in other respects, she is singularly destitute, for this country, in navigable rivers. Although she numbers several of considerable magnitude, there are none that are well adapted to purposes of navigation. They all have a rapid descent to the sea, and none of them, with the exception of the two which form her northern and southern boundaries, the Rio Grande, and Red rivers, rising in a highly elevated region. They soon "run out," as the phrase is, and afford only an exceedingly precarious and expensive means of sending the products of the interior to a market, and are at the present time only used as a matter of necessity, till better and more convenient highways shall be opened. These future highways are to be Railroads. It is upon the construction of these works that the future prosperity of Texas must depend. Her progress will be measured by the extent to which they are carried. They are to be instrumental of her greatness. This fact is now universally felt and acknowledged, and as the people of the State are awake to the importance and value of these works, and are determined to make every effort for the purpose of securing their construction, and as this is an entirely new field, and as it is of the highest importance that the first steps in all great enterprises should be in the right direction, we have taken occasion to refer particularly to the subject of railroad construction in this State, for the purpose of aiding the efforts now making, by presenting before her people the most approved plans of construction pursued in those which have, on the whole, achieved the greatest success in this direction.

The first point to be considered in undertaking a railroad in Texas is, "how shall the money for railroads be obtained?" for all, after this, is the simplest process imaginable. But in this State, the only question is a very serious one. Texas is rich in property, and not poor in money, except for investments of a permanent character. Where opportunities for investment are so great, we can-

not expect that the people will voluntarily put their money into a work that will only produce 8 and 10, or even 15 per cent per annum. It is therefore a common saying, that Texas has no money to put into railroads. This is true, provided she can get them without; but she cannot unless she does something, much, herself. But she cannot do all. She must make her credits, and those of her people, available to supply, as far as possible, the lack of domestic means. Other States have built their railroads by the use of credits; so must Texas, or go without them, for some time to come, to say the least. How shall this be done, is the question. Texas, though a distant field, presents many strong attractions to capitalists. There, every kind of property is at a very low price, from its great abundance and its distance from market. Introduce railroads into the state, and both personal and landed property would be doubled, and quadrupled, as if by magic. This increase of value is the margin for profit for the active and enterprising, who will identify their own interests with those of the country, and develop its resources. But it is not expected that capitalists will be found who will undertake railroads in Texas, merely for the incidental advantages that are to flow from their construction. To secure these works, the people of Texas must of themselves contribute a sufficient amount to their projects to render entirely secure, any foreign aid they may need, to secure their construction. Texas must furnish the security, and then no difficulty will be found in getting the money upon it; for it is only then that the incidental advantages we have referred to, can be made instrumental in influencing capitalists to lend their aid.

The state has disclaimed the policy of lending her credit direct to railroads. This would be well, were there no blemish upon this credit. States should never connect themselves with railroads. But such aid as the state in her sovereign capacity could give, such as grants of lands, has been freely extended. To her most important roads, Texas has granted eight sections of land per mile. These lands may be taken at choice, wherever they can be found. This provision is one of great value, but will not be regarded as sufficient, but only as cumulative security for a loan. In most cases the lands cannot be found on the line of the proposed roads; so that their value cannot be so much affected by their construction, as they would be were they within their immediate vicinity. The attempt to bring out Texas roads with no other security than these lands, is premature, and is a great error. The schemes will not be taken up upon this, and all attempts to bring them upon the market without other basis, is to prejudice public opinion, and defeat the very object intended.

The Texas people must put a portion of their own money into their roads. There are many reasons for this, besides the necessity for doing so. They should retain the control of them in their own hands. It should be a leading object with them to create a domestic interest in these works, as a means of educating their people up to a proper idea of their importance, and to qualify themselves for their proper superintendence and management. No railroad can prosper that is not sustained by the sympathies and good wishes of the community in which it is situated. A road frequently wants something beside business, to in-

sure success. Where a community invests a considerable portion of their own means in a road, their good will is secured as a matter of course, and a purchaser of its securities finds that he has not only an actual basis for their safety, but a guarantee that such road, which cannot be mismanaged without sacrificing the interests of parties most to be benefitted by its success, will be well managed.

To entitle companies to borrow for new works, an amount of domestic stock subscriptions, equal to the sum sought to be borrowed, has been regarded as necessary. This is now an established rule. It has a value for numerous reasons, which will soon apply with as much force to Texas, as to any other portion of the country. When a reasonable amount of domestic means cannot be raised, the presumption is, that there is not sufficient business on the line of the proposed road to support it, when built. Could railroads be built entirely upon credits, it is easy to see that no check whatever could be placed upon their indiscriminate and unwise construction. The rule that we have given imposes this check, at the same time it regulates their healthy construction and management, and renders secure beyond a peradventure, all its creditors. The lands granted by the state, however, may be regarded as equivalent to a stock subscription equal to one quarter of the cost of the roads, leaving only an equal amount to be provided for by domestic means, to furnish a sufficient basis for a loan.

Many portions of the western states have secured the construction of railroads, when a sufficient amount of individual stock could not be obtained, by the use of the credits of municipal corporations, such as cities and counties. There is of course some objections to resorting to such, as by doing so, they embark in enterprises that are entirely foreign to the objects of their original organization. Their use, however, has not been attended with any injurious consequences either to the corporations or to the public; but on the other hand it has been productive of a vast amount of good. Numerous railroads, among which may be numbered some of our most valuable lines, could have been built in no other way. The use of county credits has been carried to such an extent in Ohio, that there is hardly a county in the state that has not loaned its credit to one or more roads, and they have been so useful in this particular, that the magnificent railway system of that state may be said to be based upon the credits of her counties. These credits, though regarded with some hesitation in the outset, are now considered as the best securities offered in this market, and with the good opinion that exists in reference to them, they are not rated above their true value. In fact no better security can be made than that based upon the aggregate property of a county, which is yearly increasing in value, and upon the whole of which the debt created is a direct lien.

If the people of Texas can make up one half of the cost of their roads by stocks taken from individuals and counties, they will find no difficulty in building their roads. The other moiety they can borrow upon the security of the first. If they cannot, they will as a general thing have to postpone their schemes till they acquire greater strength. Other portions of the country are compelled to do the same, and Texas cannot expect to do better.

With regard to routes, the people of the state are the best judges upon this subject. For freights, which for some time to come will be the leading business of these roads, the most convenient routes will be those that reach tide water by the shortest line, and with the least expense. Some of the more important roads that are projected, are the *Mata-gorda Bay and San Antonio*, the *Houston & Austin*, and the *Henderson and Bolivar Point, Roads*. The most promising of these projects at the present time is the Henderson and Bolivar Point road, for the reason that it traverses the longest settled, best cultivated and richest portion of the state and terminates at its best harbor. The country traversed by this road is the only densely settled part of the state. From Bolivar Point, on the Galveston bay, to Henderson, the distance is 200 miles. The first 80 miles traverses the *Sugar belt* of Texas. For the remainder of the distance *Cotton* is the leading product. The entire country traversed is one of the most fertile and largest producing portions of the south, the products of which, already would afford an ample support to a first class road. This section is now without any convenient outlet; the nearest navigable being the *Red river*, which is well known to be the most difficult of navigation of all the branches of the Mississippi. A greater part of the products of eastern Texas are now waggoned to this river, and then sent down, at great expense, to New Orleans, which is the principal port of Eastern Texas at the present time, for the want of access to those within her own borders. The object of the Henderson and Bolivar Point railroad is to supply the convenient and appropriate outlet for eastern Texas, and with this view, is receiving the warm and efficient support not of the population residing immediately upon its line, but of distant parties who have interest in this state.

It is also designed to push this road north from Henderson to Fulton, on the Red river, for the purpose of connecting with the railroad now in progress from Vicksburgh to the above point, by way of Little Rock.

The Henderson road will be of the easiest and cheapest construction. No river of any magnitude will be crossed in the whole distance. The general aspect of the country is level. There will be little or no rock work upon the entire line. The country traversed is healthy in the highest degree, and is almost entirely free from the fever and ague, so prevalent in some of the western states.

We are gratified to learn that measures are in progress which promise the immediate commencement of the above road. The population upon its route are both able and willing to furnish a considerable portion of the means necessary for its construction. In addition we know the project to be viewed with favor by capitalists, and parties engaged in Texas trade, who stand ready to extend efficient aid as soon as the project is brought before the public.

We are very anxious to see this project succeed, as we are all others that are properly brought out. It is by having the resources of Texas properly opened up to public inspection that they can be fairly appreciated and understood, and every moment now lost, will be felt in the future progress of this great state.

E. F. Drake, of Xenia, has been elected President of the Dayton and Western road, and also of the Dayton and Xenia Coal road.

Constitutionality of Corporate Subscriptions to Railroads

The Supreme court of Pennsylvania, has just decided corporate subscriptions for railroad purposes to be constitutional, thus disposing of the recent cases pending before that tribunal. Great interest was felt in the result, as the decision of the court involved the question of the validity of a large number of subscriptions. The decision will be received with great satisfaction by numerous companies, and by the public.

The following is an abstract of the opinion as delivered by Chief Justice Black:

OPINION.

After a brief recapitulation of the principal points and principles which settle the cause, the Judge proceeds:

1st. In determining whether the act of the Legislature is constitutional, we must look to the body of the constitution itself for the reasons. The general principles of justice, liberty and right, not contained nor expressed in that instrument, are no proper elements to base a judicial decision upon.

2d. If such an act be a written general grant of legislative power, that is, if being a law, and if it be not forbidden expressly or impliedly, either by the state or Federal Constitution it is valid.

3d. To make it void, it must be clearly not an exercise of legislative authority, or else be forbidden so plainly as to leave the case free from all doubt.

4th An Act of Assembly authorising subscriptions by a city to the stock of a railroad corporation is not forbidden in article first, section 13, of the State Constitution; that section not being a restriction upon the legislative authority of the two Houses, but a bestowal of privilege upon the separate branches.

5th. Such act does not impair the obligation of any existing contracts, nor does it attempt an impossibility by creating a contract; but merely authorises the corporations to make one if they shall see proper.

6th. This is not such an injury to plaintiffs' lands, goods or persons, that they are entitled to judicial remedy for it, agreeably to section 11, article 9. It is no injury at all, except on the gratuitous assumption that it is forbidden in some other part of the constitution.

7th. It does not violate the right of acquiring, possessing, or protecting property secured by section first, article nine. The right of property is not so absolute but that it may be taxed for public benefit.

8th. This is not a taking of private property for public use without compensation, contrary to Sec. 10, article 9. When property is not seized and directly appropriated to public use, though subjected in the hands of the owner to greater burdens than before, it is not taken.

9th. It cannot be said that the plaintiffs will be deprived of their property in violation of section 11th, article 9th. The settled meaning of the word deprive, as there used, is the same as that of taken in sec. 10.

10th. An act of assembly to authorise the taking of private property for public use, would be unconstitutional, because it would not be legislation, but a mere decree between private parties; but this is no taking in any sense, for any purpose or for any uses.

11th. Plaintiffs have no ground for complaint against the acts of Assembly now in question, because they authorise the creation of a public debt, of which they may be required hereafter to pay a part in the shape of taxes; for by taxation alone can any harm ever come to them.

12th. If it be within the scope of our legislative powers, with consent of the local authorities, to permit assessments of local taxes for the purpose of assisting the corporation to build railroads, bearing to tax payers the relation which these

roads do, then the laws complained of, are unobjectionable.

13th. Taxation is a legislative right and duty, which must be exercised by the general assembly through the medium of laws passed by them under their authority.

14th. The power of the Assembly, with reference to taxation is limited by their own discretion. For its abuse, members are accountable to nobody but their own constituents.

15th. By taxation is meant a certain mode of raising revenue, for public purposes, in which the community that pays it has an interest. The right of the state to lay taxes has no greater extent than this.

16th. The act of the Legislature authorizing contributions to be levied for a more private purpose or for a purpose which, although public, is one in which the people, from whom they are exacted, have no interest, would not be law, but a sentence commanding a judicial payment of a certain sum by one portion or class of people to another. The power to make such an order is not legislative but judicial, and was not given to the Assembly by the general grant of legislative authority.

17th. But to make a tax law unconstitutional when thus granted, it must be apparent that the community taxed can have no possible interest in the purpose to which their money is to be applied. This is more especially true if it be a local tax. Local authorities have themselves levied taxed in pursuance of an act of Assembly.

18th. If therefore, making a railroad be a mere private affair, or if the people of Philadelphia have manifestly no interest in the railroads which run to and towards the city from Easton and from Wheeling then the laws are unconstitutional.

19th. But if railroads are not private affairs, are but public improvements, then it is the right and duty of the State to advance commerce and promote the welfare of the people by making, or causing them to be made, at the public expense.

20th. If the State declines to make desirable or public improvements, she may permit it to be done by companies. The fact that it is made by a private corporation does not take away its character as a public work.

21st. The right of the company, by which it is made to be compensated for the expense of constructing it, by taking tolls for its use, though it gives the corporation an interest in it, does not extinguish the interest of the public nor make the work private, because, to say nothing of other advantages, though the public may pay toll, still they can travel on it much cheaper than without it.

22d. The State may, therefore, rightfully aid in the execution of such public works by delegating to corporations the right of eminent domain as she always does, or by an exertion of the taxing power, as she has done very often.

23d. The right of local authorities to tax a particular city for local improvement, is as clear a right as to lay a general tax for any public purpose whatsoever.

24th. If the State having constitutional power can create a State debt by a subscription in behalf of the whole people to the stock of private Corporations engaged in making public works, it follows, from what has been before said, that she may authorize a city or district to do the same thing, provided such city or district has a special interest in the work to be so aided.

25th. There is not a case in which we can determine as matter of law that the city has no interest in the proposed railroads. That this is true as matter of fact, has not even been asserted in argument; only a little more than intimated.

26th. If the Legislature and the Councils decide that the city has an interest large enough to justify these subscriptions, we cannot gainsay this without declaring its interest to be flatly impossible, and to do that would be absurd.

27th. Finally if the authorities of the city, in accordance with their charter, and with certain

laws supplementary thereto, are about to create a public debt for public purposes, in which the city has an interest, it will be as valid and binding as if it had been largely contracted to accomplish any other public purpose for the benefit of the city. Injunction refused.

We also give the argument of Judge Woodward in the same case, that our readers may see the grounds upon which the decision of the court was based, and as a convenient reference for companies who may have similar questions raised in regard to securities they may hold.

Sharpless, et. al., vs. the City of Philadelphia.—

OPINION OF JUSTICE WOODWARD.

The acts of Assembly whose constitutionality is drawn in question, were approved on the 6th day of May, 1852, and the 9th of April, 1853, respectively. By the first, the constituted authorities of the city of Philadelphia, the incorporated districts in the county of Philadelphia, the borough of Easton in the county of Northampton, and the counties of Monroe and Pike, or either of them are authorised to subscribe for shares in the capital stock of the "Philadelphia, Easton and Water Gap railroad company," provided that no subscription by any municipal corporation, authorised by this section to subscribe to the capital stock of said company, shall exceed ten per cent on the assessed valuation of the real and personal estate in the city, district, borough or county, making such subscription. By the other of these acts, the city of Philadelphia is authorised to subscribe for 10,000 shares, in the capital stock of the Hempfield railroad company, and "the said city may be represented at elections and other meetings of the said company, by agents duly authorised to act by resolutions of the councils thereof." To enable the city to pay for these stocks, both acts empower the city "to borrow money to pay therefor, and to make provision for the principal and interest so borrowed, as in other cases of loans to said city."

By an ordinance of the city councils, passed in the forms of the charter, on the 10th of March, 1853, the mayor was authorised on certain conditions, to subscribe for ten thousand shares in the capital stock of the Philadelphia and Water Gap railroad company; and by a similar ordinance of the 4th April, 1853, he was authorised unconditionally, to subscribe for 10,000 shares in the capital stock of the Hempfield railroad company, which he did on the 10th of May, 1853.

To restrain the city authorities from making these subscriptions, and from issuing bonds, if already made, the Relators, who are citizens and owners of real and personal estate in the said city, apply to this court for a writ of injunction. The city pleads the authority of the Acts of Assembly for the subscriptions. The Relators allege that these Acts are unconstitutional and void. This is the issue on the record.

It is material to observe, that neither of the railroads are within the city of Philadelphia. The first named begins at a point north of Vine street, which is the northern boundary of the city, and runs by the most expedient and practicable route to or near the Borough of Easton, and thence by various authorised connections and extensions to a point called Waverly, on the New York and Erie railroad, where it touches the northern boundary of the state, in the county of Bradford.

The Hempfield railroad was incorporated, to be laid with one or more tracks from Greensburg, in Westmoreland county, where it intersects the Central railroad, to some point near to West Newton, in said county, and thence by authorised connections and extensions, through Washington county, Pennsylvania, and Ohio county, Virginia, to the city of Wheeling. This road is said to be at its nearest point three hundred miles from the city of Philadelphia. It must be assumed that the design of one of these roads was to facilitate trade and commerce between the city of Philadelphia, and the northern portions of Pennsylvania and New York—of the other to bring increased trade and travel on the Central railroad, in which the city

of Philadelphia owns \$4,000,000 of stock, as well as to establish a direct communication between the said city and the valley of the Ohio at the city of Wheeling.

Though it is possible to imagine that the city of Philadelphia might be able to make provision for the payment of the loans authorised by these acts of Assembly, out of rents of property, dividends on stocks, exchange or sale of stocks, legacies and such like resources; yet taxation was the power evidently intended to be conferred. The question, therefore, which we have to decide, may be stated thus: Had the Legislature constitutional power to authorise the city of Philadelphia to subscribe for stock in the railroad companies, to borrow money to pay the subscriptions, and to levy taxes to pay the loans?

We make considerable progress in the discussion of any question by stating it properly. From the statement of the present question it is apparent that some matters which entered largely into the discussion at bar, have no necessary connection with it. The policy of such legislation is in no degree a question for the judiciary. That belongs exclusively to the people and their representatives. Nor have the doctrines of *eminent domain* anything to do with the question before us. It is said there are but two modes under our constitution, in which the public may take private property—the one by virtue of what is called *eminent domain*, when the compensation is secured by the constitution—the other, by taxation, when compensation is provided for—except what results incidentally from a republican form of government.

I do not agree with one of the learned counsel in the West Chester case, who argued that there is no distinction between eminent domain and taxation, I think there is. Both are exercises of sovereignty, but the former has respect to the property of individuals, and is regulated only by the public exigencies, whilst the latter respects the whole community, or whole classes of individuals, and is regulated by some standard prescribed by law. Again, when private property is taken for public use, compensation must be made, and that must be in money and cannot be in kind—*Vanhorn's Lessee, vs. Dorrance* 2d—Dallas. *Sutton's heirs, vs. city of Louisville*, 6th Dana, 29. Money, said Lord Mansfield, is the measure of value. In some sense money is property, but when our constitution requires compensation in money to be made for property taken for public use, it marks a distinction between money and property—between value and its measure. But taxation is a public demand, not for property in the sense of the constitution, but for money or personal services, and that without compensation. True under most tax laws, property may be seized and sold in default of payment in money, but this only as means to an end, just as the body may be imprisoned if property cannot be found. Nor are these distinctions disproved by the instance put in argument, of money seized to pay troops on the point of mutiny in the face of an invading foe, when it was said if compensation be made it must be in kind. The answer is, that such a seizure would be neither the exercise of *eminent domain* nor the power of taxation, but of martial law. In adequate emergencies, martial law suspends the *Habeas Corpus*, inflicts summary punishments, and appropriates private property without regard to the guaranties of the constitution. *Inter arma silent leges*. But in the operations of civil government, the legislature exercises its constitutional sovereignty, sometimes in taking specific property from individuals for a price, and devoting it to public use, and sometimes by imposing a tax on property, without change of its title or its use.

What we have to deal with here is the constitutionality of laws for taxation, and all those clauses of the constitution, and all the arguments of counsel which apply to legislation, founded on the *eminent domain*, are beside the point, and may be laid out of the discussion.

Do I take undue liberty with the question, in thus shearing it of much matter which distinguished counsel supposed pertained to it? Are they

not tax laws? The words of the enactments as we have seen import taxation. The complainants so understand them, for they tell us they are "bound by law, and do pay all taxes justly assessed and levied" on their property in the city of Philadelphia," and they charge that by said subscriptions and the issuing of said bonds, the debt of said city now exceeding seven millions and a half of dollars would be greatly increased, the credit thereof seriously impaired, and the taxes chargeable and to be levied in the said city upon the property of your orators and their fellow citizens will be greatly augmented.

Beside, if these acts affect city property at all, it must be through taxation for the specified roads are not to touch the city nor to "take" an inch of its property, within the meaning of the tenth section of the bill of rights. Taking private property and applying it specifically to a public object, is one thing—assessing property with public taxes according to a predetermined standard, is quite another thing. These acts mean the latter and not the former, if their words be regarded; if the interpretation of the complainants be received, or if the distinctions of the constitution between *eminent domain* and taxation be not obliterated.

Considering, therefore, these acts of Assembly as providing for objects which are to be attained through taxation, I next proceed to notice briefly the principles on which the constitutionality of such legislation is to be tested.

The striking peculiarity in the civil and political condition of the people of this country, is that they live under the jurisdiction of two separate and distinct governments; both formed by themselves; and the powers of each limited by written Constitutions. The people of Pennsylvania, made absolutely free, sovereign and independent on the fourth day of July, 1776, settled for themselves a frame of government which, as modified in the present Constitution, organizes the various departments of a republican government, Legislative, Executive and Judicial; and vests in them, not specific and enumerated powers, but *Legislative power, Executive power and Judicial power*. Whatever in the nature of these three governmental powers (and for their nature we must refer ourselves to the principles of political science) belongs to these departments respectively, but not without limitations. The Bill of Rights is a series of reservations, out of the powers granted to those departments, and concludes with a solemn declaration in these words: "To guard against transgressions of the high powers which we have delegated we declare that every thing in this article is excepted out of the general powers of government, and shall forever remain inviolate." The primary question, therefore, that arise upon the constitutionality of an act of Assembly, are first, is in the nature of Legislative power, and secondly, does it trench upon any of the reservations in the Bill of Rights? If the first of these questions can be answered affirmatively, and the other negatively, the resulting conclusion is that the act is constitutional. So far in regard to the State Constitution.

The *Federal Constitution*, sprung from the experienced necessities of the States of the Confederacy, and was formed out of the powers specifically granted and enumerated by the people. To the extent of the powers granted, this instrument restrains the Sovereignty of the States, but the "powers not delegated to the United States by the Constitution, nor prohibited by it to the States are reserved to the States respectively or to the people." Because the people are more largely represented in the State Government than in the National; and because the powers granted to the Federal Government are in derogation of State rights, the rule of strict construction, as applied to these grants, is obviously conservative and just, though not universally admitted.

The people are the sources of all political powers. They enumerate those they grant to the Federal government and those they reserve from the State Government. The Legislative power of the State extends to all subjects, properly

legislative, not found in one or the other of these enumerations, and the only question additional to those already stated, that can arise on the Constitutionality of a State law, is, does it contravene the grants in the Federal Constitution?

But this question need not be considered here, for in all that has been said against these acts of assembly, they have not been charged with contravening any of the grants in the Constitution of the United States.

Recurring therefore, to the questions stated, I proceed to enquire first, whether these acts of Assembly are according to the nature of Legislative power.

That taxation is a legislative power, has never been questioned in this country. In despotic governments, it is usurped by the supreme executive, and in the limited monarchy of Great Britain, it has sometimes been exercised by the king, but always with popular discontents; and in the instance of Charles the first, to the loss of his head. The people have long since regained this right, and it is now vested in parliament.

Here it was claimed for our colonial Legislatures against the legislative body of the mother country, where we were unrepresented, and as soon as the people became free, they brought it as near home to themselves as possible, by providing in all their constitutions, that *revenue bills* should originate in the House of Representatives, where they are most largely and directly represented. Yet there is nothing about this power in our Constitution, except what is impelled from the provision just referred to. Government presupposes the power of taxation, and cannot exist without it; and because it is not denied in the bill of rights, it is granted in the general grant of Legislative power: In the Federal Constitution it is expressly given to the Legislative body. This indicates at once, the distinction of the theory of the two constitutions, and the sense of the country that it is a legislative power.

But is said that this power cannot be delegated. Strictly speaking, none of the powers of government can be delegated. They are vested in co-ordinate departments, to be exercised, and without the right of transfer. But the Legislature may provide agencies through whom to exercise the power of taxation, and that is not properly called a delegation or transfer of the power, which is merely an exercise of it through a suitable agent. Accordingly from the beginning of our government, the Legislature have divided the State into counties, townships, school districts, boroughs and cities, and have provided for the appointment or election of certain tax officers, in their respective localities, and have authorized them to assess, collect, and apply taxes. This has been, not so much a delegation of the power of taxation to those municipal divisions, as the exercise of it through and by means of chosen agencies. In exact accordance with this kind of Legislation which having been coeval with the constitution, affords the best interpretation of it, these acts of Assembly authorize one of the municipal districts of the State "to make provision for the payment of the money borrowed, as in other cases of loans to said city." Was this a delegation of the Legislative function?—How could the Legislature make provision for the repayment of the borrowed money, as in other cases of loans to said city? Their faculties are all Legislative. They have no executive power, and the Constitution and habits of this body, unfit them for applying rules which it is their province to prescribe. They are obliged to act through chosen agencies when providing for the revenues of the State. State taxes, the internal employment system, common schools, and all State objects, have to be entrusted to agents, though the power that controls them resides in the Legislature. In the same manner, when the Legislature would tax the citizens of the city of Philadelphia, to build the railroads in question, they must use the hand of some agent, and whose could be more wisely selected than that of the "constituted authorities" of the city? And even that hand is not forced to the work, but

employed only with the consent of the body to which it belongs—a circumstance which indicates the moderation of legislative power. But the objection most insisted on, has reference, not to the legislative power of taxation, nor to the agencies called in aid of its exercise, but to the *objects and purposes* to which it is applied. These are to construct railroads outside of the geographical limits of this city. Whilst the constitutional power of the Legislature, to create, renew and extend the charters of municipal operations is admitted, it is maintained that *municipal administration* is the only purpose for which they exist; and it is denied that legislative power can tax them for any other.

By subscribing to the stock of these railroad companies, the city of Philadelphia will become a member of the companies. They are private corporations. Intending to become common carriers; they will assume large responsibilities a share of which must fall on each corporator. The enterprise is costly and hazardous, and may result in great pecuniary profits, or in disastrous losses. Is it a municipal purpose? Does it come within the circle of objects which municipal corporations were designed to accomplish? Without going into the history and common law of such corporations, I unhesitatingly answer these questions in the negative. There is no congruity between such an enterprise and the legitimate purposes of municipal corporations. They were designed to regulate the internal affairs of the places in which they were located. Police, Health, Streets, Lanes, Alleys, and the like are the appropriate subjects of municipal administration, and though a city may go beyond its boundaries to purchase necessities of its existence, safety and comfort, yet its jurisdiction is properly exercised only within its territorial limits, and on subjects than pertain to its domestic economy and well being. Railroads to connect distant points of country—to develop physical resources, and to promote commerce are great public benefactions and emphatic expressions of the energies of an age distinguished for activity and bold adventure. But they come not within, or near to that class of objects, which we have been taught to consider as municipal purposes. Yet when the Legislature enables a city to lend a hand to such enterprises, where is the constitutional provision, which the Judiciary can say is violated? The power of taxation is unrestrained in the Constitution, both as to extent and purpose. Municipal corporations are not defined in the Constitution, nor in any general statute. If we go to the Common Law, that teaches us, they may be formed by a prescription, by statute, or by royal charter and that their ordinary purposes are such as I have indicated, but it imposes no restraints on Legislative power in respect to them. On the contrary, a learned writer informs us that "in England the Legislature has not often exercised the power of creating municipal corporations, because it has been esteemed a flower of the prerogative.—Where the ordinary regulations alone are necessary, the King incorporates, by charter, but when it is thought proper to invest the intended body with *extraordinary* power or privilege, the aid of Parliament is necessary." Again, "the statute may invest the body with powers contrary to the general rules of law, but they must be granted in clear and unambiguous words." Again, he says "it is quite unnecessary to say what privileges may be granted, or regulations prescribed to a corporation by an Act of Parliament, for the power of the Legislature in this respect cannot be defined." (Willcock on Municipal Corporations, Sec. 10. 12 and 226.)

Without saying that with us, this power cannot be defined, it must be admitted it has not been. The people alone, are competent to set bounds to a clearly granted and unquestionable power. The judiciary cannot assign limits to that which the people have decreed shall be unlimited. If they could, the judiciary would be the only real power in the state and might hinder the most salutary legislation. Are we to set aside these enactments because they do not harmonize with our ideas of municipal purposes? This is the most solid ground to which we have been pointed, but is not strong

enough to sustain a decree. I have no doubt of the right and duty of the judiciary to declare a law unconstitutional, when it clearly contravenes any of the provisions of the State, or Federal Constitutions, but it is a power to be exercised with great caution. For nearly fifty years of our political existence, under the Constitution of 1790, no act of Assembly was set aside for unconstitutionality.—Judges claimed the power, and said they would exercise it in clear cases, but in all that period, no case arose, which in their judgment, was clear enough to justify the exercise of the power, and it is well known that that great light of this Bench, so recently extinguished, stood opposed, for many years, to the existence of any such Judicial power. Since the Constitution of 1838 was adopted, several acts of Assembly have been declared unconstitutional, but they were all clear cases. When the Legislature disregards the distribution made by the powers of government, among the three co-ordinate departments—or the reservations of the Bill of Rights—or the grants to the government of the United States; the Judiciary, whose office it is to expound the law, may, and I hold are bound to declare the act unconstitutional and void. — But on lower ground than this, and especially on ground so low, as the equivocal and undefined purposes of municipal corporations, acts of assembly have never been declared unconstitutional. It was said in the argument, and authorities were exhibited to prove that the constitutionality of legislation, similar to this we are considering, has been asserted in seven States of the Confederacy. These concurring opinions of the Courts around us, sitting under State Constitutions similar in their structure to ours, are entitled to great respect, and seem to show that the corrective of this species of legislation, novel as it unquestionably is, and pernicious, as many believe, is with the people, and not with the courts.

The power of Legislation by Representatives of their own choosing, is one of the invaluable privileges of the people. It is this which makes them a free State. This is self government—the best of all powers of government, and therefore least in need of clogs and restraints. When, through inadvertence, this power is applied to objects forbidden by the letter of the Constitution, the interposition of the judicial arm, is properly invoked. But so long as it keeps within its appointed orbit, Judges cannot interfere with its progress, without themselves departing from their proper sphere.

It remains to consider briefly the second question proposed, does this Legislation trench on the Bill of Rights. The first section of that instrument is relied on, which enumerates among the inherent and indefeasible rights of man, that of "acquiring, possessing and protecting property."

It must never be forgotten that the "Declaration of rights" as the 9th article of our constitution is called, is part of a frame of civil government, and is to be construed with reference to the whole instrument, of which it is a part. When, therefore, "the right of acquiring, possessing and protecting property," is averred it does not mean to exempt property from taxation! since without taxation civil government cannot exist. Nor does it mean to exempt it from the prerogative of *eminent domain*, for a right to take private property for public use, is else where expressly asserted, and without this also, government could not exist prosperously, if indeed at all.

The acquisition, protection and defence guaranteed, must be consistent with and subordinate to these first principles else one part of the Constitution destroys the other, and so the government is dissolved. I am clearly of opinion, that this section cannot be set up against a tax law. Nor is there any clause in the Declaration of Rights, which restrains the Legislative power of taxation. I know this may seem to some a startling proposition, but rightly considered, there is nothing alarming in it.

The great conservative principle, which lies at the base of our institutions, is popular representation, and it was, doubtless, a profound reliance on this principle, which induced the framers of our

Constitution, to plant in the Legislature, the taxing power without stint or restraint. And as the tree is best known by its fruits, so are the results of experience, the best test of political theories. In those Governments where suffrage and representation have been withheld from the masses, men and property have been taxed to support Royalty and Aristocracy in costly magnificence—to carry on wars bred by the bad passions of rule, or to construct expensive and useless works, as memorials of individual grandeur.—How different with us! Taxation by the General Government, indirectly applied, is limited to the necessities of economical administration.—Taxation in Pennsylvania, beyond the ordinary purposes of Government, has been devoted to the education of the ignorant, relief of the insane, the dumb, the blind. To the construction of highways and bridges and canals, and railroads. These are the purposes to which a REPUBLICAN GOVERNMENT, applies the power of taxation, and when so applied, it is a beneficent power. Even though incongruously blended with municipal purposes as in the instances before us it is by no means clear, it will not be productive of more good than evil. And that it will never be long perverted to injurious use, is as certain as the law of self preservation, for so long as the people rule themselves, it is impossible to anticipate that they will employ any of the powers of government, for their own oppression. The fact is, the internal improvements of Pennsylvania, ill contrived and badly managed, as in some instances they have been, have added incalculably to the material wealth of the State, and the taxation they have occasioned, if it seemed high as compared with former standards, sinks into insignificance, when compared with taxation in other countries, or with the resources of national wealth and greatness, which it has multiplied in our own. It is easy to imagine possible abuses of any unrestricted power, but the voice of our own experience (and I know no safer oracle) teaches us, that we may safely trust the interests of the future, to that form of government, which has been productive of so much happiness and prosperity in the past.

But, not to pursue the subject further, my opinion is, that upon the received principles of Constitutional construction, these acts of Assembly are Constitutional and not void, consequently that the motion for an injunction should be denied.

The Judges were divided—three in favor, and two against the constitutionality of the law. The following are the principal points taken by Judge Lewis, who dissented from the decision by the majority of the court.

1st. The proposed subscription puts the property of the citizens under the control of a private corporation, without their consent, thus depriving them of the right of protecting and possessing it under the first section of the Bill of Rights.

2d. It converts the members of a municipal government into a corporation, which has nothing governmental in its objects; and which, being bound by contract, cannot be altered, reformed and abolished at the pleasure of the people, and therefore violates the 2d section of the Bill of Rights.

3d. It puts the property of the people, without their consent, where it cannot be any longer protected by free and equal votes—but where property has more votes than men—and thus violates the 8th section.

4th. It deprives the citizen of his property without a trial by his peers, or due proofs of law, and thereby violates the 8th section.

5th. It takes the property of the citizen without just compensation, and is therefore a usurpation of power not delegated, and also a violation of the 10th section.

6th. It deprives the citizen of land secured to

him by patents, deeds and other contracts, and so violates the 17th section.

7th. No compensation is paid or secured in advance to the individuals whose property is to be taken as proposed—in violation of the 7th act of the new constitution.

8th. The Legislature might appoint Queen Victoria, as well as the city corporation, an agent for carrying out the schemes of the plaintiffs.

The Judge concluded by observing in substance, that his views in regard to the proposed question might be old fashioned—but when the credit of the city should be exhausted—when the bonds about to be given by the corporation should become due and payable, when the railroad excitement should subside—the rich impoverished, and the poor driven to destitution, when the citizens should become the bondsmen of a private corporation, he should have the melancholy satisfaction of having endeavored to avert such calamity.

Judge Lewis concurred with this dissenting opinion—but the majority of the court decided in favor of the legality of the municipal subscriptions, and denied the injunction.

Railroads Terminating at Cincinnati.

The Cincinnati Price Current, in its annual review of the trade and commerce of that city gives the following notice of the railroads in progress and operation terminating in that city:

RAILROADS IN OPERATION.

Little Miami.—The business on the Little Miami railroad has continued to increase, both as regards freight and passengers. The company are now constructing a second track. The following is a comparative statement of the earnings of the road for twelve months ending July 31st:

	Passengers.	
	1851-2.	1852-3.
August.....	23,095 65	28,777 06
September.....	27,753 72	31,992 92
October.....	20,940 76	33,143 69
Nov.....	14,935 88	25,586 51
Dec.....	12,541 39	22,831 62
Jan.....	11,703 14	23,735 44
Feb.....	12,230 94	22,745 59
March.....	17,592 73	26,982 80
April.....	21,399 57	21,416 20
May.....	23,441 81	27,629 03
June.....	24,409 34	33,106 11
July.....	27,317 82	31,184 62

Total.....237,362 75 329,131 59

	Freight and Mails.	
	1851-2.	1852-3.
August.....	25,663 23	21,277 63
September.....	21,421 68	23,494 91
October.....	26,491 43	27,926 82
November.....	28,710 09	28,292 27
December.....	22,936 26	28,739 12
January.....	18,229 33	26,655 98
February.....	15,688 41	21,805 51
March.....	21,270 07	27,098 86
April.....	18,689 34	29,999 82
May.....	20,905 38	23,093 04
June.....	19,536 23	21,107 55
July.....	18,362 78	20,382 80

Total.....257,904 23 299,874 37

This company is now working the Cincinnati & Hillsboro' road to Hillsboro', under a contract with the latter company. The Cincinnati, Wilmington and Zanesville road is also furnishing business to the Little Miami road, the former being completed from Wilmington to Morrow, on the latter.

Cincinnati, Hamilton and Dayton.—Business on the Cincinnati, Hamilton and Dayton railroad has also largely increased during the year, and the present condition of the road and its connection with other roads, completed and in progress, war-

rant us in predicting a further increase in the receipts during the ensuing year. We will refer to the several roads that will, when completed, contribute a large amount of business to the C. H. & D. road. The Richmond and New Castle road is expected to be finished to the latter place by the 1st of November. The Indiana Central road from Richmond to Indianapolis, will be completed by the middle of October. With both of these companies business arrangements have been made. The latter, with the road from Hamilton to Richmond will afford a railroad communication with Indianapolis and New Castle, running through the most fertile portions of our neighboring state. The Springfield and Columbus road will be open in a few weeks to London, a point on the Xenia and Columbus railroad, which will afford an outlet to Columbus. The Ohio and Indiana road will be open to the Mad River Road in October, affording an admirable connection with Pittsburgh. The Junction road from Sandusky to Cleveland will be open for travel in a few weeks. This road will be completely ballasted when open for travel, and it is said will be one of the best roads in the country. The time from Cincinnati to Cleveland by this route (via Dayton and Sandusky) will be $8\frac{1}{4}$ or $8\frac{1}{2}$ hours. The following statement shows the earnings of this road for the 12 months ending July 31st:

	From passengers.	
	1851-2.	1852-3.
August.....	15,458	15,458
September.....	2,502	16,943
October.....	16,306	18,589
November.....	11,832	15,285
December.....	11,445	12,112
January.....	8,736	16,191
February.....	9,893	13,755
March.....	13,557	19,244
April.....	14,314	20,641
May.....	15,386	21,694
June.....	16,315	20,528
July.....	17,768	23,452

	Freight & Express.	
	1851-2.	1852-3.
August.....	9,552	25,110
September.....	14	29,137
October.....	532	11,412
November.....	907	12,329
December.....	4,887	17,719
January.....	5,008	13,352
February.....	4,376	13,613
March.....	5,509	16,119
April.....	6,166	15,399
May.....	7,313	13,366
June.....	7,780	11,774
July.....	8,532	10,750

Total.....61,724 151,579 365,471

Ohio and Mississippi.—The Ohio and Mississippi railroad from Cincinnati to Saint Louis, is progressing with decided activity and vigor—87 miles from Cincinnati west to the Jeffersonville R. R., (securing a connection with Louisville) will be opened and ready for the cars in January next.—About the same number of miles extending from St. Louis east, will be in readiness at the same time, so that early in January 1854, more than half of the work connecting the two great inland cities of the United States will be completed. The work is also well advanced on the intermediate sections, and it is the determination of the two companies to complete the entire line by January, 1855. The iron for the whole line has been purchased and is now being delivered at Cincinnati and St. Louis.

The financial affairs of the company are in a flourishing condition. The sale of the first mortgage bonds in London, by Professor Mitchell, was on the most advantageous terms—placing the securities of the company on a level with the most favored roads of this country.

The stock of the company for an unfinished road is almost without precedent in value. The last sale at the Exchange was $93\frac{1}{2}$, and 95 has been obtained privately. When the extraordinary

change which this road will cause in the stream of travel to and from the great West is taken into consideration, no surprise will be felt in the estimate which capitalists place upon this stock.

It now requires three to four days to pass from Cincinnati to St. Louis; when this road is completed, twelve hours only will be necessary to transport passengers over this route.

Cincinnati and Marietta.—The Cincinnati and Marietta railroad is progressing rapidly. It is ready for the iron from Chillicothe to Greenfield, and from the latter point to Blanchester the work will be proceeded with without delay. From Chillicothe eastward the road will be ready for the track by the first of November. The increase of stock subscriptions during the year is \$1,722,000, which added to former subscriptions make a total basis of \$3,717,000.

The Baltimore and Ohio railroad which was opened to Wheeling in January last affords a new route to the eastern seaboard for freight and passengers. This road will be prepared to transport the coming winter from the west, five hundred to six hundred tons of produce daily. The running time for freight trains is thirty-one hours from Wheeling to Baltimore, and in connection with the Union line of steamers on the Ohio river, property may be carried from Cincinnati to any of the eastern markets in five to seven days. It is confidently expected that the company will modify the present freight tariff. This would secure to the road a very large portion of the Western trade.

Cincinnati Western.—The Cincinnati Western railroad, runs from Cincinnati in a northwestern direction, to the western line of the state, where it connects with the Cincinnati, Cambridge and Chicago road, running from the State line, via Cambridge, to New Castle, Ind. The distance from Cincinnati to New Castle is 73 miles. The whole line is under contract to A DeGraff & Co., who agree to make the road ready for the cars by the first of October, 1854. A large force is now at work along the whole line, and thirteen miles of the track will be laid during the ensuing fall.

Covington and Lexington.—The work on the Covington and Lexington railroad, is progressing rapidly. The cars are now running a distance of 20 miles from Covington. We hoped to be able to present full particulars relative to the condition of this company, both present and prospective, but having been disappointed by a gentleman connected with the road who promised to furnish the information, we are compelled to pass it with this brief notice.

The following roads are under the charge of E. Gest, Esq., as engineer, by whom the following statement of their condition was forwarded to the Price Current:

"1st. The Dayton and Cincinnati (Short Line,) extending from Broadway and Court streets, Cincinnati, through Reading, Sharon, Chester, Middleton, Franklin, Miamisburg, Carrollton and Alexandersville, to Dayton. Length $52\frac{1}{2}$ miles; maximum grade 39 6-10 feet; minimum radius 1910 feet. It is all under contract excepting engines and depot buildings to Messrs. Ferrell and Dunham, who have been prosecuting the work on Tunnel for about six months, and at a few points along the other portions of the road for sixty days.

"All the shafts and the north approach of the tunnel are now completed, except the arching; the south approach is about one half complete. The workmen are now engaged in excavating the heading from each end, and the shafts making at this time eight points of operation in the tunnel proper. As about five feet can be made per 24 hours, (the tunnelling being driven night and day) at each point with a full working force, they can advance at the rate of about 720 feet per month hereafter, allowing 18 working days to be made, which can be readily, should the work be driven with the proper practicable force and energy. Consequently it is not only practicable, but probable, that the tunnel and entire work will be completed

in sixteen months. All doubt as to the character of the material through which the tunnel will pass that may heretofore have existed, is now removed, and it is now certain that nothing but indurated marl with a few layers of limestone will be encountered; affording probably the least difficult material to tunnel through that is to be found. The length of actual tunnelling is 8000 feet; which with arched approaches of 2,000 feet will make the total length of arch or tunnel when completed 10,000 feet, or about 1 9-10 miles.

"The company is amply prepared with means to complete the work, as they have over \$800,000 of available subscriptions to its capital stock, and parties stand ready to take up the remaining \$200,000 if required. The whole cost of the work with its necessary real estate, buildings and machinery, including a liberal allowance for discount and interest will not vary far from \$2,400,000.

"2d. The Cincinnati, Lebanon and Xenia, and the Xenia and Delaware roads—although operating under two charters, yet in fact are but one interest. The names of the several places in the title indicate its route. It is now under contract to Messrs. Van Horn, Williams and Buchanan from this city to Xenia, a distance of 52 miles; a large amount of grading has been done between Lebanon and Mason. From the latter place to this city will be commenced this week, and from Lebanon north to Delaware in time to secure the completion of the entire road by the winter of the coming year. When completed, the distance to Xenia will be about twelve miles less than by the Little Miami road, or to Delaware about 28 miles less than by the latter route in connection with the Columbus and Cleveland road. The whole length will be about 112 miles, with favorable grades and curves. Its subscribed and pledged means are considered ample for its construction. It is the intention to extend it to Cleveland, and arrangements are partially completed for so doing. It is supposed to be tributary to the Dayton Short line; should however, arrangements not be made with that company, it will enter the western part of the city, via the valley of Mill Creek, and connect directly with the Ohio and Mississippi road. The total cost, if it enters Cincinnati on an independent line, including depots, building stock, real estate, discount and interest, etc., will not be far from \$3,000,000.

"3d. Is the Cincinnati and Fort Wayne railroad which will pass through Hamilton, Rossville, Duntown, Oxford, Fair Haven, Richmond, Newport, Winchester, Camden and Bluffton, to Fort Wayne, Indiana,—total length, one hundred and forty-nine miles—maximum grade, 39 6-10 feet—minimum radius of curvature 1910 feet. It will be a superior road, of cheap and easy construction with the exception of 20 miles, and can be worked rapidly and economically, by being unusually straight with but a moderate amount of maximum grade. Although operating under three charters, yet it is one interest and under one control. It was recently let to a heavy capitalist to be completed within 2 years—for the sum of \$4,500,000. The terms of the contract require it to be constructed and equipped in the most ample manner, with the best of machinery, station houses, and other conveniences, etc., necessary to make it a complete and perfect railroad, equal in every respect to the best roads in the U. States.

"About all the means required by this road, to meet the terms of the contract, have been procured; consequently, there is nothing to prevent its certain and early completion. This road was originally intended to reach Cincinnati over the section of the Dayton Short Line, lying south of Sharon—but no arrangement with that company has been made, and it is possible that it will be built into the city on an independent line, via, the valley of Mill Creek, should not an arrangement be made with the Cincinnati, Hamilton and Dayton Company to build along side of their track south of Hamilton.

"From Fort Wayne south to Winchester, for 61 miles, the road is expected to be finished and in operation by the 1st of July of next year—and from thence to the city by the fall of the year

following. The Company intend at the earliest day, to extend the line northerly, to the Central Michigan road, if not to the Mackinaw Straits—consequently, this road will be a fruitful tributary to the business of Cincinnati, as it will be a long line, passing through a country susceptible of the highest cultivation, and through its connections with the Central Indiana at Richmond, the Indiana and Bellefontaine at Winchester, the Wabash Valley, Ohio and Indiana, and Fort Wayne and Chicago Railroads at Fort Wayne, and the Northern Indiana and Central Michigan Railroads, receive an auxiliary traffic not surpassed by any road in the west; and through it and tributaries will be distributed a larger amount of the Groceries and Merchandise of Cincinnati, as well as be poured into Cincinnati a larger amount of produce, than over any other road radiating therefrom.

"4th. The Fort Wayne, Lacon and Platt River Valley Railroad, which extends from Fort Wayne, Indiana, on nearly a due west line through Lacon on the Illinois river, New Boston on the Mississippi river, to Council Bluff at mouth of Platt on the Missouri river, for a distance of about five hundred and sixty miles. About two and a half millions of dollars is subscribed, or pledged towards its construction, and it is expected to be put under contract this fall—and with its extension due east into Pennsylvania, with a branch to Buffalo, is destined at no distant day to take a position among Railroads second to none in the country, and will prove a powerful auxiliary to the Cincinnati and Fort Wayne Road, and those having connections with it."

The Northern Route to the Pacific— Letter from Gov. Stevens.

The following letter from Major Stevens of the exploring party which is surveying the Northern Pacific route, under the instructions of the government, from Rainy Lake to Puget Sound, will be read with interest. It will be seen that Gov. Stevens is highly pleased with the country over which he has passed, and is sanguine of being able to find an expeditious route through the mountains.

Fort Union, Mouth of the Yellow }
Stone, Aug. 7, 1853. }

Messrs. Editors—Our express to the settlements will leave here, via the Missouri, to St. Louis in a day or two, and I avail myself of the opportunity to write to you. We are now over what I regard as the most troublesome half of our route, about twenty-five days march east of the Rocky mountains, and in excellent condition to accomplish the labors of the survey.

From this point the command will proceed to Fort Benton in two parties. One carrying the supplies for the route west of that place, will take the route usually travelled and known as the Milk River route, under my own personal direction with Lieut. Grover, a most efficient officer, who has rendered valuable service in the work in charge of scientific details. The other with the chief scientific force, will, under Lieut. Donelson, pursue a route some fifty miles to the northward, in which the most prominent landmark is Cypress Mountain, the source of streams flowing into both the Saskatchewan and Missouri rivers, and said to be a favorite resort of the Blackfoot Indians on account of the loveliness of its features and scenery. By small, strong detached parties, reconnoissances will be extended to both sides of the line taking in a wide breadth of country. Both trains will reach Fort Benton by the 3d or 4th of September.

I am able to report at this point that thus far our labors have been attended with the most satisfactory results, fully reaching the most sanguine expectations.

The party who came from the head waters of the Mississippi have made a thorough exploration of the valley of the Shyame river, the tributaries of the river Jacques, the Mouse river valley and the Grand Coteau de Missouri. To this is

added the survey of the country north of the Missouri to the Porcupine river, as high as the 49th parallel. Lieut. Donelson, who had charge of a small party who came up the Missouri, has made an admirable survey of that river, and has collected sufficient data to enable him to make an elaborate and interesting report on its navigability.

My command now are in an admirable condition—a body of men to whom I have become attached, and who are now assigned to their appropriate fields of labor. It took much time, and was a matter of much study to learn how to make the best use of the "materiel" of the party to secure the greatest amount of usefulness, and at the same time to be agreeable to each individual. That problem is now solved. Another difficulty existed in the state of the animals at our early start. Those which had been collected were a fine body of animals in appearance, healthy looking and strong, but mostly only three or four years of age. The first 150 miles were required in breaking them and at the end of that time they were wounded, galled and sore. At Pike Lake, about 170 miles from St. Paul's, which we left on the 26th of June, 35 were entirely unserviceable. With this incumbrance, the balance more or less ailing, grass fed, we have worked our way along, patiently looking after our sore animals, and regulating our marches so as to spare the others. It is my pleasant pride to be able to write that we reached this post (a distance of over 725 miles in the direct line by odometer measurement) on the morning of the first August, with only two mules unfit for service, and all fat and in good condition. In that march we have had some very severe sloughs to cross—rivers have had to be forded—coules, so wearing on the animals have presented themselves—and our general march has been a continued ascent, we being now by barometrical measurement some eleven or twelve hundred feet above Fort Snelling. Two rivers, the Wild Rio and Shyconne, had to be bridged, some 12 or 15 days were occupied in delays, and yet we have accomplished the labors alluded to, together with a great mass of side work, to which only the space allotted to an elaborate report can refer.

From the 7th of July up to this point we have daily met with Buffalo, and our hunters have amply supplied us with fresh meat equal in all respects to the "show beef" of the eastern cities. In most instances the wagons have not been obliged to go half a mile out of the way to pack it. It seemed as though they had but to step out into the big drove yard before us, single out the animal designed for the sacrifice, and in less than an hour the choice pieces were in our wagons. I had heard much of the immensity of these herds of living flesh which roam over these plains. Till I saw them I could not realize the scene. Never will I forget the sight on Sunday, the 10th July. We had moved forward some ten miles, designing to encamp on Lake Jessie—the timber bordering which was in sight. We ascended a high hill, before us and on all sides, were the countless herds, moving like the undulations of the sea. Every square mile seemed to have a different herd upon it—and this continued as far as we could see. Between us and our intended camping place—to use a figurative expression—it looked as though we should have to cut our way through. Drawing the train up at our usual mid-day halt, I despatched our six hunters finely mounted on their buffalo chargers,—horses reserved especially for that purpose,—and moving off easily till near the herds, dashed in amongst them, rode around them, separated the fattest cows, and shot after shot did their execution. In little more than an hour our wagons were loaded with the choice pieces of fine buffalo cows—and all had the opportunity of witnessing a "buffalo hunt."

We met here on the prairies the trading party from Pembina, on their annual trip to St. Paul, with their furs, meat, pemmican, etc. We also met the two Red River hunting parties, one numbering some 1200 persons from the American settlements near Pembina—the other from the British settlements near Selkirk, consisting of over 2,

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

000. The brief space allotted to me in this sheet will not permit a lengthier notice. I would only say that sufficient data and information are collected to make a long report. I subsequently met and had a very interesting "talk" with a large encampment of Assinibonic Indians, numbering some 140 lodges. We spent the larger portion of a day in their camp—collected much valuable information as to their modes of life, traditions, locality, etc., which I shall give a place in the report of the expedition.

We shall leave Fort Benton by mid-September, from which point we will have another opportunity to communicate with the states before crossing the mountains. I may at that time embrace another opportunity to send you a few lines.

I am, very truly, etc.
ISAAC J. STEVENS.

American Railroad Journal.

Saturday, September 17, 1853.

Fort Wayne and Chicago Railroad.

We give in another column the exhibit of this company, which sets out with sufficient distinctness its condition and objects. It is the last link in the great Central chain stretching from Philadelphia through Central Ohio and Northern Indiana to Chicago. All the others are completed, or nearly so, and all stand high in public estimation. All the links are complements of one line, and we see no reason why the above should not prove equally profitable with the others. Such is our conviction. It traverses an excellent section of country, in the convenient direction for both the through and local trade, and upon a route remarkable for its cheapness and directness. For Central Ohio it must form by far the shortest route to Chicago, and nearly as short as any other between that city and Cleveland. The management of the company is in good hands. The work of construction is progressing rapidly, and will be carried forward with great dispatch. We believe the bonds offered to be first class western securities.

Louisville and Nashville Railroad.

This road the main stem of which extends from Louisville to Nashville, a distance of 180 miles, is making very rapid and satisfactory progress. The means of the company appear to be ample. The Stock subscriptions amount to \$4,085,000 as follows:—

City of Louisville.....	\$1,000,000
County of Hardin.....	300,000
" Hart.....	100,000
" Warren.....	300,000
" Logan.....	300,000
" Simpson.....	100,000
" Sumner.....	300,000
" Davidson.....	300,000

Total corporate subscription.....	\$2,700,000
Individual subscription.....	950,000
Interest on subscription applicable to construction.....	435,000

\$4,085,000

To be raised on sale of Bonds..... 2,800,000

Total..... \$6,885,000

The work of construction was commenced Jan. 1853. By the terms of the contract, 30 miles are to be opened by the 1st of Jan. 1854, and the whole line by the 1st of Nov. 1855. The iron for the whole line has been purchased, and is to be of American Manufacture. We learn that the compound, or Winslow, rail, is to be used. An ample

NAME OF COMPANY.

	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	85
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland..... "	72	876,141	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	25
Concord..... "	35	1,485,000	none.	1,485,000	305,805	141,836	8	108
Cheshire..... "	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern..... "	82	3,016,634	.....	.....	328,782	163,075	5	55½
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord.... "	47	.....	1,400,000	.....	.....	.....	none	.....
Sullivan..... "	26	.....	673,500	.....	.....	.....	none	20
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	40
Rutland..... "	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	30
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	14½
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	ent.	101
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley..... "	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	96
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	105
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	86½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern..... "	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	104½
Fitchburg..... "	66	3,540,000	112,305	3,623,073	574,574	232,787	6	97
New Bedford and Taunton.. "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	94
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western..... "	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	98½
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	63
Providence and Worcester.. "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,600,000	472,000	.....	600,408	332,223	none	126
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven... "	61	3,000,000	1,641,000	4,978,487	806,718	428,173	7	104
Naugatuck..... "	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	55
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	.....	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie)... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	81
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	71
Harlem..... "	130	4,725,250	977,463	6,102,935	681,445	324,494	5	56
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	32½
New York Central..... "	504	22,853,600	2,111,824	.....	.....	.....	.....	114
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	32
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	181,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	237,630	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	100½
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,400	1,382,385	478,413	10	150
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	478,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	84
Philad., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,836	827,785	888,501	5	77½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip'm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn. 250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	...	98
Philadelphia and Trenton....	" 30							
Pennsylvania Coal Co.....	" 47							110 1/2
Baltimore and Ohio.....	Md. 381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	61
Washington branch.....	" 38	1,650,000		1,650,000	348,622	216,237	8	...
Baltimore and Susquehanna..	" 57				413,673	152,536	...	...
Alexandria and Orange.....	Va. 65			In prog.				
Manassas Gap.....	" 27			In prog.				
Petersburgh.....	" 64							
Richmond and Danville.....	" 73	1,372,324	200,000	In prog.				
Richmond and Petersburg....	" 22	685,000		1,100,000	122,861	74,113	none	...
Rich., Fred. and Potomac....	" 76	1,000,000	503,006	1,531,238	254,376	113,256	7	105
South Side.....	" 62	1,328,722	800,000	In prog.				
Virginia Central.....	" 107	1,400,100	446,036	In prog.	176,485	74,902	none	...
Virginia and Tennessee.....	" 60	3,000,000	1,500,000	In prog.			none	...
Winchester and Potomac.....	" 32	180,000	120,000	416,532	89,776		12	...
Wilmington and Raleigh.....	N. C. 161	1,338,878	1,134,698	2,965,574	610,038	153,898	6	...
Charlotte and South Carolina.	S. C. 110							
Greenville and Columbia.....	" 140	1,004,231	300,000	In prog.				
South Carolina.....	" 242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester..	"			In prog.				
Georgia Central.....	Ga. 191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	" 211	4,000,000	1,214		934,424	456,468	7 1/2	...
Macon and Western.....	" 101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee.....	" 71			In prog.				
South Western.....	" 50	586,887	150,000	743,525	129,395	71,535	8	...
Alabama and Tennessee River	Ala. 55			In prog.				
Memphis and Charleston.....	" 93	776,259	400,000	In prog.				
Mobile and Ohio.....	" 33	879,868		In prog.				
Montgomery and West Point..	" 88	688,611		1,330,960	173,542	76,079	8	...
Southern.....	Miss. 60							
East Tennessee and Georgia..	Tenn. 80	835,000	541,000	In prog.				
Nashville and Chattanooga...	" 125	2,093,814	850,000	In prog.				
Covington and Lexington.....	Ky. 100	1,430,150	1,100,000	In prog.				
Frankfort and Lexington.....	" 29	357,218		584,902	87,421	44,250	...	80
Louisville and Frankfort.....	" 65							
Maysville and Lexington.....	"			In prog.				
Cleveland and Pittsburgh.....	Ohio. 100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	92 1/2
Cleveland, Painesv. and Ashl..	" 71							
Cleveland and Columbus.....	" 135	3,027,000	408,200	3,655,000	777,793	483,454	12	132
Columbus, Piqua and Indiana..	" 46			2,000,000				98
Columbus and Lake Erie.....	" 61							
Cincinnati, Ham. and Dayton	" 60	1,694,000	906,000	2,600,000	321,793	200,967	...	106
Cincinnati and Marietta.....	"			In prog.				72 1/2
Dayton and Western.....	" 40	310,000	550,000	925,000	Recently opened.		...	80
Dayton and Michigan.....	" 20			In prog.				
Eaton and Hamilton.....	" 36							70
Greenville and Miami.....	" 31							
Hillsboro.....	" 37			In prog.				
Little Miami.....	" 84	2,370,784		2,634,157	526,746	314,670	10	119 1/2
Mansfield and Sandusky.....	"	900,000	1,000,000	1,855,000				
Mad River and Lake Erie....	" 167	2,387,200	1,767,000	4,110,148	540,518	113,401	...	95
Ohio Central.....	" 57			In prog.				
Ohio and Mississippi.....	"			"				97
Ohio and Pennsylvania.....	" 187	1,750,700	2,450,000		Recently opened.		...	...
Ohio and Indiana.....	"			In prog.				
Scioto and Hocking Valley...	"							
Toledo, Norwalk and Clevel'd	" 87	552,000	800,000	1,317,140	Recently opened.		...	...
Xenia and Columbus.....	" 54	1,092,137	119,500	1,257,714	237,506	135,363	15	...
Evansville and Illinois.....	Ind. 31			In prog.				
Indiana Central.....	"			"				
Indiana Northern.....	" 131			"	Recently opened.		...	...
Indianapolis and Bellefontaine	" 83			"				103
Lawrenceburg and Ind.....	"			In prog.				80
Lafayette and Indianapolis....	" 62				Recently opened.		...	78
Madison and Indianapolis.....	" 88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Peru and Indianapolis.....	" 40			In prog.				70
Terre Haute and Indianapolis	" 72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	"							
Chicago and Mississippi.....	" 113	2,400,000	4,000,000	4,600,000				
Illinois Central.....	Ill. 136							136
Galena and Chicago.....	" 92	1,932,361	500,000	In prog.	473,548	286,152	...	124
Michigan Southern.....	Mich. 315	2,499,410	2,629,000	6,430,246	592,187	293,046	...	124 1/2
Michigan Central.....	" 282	4,000,000	4,067,996	8,614,193			8	110 1/2
Pacific.....	Mo. 110 1/2							

equipment has also been contracted for and is already in progress of construction at Louisville. The contractors are Morton, Seymour and Co.

The road is to cost about 35,000 per mile. Ample means are provided for the whole line. The route is one of first importance, and the road will be the leading connecting link between our Western and Southern systems of Railroad, Louisville being a great point of concentration of one, and Nashville of the other. The road too, traverses a region unsurpassed for fertility of soil and extent of productions, and capable of furnishing a lucrative support to the above road, to say nothing of its through business. The above is one of our first class projects, and we are happy to present such a favorable statement of the condition of its affairs.

Stock and Money Market.

There is but little alteration to note in Wall street since our last issue. Money continues in active demand without much change in the rates. There is but little doing in securities of new works. The market for these does not improve with the advance of the season as was anticipated. The domestic means of our people are too actively employed in ordinary transactions to allow any considerable portion of them to go into railroads, as formerly. Indications are that money must continue in active demand during the fall.

There is but little change in the condition of the stock market. There is however a strong speculative movement in Erie, which extends to some other fancies. We presume the large holders of Erie are getting tired of their burdens, and are seeking to throw them upon other shoulders. There is evidently nothing in the prospects of the road, nor in the money market, to justify the large advance that has taken place, and it is due we presume, as before stated, to the spasmodic efforts of a few large holders.

The following is the bank statement for the week ending, Sept. 10:

	Sept. 3.	Sept. 10.	Increase.
Loans.....	\$91,751,336	\$91,108,337	*\$642,998
Specie.....	11,267,687	11,380,691	113,004
Circulation..	9,564,094	9,586,336	32,242
Deposits.....	57,202,876	57,545,154	342,722

*Decrease.

The following Table will show the earnings of a number of Railroads for August.

	Earnings for Aug. 1853.	Do. 1852.
Michigan Central.....	\$147,753	\$88,360
Norwich and Worcester.....	32,532	27,617
Mad River.....	67,312	39,923
Macon and Western.....	20,663	15,440
Hartford and New Haven.....	69,286	58,029
Madison and Indianapolis.....	24,700	22,600
New York and New Haven.....	82,585	72,009
Saratoga and Washington.....	23,724	18,535
Pennsylvania.....	236,493	149,966
Cleveland and Pittsburgh.....	36,548	30,862
New York and Erie.....	403,683	313,601
Hudson River.....	130,627	79,455
Michigan Southern.....	154,063	94,030
Cin. Hamilton and Dayton..	40,085	25,011
Little Miami.....	88,495	70,102
Chicago and Rock Island..	44,482	new
Ohio and Pennsylvania...	66,930	33,945

The receipts of the Norwich and Worcester railroad for August were.....\$27,283 65
Same time 1852.....24,698 00

Increase.....\$2,590 66

Correspondence of the Railroad Journal.

DUNKIRK, SEPT. 8, 1853.

I employ the few hours I am detained here to note my observations up to this point. I took the Erie route. I find this road to be in excellent condition, and the travel over it large; five long and well filled passenger trains passing each way daily. The Express goes through in 17 hours, including all detentions at Jersey City and ferry, and at Paterson. This is effected without change of cars west of Paterson. The through freight is not large at present, although on the gain, with the commencement of the fall business. The line of boats which formerly kept the Erie freight trains full, have not been running during the present season; and the trains sometimes go out lightly loaded, but are amply filled before reaching Hornellsville, with lumber from the way stations. Immense piles are now lying beside the track, all of which, prepared during the last winter, are yet detained from market, from the incapacity of the road to carry it. The former low tariff on freight has been revised, and lumber, which has been carried as low as $1\frac{1}{4}$ cents per ton per mile, has been subjected to a higher charge, whereby it is not feared the business of the road will be at all diminished, while the receipts will be materially increased. The Erie company have 35 powerful Freight Locomotives contracted for, which will put them in condition to do all the business that offers. The western division of the road, which has the lightest business of any, is equipped with 35 locomotives as its full complement, while 142 is the whole number employed on the entire road.

Economy and its retrenchments are taking effect under the new administration of this company. The repair department, both upon tracks and machinery, has been newly organized under a much lighter force. Of the 200 men formerly employed in the Dunkirk Engine Shop, half have been dismissed. The force retained is, without doubt, amply sufficient, being equal to that employed on most other roads, for the same extent of line and motive power.

The Dunkirk Engine Shop of the Erie company is the finest establishment of the kind in the United States. The shops and engine house occupy a rectangle of 300 by 150 ft., housing 21 locomotives, and giving room for repairing for all possible exigencies. The tools employed at this shop are wholly from the works of Gay, Silver & Co., of North Chelmsford, Mass., tool makers of deservedly high repute. The stationary engine, of 50 horse power, is from the Novelty Iron Works of New York. The shop is under the management of Mr. Albert Griswold, formerly of the Boston and Lowell railroad.

The Buffalo and State Line road, which intersects the Erie road at this place, appears to be doing a large passenger business. Four passenger trains are run each way daily. This company are having a large addition of locomotives built at Paterson, a fact indicative of an increasing traffic. All of these engines will be of large capacity and superior construction.

Three eastern built engines, destined for the west, arrived here to-day. One from Souther & Co., of Boston, for the Ohio and Indiana road; one from Seth Wilmarth, of Boston, for the Ohio and Pennsylvania road; and an engine from William Swinburne, of Paterson. The two former en-

gines, being for a gauge of 4 ft. 10 in., had to be mounted on trucks over the Central line of roads, whereby the expense of carriage is considerably increased. These engines had been seven days on their way from Boston, (a distance of 570 miles), which is considered "good time."

It appears quite singular to see iron and copper for the construction of engines ordered from the west, from 400 to 700 miles distant, and to see the same iron and copper sent back again, in the form of a finished piece of machinery. And all, we are told, because labor is higher in the west than at the east. In conversation, yesterday, with one of the oldest locomotive builders in Paterson, I was told that labor was as high in the great seat of the locomotive manufacture of the United States as in Detroit. Hands were scarce and difficult to be had, and that the cause was mostly the active competition which the establishment of so many shops in Paterson had already created. This gentleman, after an experience of over 20 years in the business, and with a year's work ordered ahead, predicts a dull time within a year or two for eastern shops. He admits fully that, with cheaper and better materials, cheaper food and fuel, and the preference caused by a local feeling, the equipment of western roads must ultimately be made in the west. It is rumored, moreover, that Paterson, already the seat of operations for four locomotive shops, is to have one other. Messrs. Todd, Mackey & Co., cotton machine builders, of Paterson, propose commencing the manufacture of locomotives at an early day. While upon this subject, I will give a statement furnished me by A. N. Gray, Esq., of Cleveland, of the cost of moving engines from Cleveland to Chicago, viz:—one engine of 4 ft. $8\frac{1}{2}$ in. gauge.

Towing over Cleveland, Columbus and Cincinnati road, 24 miles, and Toledo, Norwalk and Cleveland road, 89 miles; on trucks, 118 miles, at 35 cents.....	\$39 55
Ferriage over Maumee river.....	14 00
Moving to and from track and boat.....	16 00
Towing over Southern Michigan and Northern Indiana road on its own wheels, 248 miles, at 25 cents.....	60 75
Forwarder's commission.....	25 00
Time and expenses of Man, 6 days.....	21 00
Changing drivers.....	6 00
Freight on ponies back to Cleveland.....	7 00
Use of trucks and ponies.....	5 00
Total for 356 miles.....	\$190 30

In addition to the engines arriving here to-day, one engine is already here, and another on its way from Paterson, both of Danforth, Cooke & Co.'s manufacture, destined for the 6 ft. Cincinnati and St. Louis road. Another, also a superb engine, called the "Atlas," from Rogers, Ketchum & Grosvenor's, is on its way here for the Buffalo and State Line railroad. The advent of these iron messengers is a forcible indication of western progress. Each of these is competent to do all the ordinary carrying for a community of 3000 souls. To be more plain, the average of locomotives, in a State like Massachusetts, is one for every 3000 persons. Each engine speaks of the completion or existence of four or five additional miles of the iron track.

Brundage, Lord & Seymour, have a shop in this place, devoted to the manufacture of freight cars, from which they have forwarded many cars to the Buffalo and New York City road, and to roads in the west and in Canada.

Z. C.

What's the Matter?—Panama Railroad.

It is well known that some eighteen months since it was pompously announced through the public prints, that the contract for the completion of this work had been taken by the redoubtable *George Law*, who had "given bonds to have the road completed on the first day of August, 1853." With the work under the charge of such a man, its rapid progress was no longer a matter of doubt. An end had come of the vexatious delays that had been experienced. The prestige of success which usually followed Mr. Law's undertakings, had a very favorable influence upon the market value of the stock; so that both the public, and the parties immediately interested in the road were in the best humor at the very flattering aspect of affairs.

Well, the first of August, 1853, has come and gone, and so far from being completed, the road and everybody connected with it appear to have gone to sleep. We are not aware that the road has advanced one inch since Mr. Law took his contract. Whether any real advance has been made toward the final completion of the road, we are still ignorant. In the mean time, there has been a decided movement in the—stock; not *onward*, but *backward*,—the way that the road appears to have been moving. Within a little more than six months, the stock has fallen from 145 to 105! It thus appears that not only has the road made no progress, but the stockholders themselves have lost confidence in it. There is evidently a peg loose somewhere. If with Mr. Law's great capital, capacity and energy, the road cannot be made to move; if under his charge, the stockholders are backing out of the concern, and if with the payment of 15 per cent annually, from *earnings*, the price of the shares fall 33 per cent in six months, have not the public a right to infer that the "elephant" is beginning to show himself?

We have all along insisted that the Panama has been the worst managed concern in this country. We offended a good many by saying so, but even such we believe are beginning to find out we were right. The result has more than vindicated all we have said! Just think of it! Here is a little piece of road of less than fifty miles, that could, under proper management, have been built in two years, is not yet half opened, though the company have been steadily at work at *something*, for four years. By their delay, they sacrificed the very thing that would have given them success; nay, a monopoly of travel and transportation across the Isthmus. Had they opened their road with only reasonable dispatch, they would have effectually bluffed off other projects which have now gained so strong a footing as to assume the position of successful rivals. There now appears a strong probability that the Nicaragua, will become the favorite route, not only for passengers but for freight, mails and treasure; all of which might, and should have been retained upon the Panama route, and all of which, with their vast profits, have been sacrificed to the incapacity of the managers of this concern.

However, we are quite sure that what has happened is for the good of the public. The Panama company have allowed rivals to grow up, whose competition will bring down charges to reasonable rates. The Panama line will no longer enjoy a monopoly, which has been used as a terrible instrument of oppression to the great mass, for the benefit of the few. Already are rates rapidly fall-

ing upon both routes, with a corresponding increase of attention paid to the health and comfort of passengers. This will go on, till a person may go to California at as reasonable a charge, and with as good accommodations as are now afforded in a voyage to Europe.

Journal of Railroad Law.

RESTRICTIONS OF COMMON CARRIERS' LIABILITY.

That there is a growing tendency in our Courts to release as far as may safely be done the restrictions to which common carriers were subjected by the ancient common law is evident. It is true that our supreme court in *Gould vs Hill*, (2 Hill, 623,) declared that a common carrier could not limit his responsibility by express contract. But in the case of *Parsons against Monteath*, lately decided in the Supreme Court the foregoing decision was reversed; although it remains to be known whether the court of Appeals will sanction the doctrine in question. The goods delivered to the carrier in the last mentioned case were burned without the fault of the carrier, and upon an action brought against him it was shown that the goods had been receipted to the owner as follows:

"Received, goods, etc., which I agree to transport (the danger or the lakes, of fire, breakages of looking glasses, leakage of oil and acts of Providence excepted,) at the rate of etc." And by virtue of this receipt the carrier was held to be discharged from liability in consequence of the burning of the said goods.

This decision accords with the spirit of English legislation, and adjudication in respect to common carriers,—with the doctrine of the Supreme Court of the United States,—that of Massachusetts, and of the Court of Common Pleas, the Superior court see 8 vol. item R. R. Journal, p. 707., of our city.

Where the carrier undertakes to restrict his liability by a notice, he must show that the notice was brought home to the knowledge of the person to be charged thereby. In case a special contract is made by a carrier with owner of goods, the terms of the contract will of course be presumed to have been known by the latter.

THE LIABILITY OF RAILROAD DIRECTORS AND OFFICERS.

In England two verdicts have lately been rendered by Coroner's juries against the Chairmen of Railway companies for manslaughter: one against Hon. F. Scott, chairman of the South Western Railway company, for running a car over a laborer on the road, and another against Mr. Thompson, chairman of the York and North Midland Railway company, in consequence of the death of the engineer and stoker, caused by running the engine off the track.

Public opinion in respect to the liabilities of directors and other officers is as yet very vague and unsettled, and much further discussion of the subject is necessary. And an important aid in the investigation of these questions has been furnished by the late charge to the grand jury of Yorkshire, England, delivered by Justice Erie. In the course of his charge, the Judge observed in substance, that.

"If the directors of the Railway Company have knowingly used an unsafe engine, or prescribed some wrong regulation in regard to speed or otherwise, or if they have knowingly suffered the road to remain in a condition which rendered traveling unsafe, and death has thereby resulted, you

will find a true bill against them. * * *

If the directors contracted for proper embankments for their road and the contractors proved unfaithful, and constructed bad ones which were the proximate causes of a fatal accident, then the contractors are in fault and chargeable with the consequences of their criminal negligence.

In regard to the decayed sleepers of the road,—the directors having, appointed an inspector whose duty it was to supervise every portion of the road, are not liable for accidents resulting from such decayed sleepers if in providing for the examination of the sleepers due care and caution have been exercised by them.

Canada Grand Trunk vs. Great Western Railway.

Considerable excitement has been occasioned in Canada West by a proposition from the managers and friends of the Grand Trunk line of Railway, to those of the Great Western Railway to amalgamate or consolidate the interests of the two Roads, or certain portions of them; which proposition it is alleged, was accompanied by a threat on the part of the Grand Trunk party that in case of a refusal of the proposition by the great Western Company, the Grand Trunk Company would extend an independent, competing line parallel with the Great Western line from Guelph C. W. to Port Sarnia, on the St. Clair River, over which they would carry passengers for nothing. The particular friends of the Great Western line as may well be imagined did not much relish this attempt at appropriation and absorption of their favorite scheme, and the consequence was a call for a great Railway Meeting at Hamilton, Canada West, the eastern terminus of the Great Western line on Lake Ontario. The call was numerously responded to, and the meeting presided over by the Mayor passed the following preamble and resolutions:

Whereas reports have reached this city from various quarters, as mainly proceeding from gentlemen connected with the Grand Trunk Railway, that measures are in contemplation by the Directors and others aiding that enterprise, to endeavor to absorb the Great Western Railway Company into the Grand Trunk scheme.

And whereas any such amalgamation could not fail to operate most injuriously to the Stockholders of the Great Western Railway, by joining their road to a larger and much less profitable enterprise and placing it under the control of parties whose interest it would be to force the trade of the United States to the east and west of us, over a more northern, much longer, and less convenient route, and thereby in all probability forcing such travel and traffic round by the south shore of Lake Erie, thus turning off from this Province and the waters of Lake Ontario and the St. Lawrence, the business that rightfully and fairly belongs to them,—be it therefore

Resolved,—That in the opinion of this meeting, the Stockholders and Directors of the Great Western Railway Company will best consult the interests of this Province as well as their own self-evident advantage by declining to enter into any amalgamation with the Grand Trunk Railway, and resolutely maintaining their own independence.

"That in the opinion of this meeting, the route of the Great Western Railroad is so far superior to any other projected in Canada, that its prospects can only be injured by amalgamation with any other line.

"That this Meeting, looks with much satisfaction upon the recorded opinions of so eminent authority as Mr. Robert Stephenson, in deprecating the evils of Railway competition and trusts that he may be enabled to advise the adoption of a

policy in regard to the competition now threatened by the carrying of the Grand Trunk line from Guelph to Sarnia, which runs the whole way parallel to the previously chartered Great Western Railway, at a very short average distance therefrom, instead of running North West to Saugeen to Owen Sound, a magnificent line of communication still unoccupied and which would complete a Railway System for Canada West, such as Mr. Stephenson has foreshadowed while, not interfering with any existing or chartered line of Railway.

The meeting was ably addressed by Messrs. FREEMAN, BRYDGES, TIFFANY, HAMILTON, McQUEEN, and BUCHANAN, in support of the resolutions and vindication of the priority and superiority of the rights of the Great Western Company to the Sarnia charter, and in some instances an inadvertent pretty severely upon the course which has been pursued toward the Great Western by the Grand Trunk Company in reference to the whole matter.

Mr. BRYDGES the Vice President of the Great Western Company, in relation to the charge, which some persons were diligent in circulating through Western Canada, that the Great Western Company, which he that day represented, were the aggressors in this controversy spoke as follows:

He would remind them that the acts of Parliament chartering the Great Western, and which passed between the years 1835 and 1840, gave that Company power to construct Railways from Niagara Falls through Hamilton and London to Windsor and Port Sarnia. The Directors then had to decide which line should be proceeded with first. It seemed to him that the Board acted very wisely in first prosecuting the line to Windsor, because it was a striking fact, that that was the only point in Canada even now to meet a contemplated line of railway coming through the State of Michigan. This was therefore the only line which could secure to Canada the travel between the Eastern and Western States of America, and he thought the meeting would agree that the Great Western Directors had acted most properly in deferring the construction of the Sarnia Line, until their main line was completed. They had, however, never in the slightest degree wavered in their determination to make the Sarnia Line. This was placed beyond all doubt, by the proceedings of the Board from time to time, who had applied to the necessary authorities for permission to pass the Indian Reserves; which must be crossed to approach the water's edge. He distinctly declared, on the part of the Board of Directors, that they had never even contemplated the abandonment of the Sarnia Charter, and he trusted that this public statement would place that question at rest. He then proceeded to shew that the Great Western was the real and bona fide western section of the main Trunk line, and read an extract from the 16th clause of the act passed in 1851 for the construction of a "Main Line of Railway throughout the whole length of the Province," which after declaring that the Government guarantee shall only be extended to lines which form part of the trunk, proceeds to enact that such guarantee, shall be given to "the Great Western line, which has been commenced and partly constructed on the faith of the said guarantee and forms part of the same Main Trunk line." He then read from the 2nd clause of the Hamilton and Toronto Railway Act, passed in 1852, as a branch and connection of the Great Western, to the effect that "the said Railway (from Hamilton to Toronto) shall be held to form part of the main Trunk Line Railway" and therefore be entitled to the Government guarantee. If anything further was needed to place the matter beyond doubt, it would be found in the Grand Trunk Act itself, passed in 1852, which authorises the construction of a Railway from Montreal to Toronto, thereby of course confirming the Great Western and Hamilton and Toronto lines as the western section of the "Grand Trunk Line throughout the whole Province." This position is also

further confirmed by the fact that since the passing of the Act of 1851, the Great Western Company has actually received from Government as a part of the *Main Trunk*, a loan of £2000,000 sterling. He then explained that the Guelph and Sarnia line was only sanctioned by Parliament in 1852, several years after the chartering of the Great Western line to Sarnia, and was not afforded the Government guarantee, and its introduction therefore into the Grand Trunk scheme, was, he contended, a breach of faith towards the Company—a repudiation of the provisions of the Acts of Parliament and proceedings of the Government,—and was the commencement of a system of competition with the Great Western, with which it ran parallel for about 180 miles, and at less than an average of 20 miles apart from it. He trusted therefore that he had satisfied the meeting that the Great Western were not the aggressors, that they had acted fairly and honorably in prosecuting the works confided to them by Parliament, and that the proceedings of the Grand Trunk placed that body conclusively in the position of being the parties to introduce competition. He then proceeded to explain the proceedings which took place in England upon the appearance of the Grand Trunk Prospectus, when the President of the latter Company offered to amalgamate "on equal terms" with the Great Western line,—that was to take a line which was then nearly completed and about to come into active operation, and merge into a gigantic scheme, for which a spade had not been put into the ground. An agreement, a copy of which he then held in his hand, signed by Mr. Baring, on the part of the Grand Trunk, was however concluded between the two companies, by which the Grand Trunk was bound not to interfere in the district south of their line from Toronto Sarnia. What was his surprise therefore to hear the other day that the Grand Trunk party offered to build a Railway from their line to London, and extend to Sarnia, upon condition that the Great Western Company would give up its line to Sarnia to the Grand Trunk. He would not detain the meeting by making any remarks upon such an improper proposal beyond stating that the Great Western Company's line to Sarnia was under contract, that the Engineers were now on the line marking it out, and that in little more than twelve months the people of Hamilton would be able to travel to and from Sarnia by the Great Western line. It should not be forgotten that the Great Western was the pioneer of the railway system of this Province; it was the first Railway chartered, and the prospects and position which it had secured, had been of the very greatest use in turning the eyes of English capitalists to this country. He would also add that whilst the Great Western Company would decline any proposals for amalgamation with the Grand Trunk, they were quite ready to enter into mutually fair arrangements which while each remained independent in its district, would promote the convenience of the public and the prosperity of the shareholders of both Companies. Before concluding he thought it might be satisfactory to those present if he made a few remarks upon the prospects of the Great Western Railway. It was not until the beginning of the present year that he had been personally acquainted with this part of the world, but since that time he had frequently travelled through the district which will be served by the Great Western, and had made most careful and extensive enquiries as to the extent of its business and amount of its productions. From this he was perfectly satisfied that the local trade of the Great Western would present results of the most astonishing and gratifying nature and that before long the trade of Hamilton would be immensely increased by becoming the port of shipment for the magnificent district of country lying to the west of it. In addition to this the American through travel which would pass along this line would be immense, and the extraordinary increase which was taking place in the traffic of the New York Central on the one side, and the Michigan Central on the other, who would exchange

their traffic with this Company, formed a most encouraging feature in the prospects of the Great Western Company. But besides this, the Great Western would, without change of car, unite the sister cities of Buffalo and Detroit, each the focus of an immense business, and between which the communication was great and constant. On the whole, then he felt perfectly persuaded, that the prospects of the Great Western Company were of the most encouraging description, and far exceeded anything with which an experience of ten years among English Railways had rendered him familiar. He then stated that he was sure it would be exceedingly gratifying to the citizens of Hamilton to be told, that if no unforeseen contingencies tended to delay the works, he felt confident from the general position of the works, and from assurance received from the Contractors, that the Great Western Company would be in a position to convey passengers from Niagara Falls to Hamilton on the 1st November next, that on the 1st December, the line would be continued to London, and that by the 1st of January 1854, they would be enabled to conduct their traffic regularly between Niagara Falls and Windsor.

We have quoted pretty liberally from the remarks of Mr. BRYDGES both because we believe they give a correct statement of the facts in the case and the position assumed by the Great Western Company, and further because it will be interesting to the readers of the *Journal* to see that a person so long and intimately connected with the railway enterprises of England seems to have acquired during a few months residence in this country a proper appreciation of its wants and resources; its adaptedness to railways, and the propriety of their having free course as channels of travel and transportation, regardless of national or state boundary lines and restricted only by the demands of trade, commerce and the convenience of the whole community.

American and English Railways.

At a time when a parliamentary committee is sitting on railway policy, it appears opportune to bring before shareholders whatever evidence is calculated to assist in arriving at correct conclusions. The position of railway administration in England at the present moment is this: it is assumed by railway directors to be perfect; its perfection is very much doubted by shareholders and the public. The former have an idea that every care is not taken for economy, the latter that every care is not taken for public safety. The directors claim implicit confidence in their management, on account of the purity of their motives; the shareholders think that every respect may be paid to motives, but that salutary investigation may be made into details of management. We have always upheld this principle, and acting upon it, we shall take advantage of an important public document just issued in the United States, to institute a comparison between English and American management. The extravagance of one line may be defended or palliated by the greater extravagance of another line; but the experience of a remote system may be accepted as impartial evidence, and it may better guide us in arriving at results. Here, a certain set of engineers have given the same general character to the railway system of management; the school of Stephenson has become the school of England, and there has been little disposition to authorize anything which did not bear the stamp of legitimacy, as authoritatively imposed by the arbiters of railway expenditure. In the United States it has been different; there has not been that blind following of the high and mighty in engineering, and as there has not been a body of open-mouthed and open-pursed shareholders to draw upon, unlimited economy, and it may be said necessity, has in many cases been allowed to have some voice.—Hence we may expect to get some evidence which, though not arising from identical

circumstances, may throw light on the case, or even as being of a negative character, may determine the course of the investigation.

The documents before us are included in the report of Mr. McAlpine, the State Engineer of New York, in pursuance of a recent law, that passed in 1850, and although the operation of the system of returns is not yet complete, a large mass of valuable statistical information is brought together, and the deductions are very carefully drawn. When we state that the length of railways embraced in the returns is between 1,800 and 2,000 miles, it will be seen the extent is ample for comparison. The circumstances, too, of New York State admit of a better comparison than those of other parts of America. The country is not throughout so thickly peopled as England; but there is a metropolitan population in New York city of 600,000, and there are many populous towns. There are districts approaching Scotland and Wales in population, and there are large seats of manufacturers, and in some places an enormous transit trade. Thus there is great variety of character in the traffic conditions, in some cases approaching those of our wealthy and thriving districts, in others going as low as the poorest part of the Highland's or Welsh Mountains. Some might reject the comparison for these latter circumstances, but they are indeed those which claim most attention. In these islands, a total population of 30,000,000 have 7,000 miles of railway; in New York, a population of 3,000,000 have 2,000 miles of railway. This is a proposition not lightly to be set aside without investigation. In Ireland, 6,000,000 of people have one third of the length of railway possessed by half the population of New York, or one sixth the supply. The case of Scotland is generally better, the same population as New York having half the length of railway.

The passenger traffic on 1,900 miles of railway in 1852 was 7,440,653, and the number of miles run 343,358,545, which gave an average mile age per passenger of 46 miles. In 1851 the average distance travelled by each passenger was 47 miles; so that from discrepancies in the returns, some of the figures must be received with caution; but this may be taken as a fair average. The rate is far above the European standard, as the average rate in England and Belgium is only about one half of the above. The American returns include little of what is known as short, or omnibus traffic, which from the great extent of the country, and the widely scattered population, for which railways afford the most convenient transit, the distance of the journeys is greater than here. The returns likewise include a large population of through emigrant traffic to the far west. The average suggests some interesting reflections—First, that the American traffic is not to such a great proportion of ours, intermediate; and secondly, that a railway system can be carried out where the average mileage of each passenger is 46 miles as must be the case in some thinly peopled colonies and countries requiring great length of railway. This illustration will be found useful in reference to the Canadian railways, the traffic of which is little understood here.

The average speed of the passenger trains is given as 26½ miles per hour, but this seems to be the speed without stoppages. At any rate it is not a very high speed, but it is found suitable for a large proportion of the traffic. In this country the question has been little considered how far low speeds and cheap fares can be made to work profitably, except so far as the Irish lines are concerned, though there the tendency is towards increasing the speed. In New York, the emigrant traffic to Canada and the West is carried at very low rates, and it is contemplated to do the same on the great Canadian trunk.

The average number of passengers in a train is returned at 77.6; the number of trains per day being generally much less than in this country. The great endeavor in the United States is to give the public low fares, and the company a low rate of expenditure, and everything is directed upon these two principles which are made to work to-

gether. By running a few trains at reasonable speeds, and by attending to the construction of the carriages, much economy is obtained. The American carriage being, as is well known, on a larger scale than here, and allowing of internal communication, admits of being worked cheaper with respect to the staff, on the line and in the stations, and is effectively more convenient to the public than the English carriage. This is a subject well worthy of enquiry as much of the economy of American railways depends upon it; but at present we can only briefly refer to it. The effect is to reduce the expenses of fixed stations, and to allow of passengers being worked from places where, on the English system, a station could not be maintained. Instead of a staff distributed over twenty stations, as here, the staff in America travels with the trains, and the stations, buildings and equipments are consequently of a minor character. On the other hand, whenever it is desirable to set down or take up a large or small number of passengers at a given spot not usually worked to as a station, nothing is necessary but to stop the train, like an old stage coach, and the requisite station staff is forthcoming. There are many places where there is a market traffic once a week, for which a fixed station staff would be required on such occasions, and with the privilege of keeping their hands in their own pockets, and dipping into the pockets of the shareholders the greater part of the week, and which must in England be neglected or worked at a loss. Of course a staff proportional to the trains will nevertheless be at times in excess of the traffic, but by no means correspondent to a fixed station staff.—*Herapeth's Journal.*

Exhibit of the Fort Wayne and Chicago Railroad Company.

This road commences at Fort Wayne, in the State of Indiana, at a point where the Ohio and Indiana Railway terminates, and ends at the City of Chicago, in the State of Illinois, a distance of 150 miles; is the fourth link in the chain of railway built and to be built between Philadelphia, by the way of Pittsburgh, to Chicago, at which latter point it connects with the various rail-roads made and making from that point southwest and north, some half dozen in number.

From Philadelphia to Crestline there is a continuous line of rails completed and in successful operation. The Ohio and Indiana Road, lying between Crestline and Fort Wayne, will be completed and in operation at an early day in December next.

The charter of this Company under the concurrent legislation of the States of Indiana and Illinois, is perpetual in duration and liberal in its provisions.

A careful and accurate survey and location of the route has been made under the superintendence of Jesse R. Straughn, an experienced engineer.

The right of way obtained and paid for, necessary ground for stations, &c., and the entire line put under contract for graduation and masonry, at prices altogether satisfactory to the Company, and within the Engineer's estimate. The contractors broke ground early in June last. There are now some two thousand laborers at work on the line, the monthly payments to whom will be from 60 to \$65,000. Contracts have also been made for cross-ties. The entire road is to be completed and in operation by the first January, 1855.

CHARACTER OF ROAD.

The length is 150 miles, from Fort Wayne to the southern bend of Lake Michigan, a distance of about 132 miles is a straight line, (the Ohio and Indiana Rail-Road is nearly a straight line in its entire course,) traversing a level country, with no gradients over 26¼ feet to the mile; but few streams of water to pass, they small in size and easily bridged; hence the low cost of the road. Is to be a first class road, with T rail of 60 lbs. to the yard, well ballasted, with necessary sidings &c.

ESTIMATED COST OF ROAD.

The Engineer's estimate of the entire cost of this road, including right of way, stations, station hou-

ses and equipments for one year's operation, is \$2,500,000; to this must be added commissions, discount on bonds, and interest paid to stockholders whilst the road is building: this latter item will be paid in stock.

The right of way has cost but little, as releases have in general been given free of cost to the Company. Valuable real estate for stations has also been donated to the Company.

WAYS AND MEANS.

The stock subscription to date, including \$230,000 agreed to be taken by contractors, is \$1,205,000
The above includes \$100,000 of stock take by the Ohio and Pennsylvania Rail-Road Company.

It is expected that additional subscriptions along the line will be had the coming six months, to amount of .. 250,000
Stock to be taken by the Pennsylvania Rail-Road Company, by agreement, whenever legal authority is had to do it, 250,000

\$1,705,000

The Company expect to make a mortgage debt to purchase rails, machinery, &c., of 1,250,000

\$2,955,000

The Pennsylvania Central Railway and the City of Philadelphia stand pledged to furnish all the means necessary to the completion of this road, after the Company shall have obtained all the local subscription in their power to get; but it is thought the rail-road Company will only require the Pennsylvania Central Road to subscribe the \$250,000 as above named. The Ohio and Pennsylvania Rail-Road Company also agrees to increase their subscription \$100,000, if necessary.

The completion of the Fort Wayne and Chicago Road will be of great advantage to the Pennsylvania Central, and the Ohio and Pennsylvania Roads.

Thus, it will be seen that the means to complete this road will be ample, after they have negotiated their bonds.

The stock subscription is good and available; it is thought that three per cent. will cover all losses. Some \$250,000 has already been paid into the treasury of the Company, and the residue is being paid at the call of the Company.

POSITION OF ROAD.

That this line occupies a position quite equal to any other in the country, will at once be perceived by an inspection of a rail-road map of the United States. Its connections at either end, and the many important tributaries along its course, together with its immense local travel, will, beyond question, make its returns to the shareholders highly satisfactory.

It traverses a region of great fertility and productiveness, increasing in wealth and population at the rate of more than one hundred per cent., each period of ten years, at present without facilities of transportation other than the common roads of the country, which are nearly impassable half the year.

This line of road is the shortest by precisely 57 miles from New-York to Chicago, and by 100 miles from Philadelphia to Chicago, as will appear by the following comparison:

Pittsburg route.	Miles.
Chicago to Fort Wayne,	150
Fort Wayne to Pittsburg,	318
Pittsburg to Philadelphia,	353
Philadelphia to New-York,	88

Total, 909

Toledo route	Miles.
Chicago to Toledo,	242
Toledo to Cleveland,	113
Cleveland to Dunkirk,	142
Dunkirk to New-York; by Erie Rail-Road,	496

Total, 966

The distance from Cleveland to Chicago, by the

way of the Ohio and Indiana, and Fort Wayne and Chicago Roads, is about the same as by the Toledo route; the difference will not be over three miles, if grades are taken into account; the former is the nearest route by many miles.

Between Chicago and Wooster, Ohio, a distance of 335 miles, there is no grade over 26 4-10 feet to the mile.

The entire travel of the vast regions beyond Chicago, equal to all Europe in extent, and to any other part of the globe in fertility, and the country on and near its line, to and from the Middle and Southeastern States, the cities of Pittsburg, Baltimore and Philadelphia, will necessarily pass over this line of road. That a railway will be made from the Mississippi River, or some point east of it, to the Pacific Ocean, at an early day, there remains no question. Chicago, it is generally thought, is the point where it should begin; that route is the shortest, and will be found equally practicable with any other. The great course of travel and commerce point it out as the starting point. Should this be realized, the stock of the Fort Wayne and Chicago Road will command a higher price than that of any other road in the Union. In any event, it will be about as valuable as that of any other.

From its peculiar location, it will not likely ever have competition.

The stock of the Michigan Southern Rail-Road now commands a premium of 25 per cent.; there is no reasonable question but this line of rail-road will prove equally productive, and that its stock will be as valuable as that of the first named road.

To pay for iron rails, transportation of the same, machinery, &c., the Directors have ordered the sale of \$1,250,000 of the 7 per cent. bonds of the Company, convertible into the capital stock of the Company, at any time within ten years, at the option of the holder.

The bonds will be in sums of \$1,000 each, dated the 1st July, 1853, payable in 20 years, principal and interest, in New-York, with coupons, the latter, 1st Jan. and 1 July, each year. To be secured by a first and only mortgage or deed of trust to John Ferguson, of New-York, in trust for the bondholders, on the Company's entire line, stations, rotary power, all other personal property, net income, franchises &c., with the usual power of taking possession, and selling, in case of default, the terms and conditions of the mortgage being the same as that of the Ohio and Indiana Company's mortgage.

The authorized capital stock of the Company is \$2,500,000, with power in the Board of Directors to increase it to any sum they choose. The charter gives full power to sell the bonds under par, making a sale under par as valid as if sold at par.

Winslow, Lanier & Co., 52 Wall-street, are the agents of the Company, for the sale of bonds, &c., who will give any other or further information relating thereto, that may be desired.

SAMUEL HANNA, President.

Alabama Railroad Convention.

On the 24th of August a Railroad Convention was held at Elyton, in Jefferson county. The counties of Blount, Coosa, Dallas, Greene, Jefferson, Marshall, Morgan, Montgomery, Perry, Shelby, Sumter, Talladega, Tuscaloosa, and Walker were well represented.

John D. Phelan of Perry, was chosen President, with thirteen Vice Presidents and four Secretaries.

A committee then reported the following resolutions, which were adopted unanimously:

Resolved, 1st, As the sense of this Convention that it is the duty of the State of Alabama to aid, by appropriate means, in the construction of works of Internal Improvements within its limits.

2. That as the most eligible plan for accomplishing that object, in the present condition of the state, we recommend the construction, by its aid, of a railroad of the first class, connecting the waters of the Tennessee river with the waters of the Mobile Bay, so as to connect north and south Alabama.

3. That the said road when constructed shall be

held under the control of the state, for the common benefit of all its citizens, and that roads built by private enterprise or in any other mode from any section of the state, shall be allowed to connect with said road, which is to be a common central stem.

4. That with the view of locating the said central road to the greatest advantage, we recommend a thorough and immediate topographical and geological survey by the state of all practicable routes likely to accomplish that object.

5. That we recommend to the Legislature of the state to make provision at its next session for the immediate, thorough and general geological survey of the state, and for its vigorous prosecution to completion at the earliest practicable period.

Among the speakers were Professor Bernard, of the Alabama University, Gen. Philpot, of Morgan, Rev. J. P. Perham, Professor Garland, Col. Earnest, Mr. S. Mudd, Mr. Gibson and Mr. Greene.

Lawrenceburgh and Indianapolis Railroad

On Monday afternoon, the annual election, by the stockholders, of the directors of the Lawrenceburgh and Upper Mississippi Railroad Company was held at Shelbyville. The old board consisting of Messrs. G. H. Dunn, D. Nevitt, and L. B. Lewis, of Dearborn county; J. B. Foley, James E. Hamilton, and J. G. Montfort, of Decatur county; and J. M. Ray, Harvey Bates, and Wm. Robson, of Marion county, was re-elected.

We availed ourselves of the invitation of one of the directors "to make the first trip to Shelbyville on the Lawrenceburgh road,"—a passenger car being sent down to convey to Shelbyville such of the directors and stockholders as were in the city.

The train left here at a little after eight o'clock in the morning, and in about one hour arrived at Buck Creek, where there was a gap of a mile and a quarter not laid with rail and across which the passengers had to walk. A train from Shelbyville was in waiting at the other side of the gap in which we arrived at Shelbyville shortly after ten o'clock—having made the run from here to Shelbyville—walking a mile and a quarter—in a little over two hours.

In the evening the trip back was made in the same manner, with the exception that the distance to be walked was lessened a half mile—track to that extent having been laid during the day. The time occupied was only two hours—about fifteen minutes less than in the morning. The contractor declared his determination to have all the track down by yesterday evening, and we have no doubt it was done.

Almost all the track over which we run on Monday has been laid in the last two weeks—some of it was not even spiked except at the end of the rails—and yet it was the smoothest, best road we have traveled over in the State. Most of the iron is very long rails, of American Manufacture, and over these the cars run with the ease, smoothness, and freedom from noise claimed as the peculiar attendants of the compound rail.

The road, after leaving the corporate limits of Indianapolis, is run in a "bee line" to Shelbyville, a distance of twenty-six miles, and as the grades are very easy it is intended that the time between here and Shelbyville shall be only half an hour when the cars get to running regularly. From the unusual excellence of the construction of the road, we have no doubt that this time can be and will be readily and constantly made.

We understand that very shortly—probably as early as next Monday—the Jeffersonville Railroad Company will commence running their regular trains on this road through to Jeffersonville by way of the Shelbyville and Edinburgh Railroad, in accordance with an agreement made some time since between the Lawrenceburgh and Jeffersonville companies.

We are informed that the whole road between Lawrenceburgh and this city will be completed and regular trains running through in about three weeks. The time between this city and Cincinnati will then be only about three hours.

The stockholders in the train that went to Shelbyville were very highly pleased with the manner in which their road was built. As an evidence of their feeling—we heard one of them remark during the return trip in the evening, that the stock was then worth ten per cent. more than it was when he started in the morning, in which all who were present concurred—*Indiana State Sentinel of September 7.*

The Pan-Handle Controversy.

The four northern counties of the State of Virginia form a long and narrow strip of territory, running up between the States of Ohio and Pennsylvania. This strip is 64 miles long, and in some places is less than 4 miles wide. This is the pan-handle. It contains one important town (Wheeling) on the Ohio river, where the National road crosses, and where the Baltimore and Ohio railroad now terminates. As Wheeling is more than 20 miles north of the southwest corner of Pennsylvania, the most direct route for this railroad would have been through that State, and so they wished to go. Pittsburgh is 95 miles distant from Wheeling by the river, though only half of that by a straight line. Pittsburgh and Wheeling were rival commercial cities, and Pittsburgh so controlled the legislation of Pennsylvania, that the railroad company could not get the right of way through that State without submitting to burdensome conditions. So, after much negotiation, the company constructed its road over and through the mountains and wilderness of Northern Virginia.

Then Wheeling resolved to build a bridge across the channel of the Ohio river. A charter from the State of Virginia was procured, and a beautiful wire suspension bridge was built. Not knowing, we cannot say whether they built it low on purpose, but certainly they did build it so low as to interrupt somewhat, the passage up and down of the large Ohio river steamboats, thus tending to make Wheeling, instead of Pittsburgh, the head of navigation.

Pittsburgh, in the name of the State of Pennsylvania, applied to the Supreme Court of the United States to tear down the bridge. The Supreme Court, after much deliberation, decreed that the bridge was a nuisance, and must either come down or go up 20 feet higher. The Pittsburgh folks are very energetic. The Wheeling folks are very ingenious. They induced Congress to declare their bridge a post route, just as it stands. Will the Supreme court order the nuisance to be abated in spite of Congress? That remains to be seen.

The city of Steubenville is on the Ohio side of the river, 23 miles above Wheeling. Opposite to it, the "pan-handle" is less than five miles wide. The Steubenville folks are also energetic and ingenious, and they have undertaken to build a railroad from the Ohio river at that point, westward to Columbus; and this road, called the Steubenville and Indiana, is now in an advanced state of construction as far as Newark. A glance at the map will show that the cities of Columbus, Steubenville, Pittsburgh and Philadelphia are almost in a straight line. The Steubenville and Indiana railroad and the Pennsylvania Central railroad, form part of the shortest road connecting Columbus and the cities west of it. But an important part of this nearly air-line road is the link between Pittsburgh and Steubenville. To make that link, they must run six miles on the territory of the Virginia pan-handle. The citizens of the two northern counties are almost unanimous in favor of granting the right of way; but the influence of Wheeling has thus far prevented the Virginia legislature from making the grant.

The population of the city outnumbering the rest of the district, they have elected a senator on the very ground that he shall advocate the peculiar local interests of Wheeling. The "rural" part of the district, from the northern extremity as far south as, and including the town of Wellsburg, 16 miles north of Wheeling, have become so exasperated at this selfish conduct, that they want to secede, and be annexed to Pennsylvania.

In the meanwhile, Pennsylvania has chartered

the Pittsburgh and Steubenville railroad company, and for some months past they have been hard at work grading that part of the line which is in Pennsylvania. Some few weeks since, an advertisement appeared in the Ohio papers, subscribed by Jesse Edgington and Nathaniel Wells, inviting proposals "for grading, bridging and completing about six miles of railroad on their land in the valley of Harman's Creek."

This is the pan-handle part of the Pittsburgh and Steubenville railroad. Every land owner on the line has given or sold the land to those two men, who are two of the most respectable citizens of that county. They do not need any charter to build a railroad on their own land. The contracts were made for completing the road before the 1st of December, as they mean to be in operation before the Virginia Assembly has time to pass any new penal statutes. When the road is in operation, it will be protected by a certain slight amendment that was put on the post route bill in Congress last winter, declaring that all railroads and parts of railroads shall be post routes as soon as such roads and parts get into operation. Thus it is intended that this brilliant invention of the Wheeling folks shall "return to plague them."

In this way do people contrive "to whip the Devil round the stump," and to accomplish the same objects that they would had they been free to act, with this difference—a vastly increased annoyance and outlay. A dam does not stop the course of a river. The water turned out of its natural path, finds vent in another direction. So with our railroad enterprises. If they cannot be secured by a straightforward course, a tortuous one will be pursued, which in the end will lead to the same result.

Cincinnati and Chicago Railroad.

We copy the following letter from the President of this road addressed to the Indiana State Journal:

To correct a rumor that is afloat calculated to injure an enterprise in which a portion of our State is deeply interested, I ask the use of your columns to correct some representations that are abroad as to which route is nearest and best, from Indianapolis to Chicago.

The road from Logansport to the Northern Indiana Railroad, is now under contract to Messrs. De-graft, Shoemaker & Co., upon terms within the ability of the Company to comply with. The road from the Calumet river to Logansport, has been surveyed and located, and the contractors were at Logansport last week to commence operations on the heaviest work on the line in the vicinity of Logansport; but owing to a misunderstanding with regard to the depot grounds, the Company requested a month's time to fix upon a starting point. The work is to be entirely completed within eighteen months from the 1st of July last. This company is consolidated with the Cincinnati, Logansport and Chicago Railway Company, forming one line from Chicago to Richmond. This line, with the Peru road to Kokomo, will enable you to reach Chicago in 179 miles from Indianapolis. We do not wish to detract from the merits of any other enterprise, but simply say Logansport is East of a direct line from Indianapolis to Chicago, and that it is absurd to say a line 18 miles farther East is the nearest or best route from your city to Chicago.

The distance from Logansport to Chicago is 102 miles, and from Logansport to Peru by Wabash valley 17, making 119 miles from Peru to Chicago by way of Logansport. By the Peru and Chicago road from Peru to Rochester, is 23 1-2 miles; from Rochester to Plymouth, 20 miles; from Plymouth to Laporte, 29 1-2 miles, and from Laporte to Chicago, 61 miles by the road with which they propose to connect, making from Peru to Chicago 134 miles; or if you come down to Kokomo, at which point the distance to Logansport is but two miles more, then to Peru, you save in distance 30 miles in going to Chicago from Indianapolis, and make the Wabash Valley and Logansport, and Chicago roads from Peru, by Logansport, to Chicago, 18 miles nearer from Peru to Chicago, than by their road

proposed to Laporte, called the Peru and Chicago railroad.

I send you a published copy of our contract of consolidation, &c. Yours respectfully,
W. WRIGHT.

General Internal Improvement Law of Tennessee.

At the time of the passage of this law, we believed it adapted to advance, in an eminent degree the interest of Railroad Companies and the prosperity of the State. Experience has somewhat modified our expectations. The law provides for the use, by certain Railroad Companies, of the credit of the State to the amount of \$8000 per mile, when such companies, shall have prepared their road beds for the rails. The claim of the State is not in the shape of a mortgage, but is a lien created by law. Now \$8000 per mile is not more than one half of the amount that the companies in Tennessee will, as a general rule be compelled to borrow. For the additional \$8000 per mile, the companies will have to rely upon a second mortgage. It is found so difficult to negotiate a loan under a second mortgage, we think that the Tennessee Companies would find that they could borrow what they need under one, and a first mortgage, upon better terms than to take the State aid for a part. Capitalists would much prefer lending \$16,000 per mile upon a first mortgage, than \$8000 per mile upon a second. If the last sum could be negotiated, certainly the first could. When therefore, a company is compelled to borrow more than \$8000 per mile the provision for State aid is clearly no advantage.

The object of the law was to furnish a sufficient credit to Railroad companies to enable them to purchase the iron and equipments for their roads. The law was passed at a time when iron could be imported for \$37 per ton. It is now worth double that sum. All kinds of machinery have advanced very largely. To carry out the spirit of the law, the State should increase the sum per mile, in proportion to the increased cost of material, or should allow a mortgage, say of \$8000 per mile, to come in on the same footing as the State lien. Unless something of this kind be done, Railroad companies will find the aid that they have so confidently counted upon, will be rather a stumbling block in the way, than any real service.

TYRES.

LOCOMOTIVE AND CAR WHEEL TYRES, from the Manufacturing of the celebrated and well known Iron Works of the LOW MOOR CO., in England, are furnished by the subscriber, Agent, by direct importations, ready Welded, Blocked, and Rolled, from only ONE BAR and with only ONE WELD, at a cost much below that of any other stamp.

Importations through the last year of nearly 3000 Single-welded Tyres, which are now found running on the important Railways, have rendered them in almost exclusive use, and their performance of over 20,000 miles each, have elicited the highest recommendations of their superiority.

All work of this Company is warranted to give satisfaction. Sample Tyres may be seen at the Crystal Palace, New York, and at my Warehouse, 9 Liberty Square, Boston.

W. BAILEY LANG,
24 BROADWAY, N. Y.
9 LIBERTY SQUARE, BOSTON.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAR,
50 South 3rd Street,
Philadelphia.

May 1st, 1853.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by
JOHN H. HICKS, 90 Beaver st.

N. York and N. Haven R. R. NOTICE OF SUMMER ARRANGEMENTS,



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.
New Haven, May, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:
EMPIRE STATE, J. Wilson, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.
NORTHERN INDIANA, I. T. PHEZZAT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.
runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany, and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

New York and Erie R. R.



PASSENGER TRAINS
leave Pier foot of Duane street,
as follows, viz:—



DAY EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. York City R. R., without change of baggage or cars; and also for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Susquehanna and Coming, and proceed the next morning.

ACCOMMODATION, at 12 1/4 p. m. for Delaware and all intermediate stations.

WAT, at 3 1/4 p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMERALD, at 7 p. m. for Dunkirk and all intermediate stations.
On Sunday Express Train—at 6 p. m.
The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

BRANDS' LIQUID,

FOR DISSOLVING AND PREVENTING
INCORUSTATIONS IN STEAM BOILERS,

is acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel gratis to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents,
Messrs. BOURRY & ROEDER,
Consulting and Mechanical Engineers,
333 Broadway, N. Y.

Aug. 10, 1853.

Railroad Iron.

2809 Tons, T pattern, weighing about 57 lbs. per yard, of Guest & Co's make (GL), shortly expected at this port, for sale by
BOORMAN, JOHNSTON & CO.,
Sept. 7. 90 Broadway, New York.

Railroad Iron.

THE Subscribers are at all times prepared to enter into contracts for Railroad Iron, of Messrs. Guest & Co., or other leading manufacturers' make, delivered free on board vessels in England or in this country.

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THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMillen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.
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Drawing.

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REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

SIMEON DRAPER, 46 Pine st., offers for sale a variety of Railroad Bonds and Stocks; also, State, City, Town and Country Bonds, among which are:

State of Pennsylvania 5 per cent. coupon Bonds, \$1,000 each, coupons payable Feb. 1 and Aug. 1, in Philadelphia, mature 1877.

State of Georgia 7 per cent. coupon Bonds, \$500 each, coupons payable Jan. 1 and July 1, in Savannah, mature 1861.

State of Wisconsin 12 per cent. coupon Script, for improvement of Fox and Wisconsin Rivers, whole issue \$75,000, coupon payable Jan. 1, in New York, mature 1862.

State of New York 5 per cent. Canal Certificates, interest payable in New York.

City of Troy, N. Y., 6 per cent. Bonds, whole issue \$500,000, Bonds \$1,000 each, coupons payable Jan. 1 and July 1, in New York, mature 1867 and 1872.

City of Newburg 6 per cent. Bonds, whole issue \$100,000 coupons payable March 1 and Sept. 1, in New York, mature 1873.

City of Racine, Wis., 7 per cent. Bonds, whole issue \$300,000 bonds, \$500 and \$1,000 each, guaranteed by the R. J. and Mississippi Railroad, and convertible into its stock, coupons payable Jan 1 and July 1, in New York mature 1872.

First Mortgage Convertible 7 per cent. Bonds of the Buffalo, Corning and New York Railroad, whole issue \$550,000, coupons payable in New York, April 1 and Oct. 1, mature 1867.

First Mortgage Convertible 7 per cent. Bonds of the Western Vermont Railroad, whole issue \$400,000. coupons payable in New York Jan 1 and July 1, mature 1861-71.

First Mortgage Convertible 7 per cent. Bonds of the Columbus, Piqua and Indiana Railroad, whole issue of \$600,000, coupons payable in New York Jan. 1 and July 1, mature 1862.

First Mortgage Convertible 7 per cent. Bonds of the Mississippi and Rock River Junction, whole issue \$400,000, coupons payable in New York Jan 1 and July 1, 1863.

First Mortgage Convertible 8 per cent. Bonds of the Milwaukee and Mississippi Railroad, whole issue \$600,000, coupons payable in New York Jan. 1 and July 1, 1802.

First Mortgage 7 per cent. Bonds, Corning and Blossburg Railroad, whole issue \$150,000, coupons payable in New York May 1 and Nov. 1, mature 1873.

First Mortgage 7 per cent. Bonds, Toledo, Nowwalk and Cleveland, whole issue \$525,000 coupons payable in New York Feb. 1 and Aug. 1, mature 1863.

First Mortgage 7 per cent. Bonds, Mansfield and Sandusky, whole issue \$730,000, coupons payable in New York Jan. 1 and July 1, mature 1860.

First Mortgage 7 per cent. Bonds Vermont Valley, whole issue \$386,000, coupons payable in New York April 1, Oct. 1, mature 1861.

First Mortgage 7 per cent. Bonds Troy and Bennington Railroad whole issue \$100,000 coupons payable in Troy, New York Jan. 1 and July 1, mature 1862.

First Mortgage 7 per cent. Bonds New Jersey Central Railroad, whole issue \$1,500,000, coupons payable in New York Feb. 1 and Aug. 1, mature 1860/70.

First Mortgage 7 per cent. Bonds, Brunswick Canal Co., whole issue \$200,000, coupons payable in New York Jan. 1, July 1, mature 1857.

Also, Second Mortgage Bonds of many of the above Companies, and 7 per cent Bonds, Saratoga and Washington Railroad, whole issue \$340,000, coupons payable in New York, mature 1862.

7 per cent Bonds Troy and Boston, whole issue \$300,000 coupons payable in New York April 1 and Oct. 1, mature 1864.

10 per cent. Bonds Mansfield and Sandusky Railroad Co., whole issue \$170,000, coupons payable in New York April 1 and Oct. 1, mature 1855/57.

7 per cent. Mortgage Bonds of the Atlantic Steamship Co., whole issue \$700,000, coupons payable in New York, mature 1855.

8 per cent. Convertible Bonds of the Michigan Central Railroad Co., whole issue \$2,459,500, coupons payable in New York April 1 and Oct. 1, mature 1860.

Notice to Contractors.

PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile railroad, will be received at the Railroad Journal Office, New York, on the 1st of October next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 225 miles; commencing at Girard, in Russell County, on the west bank of the Chattahoochee river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.

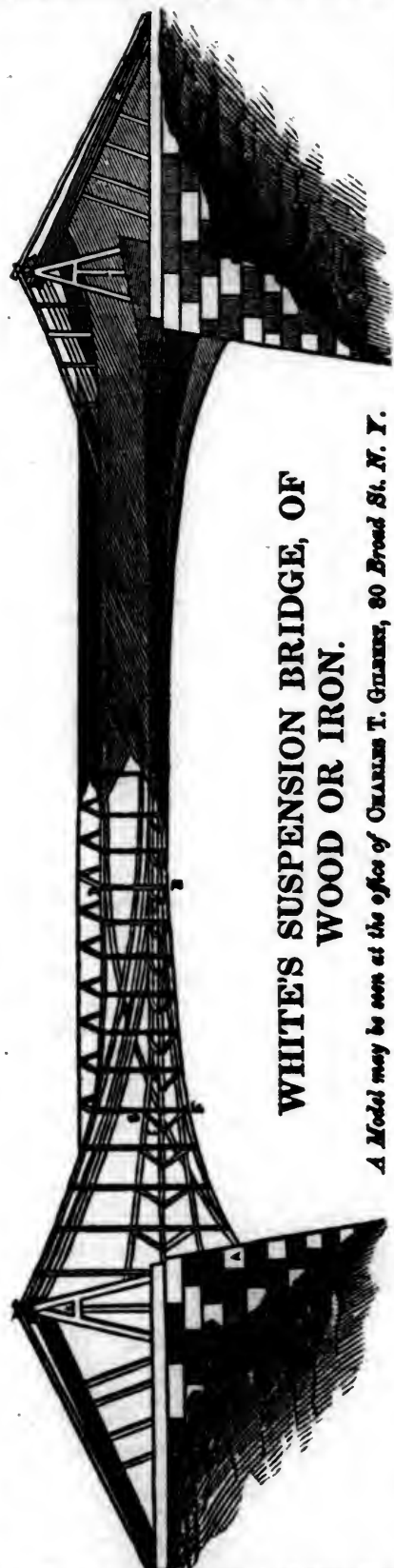
GEO. S. RUNEY, Chief Engineer.

Girard Railroad Office, 6th July, 1853.

To Contractors.

SEALED PROPOSALS will be received at the Office of the Chesapeake and Delaware Canal Company, No. 64½ Walnut street, Philadelphia, until the 15th day of September next, for the construction of the NEW LOCKS to be made on the Chesapeake and Delaware canal. Plans and specifications for said Locks will be exhibited at the office of the Company on and after the 8th of September.

ANDREW C. GRAY,
President Ches. and Del. Canal Co.



WHITE'S SUSPENSION BRIDGE, OF
WOOD OR IRON.

A Model may be seen at the office of CHARLES T. GRANT, 80 Broad St. N. Y.

Length of span, anything short of 1,000 feet with perfect safety for every kind of travel. The above cut represents a Wooden Bridge with a roof. The arrangement for the Iron Bridge is such as to avoid all the bad effects of changes of Temperature. For a full description, see pamphlets; for further information, respecting models, rights, &c., apply, by letter or otherwise, to AMOS WHITE, or JOSHUA P. TRAYER, Proprietors, Cambridgeport, Mass.

Office next door to the Athenaeum.

Notice to Contractors.



BUFFALO & PITTSBURGH RAILROAD.

SEALED PROPOSALS will be received at the Engineer's office in the city of Buffalo, until the 20th day of September next, for the gradation, masonry, and for the entire construction of the line of road, (about 75 miles) between the city of Buffalo and the Pennsylvania state line, in the valley of Tonawant.

Plans and specifications will be ready for inspection at the office of the engineer on and after the 10th day of September instant. The proposals may be made for the grading, masonry, ties, fencing and entire construction in a single proposition or for the same and all items separately and in independent propositions; and proposals as above for a single section or any number of sections will be received, the company reserving the right to reject such propositions as are not satisfactory.

Any further information desired may be obtained by addressing Hon. Orlando Allen, president of the company, Buffalo.

Proposals are invited from contractors of ability for the whole road. Buffalo, Sept. 1, 1853.

E. R. BLACKWELL, Chief Engineer.

Notice to Contractors.



THE UNDERSIGNED will receive proposals, at the railroad office in Indianapolis, to construct the Evansville, Indianapolis, and Cleveland Straight Line Railroad from Evansville to Indianapolis. The proposals will be for the whole line, 150 miles, more or less, or for either of the three sections of about 50 miles each. First from Evansville to the crossings of the Ohio, and Mississippi railroad in Davis's Co.; second, from that point to Spencer, Owen county; Third, from that point to Indianapolis. The bid will be for the whole work the company finding the iron, chairs, and spikes, up to the rolling machinery, or for the earth and rock-work alone. The proposal will state what part of the pay will be received in real estate, bonds, and stock of the company.

O. H. SMITH, President.

WILLARD CARPENTER, Vice President.

Aug. 13, 1853.

Railroad Spikes.

THE Subscribers are manufacturing Railroad Spikes with SWETT'S Patent Improved Machines; and are prepared to execute orders for any quantity, on the most favorable terms. These Spikes are made of the best quality of iron, and, for shape and finish, are superior to any others. Railroad companies and others in want, are respectfully solicited to order a sample before purchasing elsewhere. All orders will receive prompt attention.

Pittsburgh, Pa., August 25, 1853.

OFFICE CINCINNATI, HAMILTON and DAY-TON Railroad Company.—Cincinnati, Aug. 9th, 1853.—The directors of this company have this day declared a dividend of five per cent. on their capital stock, payable to the stockholders registered in Cincinnati on demand, and to those registered in New York, on and after the 25th inst., at the office of the Ohio Life Insurance and Trust Company, in New York.

1m.

FRANK S. BOND, Sec'y.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the best manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 39.]

SATURDAY, SEPTEMBER 24, 1853.

[WHOLE No. 910, VOL. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, September 24, 1853.

Erie Railroad.—Cost of Transportation on Railroads.

There is a strong movement in Erie stock. As money is still tight for *speculative* purposes, and as the rise in *Erie* is out of all proportion to the advance of other stocks, we have a right to suppose that the present movement proceeds from certain parties who are understood to have gone into this concern at a high figure, and are now taking this method of shifting their responsibilities upon other shoulders. Such we suppose to be the fact. In the speculation in the stocks it is immaterial to us who win or lose; but for the benefit of those who may be desirous of purchasing for other purposes than *speculation*, it may be well to submit a few considerations touching the value of *Erie* stock.

The first question that presents itself is, how much money has been *lost*, (to use an inoffensive

term,) in construction? We presume we are far within bounds when we put the amount at \$10,000,000, a sum equal to the entire *capital* stock. The company admit that nearly this amount has gone to shaves, discounts, etc. It is also well known that the estimates of competent engineers have been exceeded by over \$16,000,000. We never heard any competent person estimate the *sacrifices* of the company at less than the sum we have named. We therefore assume *this* as the amount actually *lost*.

Now experience has fully proved that the earnings of railroads, unless they possess extraordinary advantages, (which the Erie does not,) cannot be made to exceed the ordinary rates of interest of other investments of a permanent character. The reason is obvious. The profits of labor or business, regulate themselves. If any particular branch pays *better* than another, capital flows into the former till the profits are brought down to the *ordinary* standard. So with Railroads. But there is a good reason why the *stocks* of railroads should pay *less* than the profits of ordinary investments. We know that a railroad cannot be built without largely increasing, probably *doubling*, the value of the property upon its route. A person living upon its line can very well afford to subscribe \$1000 to a road, even though the investment prove a total loss; because by doing so, the value of his property may be increased ten times that sum. Our people are influenced to take stock precisely by this mode of reasoning; and numerous roads are constructed where the *value* of their stocks is considered a matter of comparative indifference. The tendency of all this is to bring down the value of railroad *stocks*, upon the principle of supply and demand, to a point *below* the average value of other investments. If therefore, a railroad sacrifices, or wastes, a portion, or all of its *capital*, the amount *lost* cannot still be yielding an income; for we must remember that our roads, (the Erie particularly,) enjoy no monopoly, but that their business is competed for by other roads, some of which are certain to have been cheaply built, and to be well managed; and as the *best* are content with *moderate* dividends upon an *actual* outlay, the companies whose capital represent a sum *twice* as great as the *cost* of their roads, of course can declare only one half of the

rate of dividend of their more prudent neighbors. Here is one of the weak spots with the Erie. Its capital stock is merely *nominal*. It has never gone *into the road*. Now with all the competition that exists in railroad construction at the present time, not a penny must be lost, to enable our eastern companies to pay even *moderate* dividends. There is no getting around this. The amount of business done, will make little or no difference; for no fact, in railroad economy is better settled, than that the *expenses* of a road increase in the same ratio as its *receipts*. The Erie road having no capital stock *invested*, has no expenditure upon which to *base* a dividend. They may be declared for a time, as they have been, but will not an inexorable necessity soon come, in and put *astop* to all such proceedings?

But were not such the fact, and had not a penny been lost, is the Erie earning any thing upon its stock? To determine this fact we may have to resort to the results of the operations of other roads, as the reports of this company do not furnish the necessary data by which to determine this question. We know how much has been *received* per mile for passengers, and per ton of freight carried *one* mile, and how much per mile run by the trains, but from the manner in which the company's reports have been made, we have no means of determining what has been the actual cost of the above items upon this road. We must therefore determine their amounts from a comparison of the cost of similar items on other roads, whose longer experience under a judicious system of management, furnish us with authoritative data.

The question of cost of transportation by railroad has been thoroughly considered in Massachusetts, particularly in the case of the Western railroad. The stockholders of that company being desirous of ascertaining the cost of moving persons and property on *their* road, and also the cost compared with other roads, appointed a committee to investigate this subject. At the request of this committee, Mr. Swift, the president of the road went into an elaborate examination of the matter, and found from the experience of five years operation of eight of the leading, most profitable, and best managed Massachusetts roads, that the actual cost of moving a passenger or a ton of freight was equal to 1.445 cents per mile. The following

* 11 months.

	Value.	Cost.	Gross earnings.	Expenses.	Net income.	Div.
1842...	\$80	.....	\$512,689	\$246,070	0	0
1843...	45	7,087,200	573,882	308,973	269,909	0
1844...	53	7,501,200	753,733	314,074	439,679	0
1845...	91	7,686,200	813,489	370,621	442,869	5
1846...	96	7,741,700	873,418	*412,679	465,739	6
1847...	99	8,185,800	1,325,327	676,689	648,647	8
1848...	106	8,769,500	1,332,068	652,357	679,711	8
1849...	102	9,900,100	1,343,810	658,322	755,488	8
1850...	101	9,926,900	1,369,514	607,549	761,965	8
1851...	104	9,963,700	1,363,893	597,766	767,139	8
1852...	98½	9,963,700	1,339,873	666,678	683,194	8
			11,556,728	5,447,417	6,149,400	5.54

WESTERN.

Erie are less than that of any successful road we know of. The rates of gross receipts for the same services, on the roads in our table, and Erie, are as follows:

Massachusetts roads.....	2,860
Erie	1,840

This fact accounts for the deficiency of net receipts upon the last named road.

With the data given, the reader will make up his own mind as to the probable value of Erie stock. We vouch for the correctness of our figures. They are all taken from authentic sources. They teach a useful lesson in railroad economy. They are calculated to moderate the expectations of the extravagant, and prove most conclusively, that the strictest economy is necessary to ensure even a moderate dividend. No one would be more pleased to see Erie stock at par than ourselves. But we must look at things as they are, not as we would wish them to be. "One Swallow does not make summer;" nor can the errors of years be corrected in a day. We hope, however, the reforms going on in this road will yet save something to the stockholders.

Iron Manufactures in Detroit.

Manufactures of castings and machinery are now active in Detroit, and need only the impetus which a moderate and judicious investment of capital would afford, to make this city especially noted for the extent and perfection of its productions in iron. The railroad communication which will soon be had with the iron regions of Lake Superior, together with the canal around the Sault Ste. Marie, which Mr. Brooks has declared shall be completed for the passage of vessels by the close of 1854, will give Detroit an access to the material not surpassed, perhaps, by any city in the United States, with the exception of Pittsburgh. The best iron and copper ores in the world will then be brought to its wharves, to be converted on the spot into all the forms of machinery and useful manufactures to which such facilities would give rise in eastern towns. The demand for lake boat engines; engines and drills in the mining and lumber districts and in the great agricultural section of Michigan; for locomotives and cars, for which the Michigan Central, the Great Western of Canada, the Oakland and Ottawa, the Military Tract and other roads would give Detroit machinists the preference; for rails, chairs, spikes, nails, bar and plate iron,—would give a market for the productions of iron in Detroit, for which no probable investments of capital need give fears of an over supply. New York capital is now carrying these ores to Sharon in Pennsylvania; Cleveland and Chicago are taking active steps in giving them direction to their ports, while Detroit stops from want of capital to start large works for converting these ores, relies upon New York, Philadelphia and Sharon for their supplies of bar, plate and pig iron. Much of the pig iron used is Scotch, and is imported, *via* Quebec.

Active steps are now taking in Detroit to make the best of local means, and to attract capital from the east, in the prosecution of iron manufactures and from no investment could we anticipate a more certainly profitable result.

The Detroit Dry Dock Iron Works, planned and under the principal control of O. M. Hyde, Esq., has projected the largest establishments and fixtures for the prosecution of the iron business of

any yet undertaken in Michigan. The present investments, covering the lands, buildings, and machinery, the latter of the newest and best construction, amount to \$100,000. These works contemplate the conversion of iron and its application to those manufactured products in greatest demand. Buildings and fixtures on a large scale are now in progress, and it is therefore difficult to give any adequate idea of the extent of the works in their present state. When completed they are expected to employ a capital of \$500,000, and to turn out \$1,000,000 of manufactured products yearly. This is one of the enterprises now inviting capital, and which, there is no doubt, will repay a large profit on its investment.

The foundry and shops of DeGraffe and Kendrick employ upwards of 200 hands, and build steam engines of the largest class. The large engine of the Detroit Water Works, costing with pumps \$14,000, was constructed here. Many of the large lake boats have had their engines constructed here. A new foundry is building with cupolas of sufficient capacity to run off five tons an hour, and a large pit constructed of boiler iron, for the moulding of shafts, cylinders, etc.

The foundry of Jackson and Willey is doing a large business for the Michigan Central railroad, besides casting some heavy iron work, as *culverts*, and other parts of road work, for the Illinois Central and other roads.

Johnson, Wayne and company employ above 60 hands in the construction of steam engines, and in the manufacture of iron castings for various purposes.

The Dry Dock Boiler Works of Messrs. Dunham and Johnson, lately started, now employ 50 men, and work at the rate of 250 tons of boiler iron per year. They are turning out some very excellent work.

The repair shops of the Michigan Central Railroad, employ about 450 men and consume 6500 tons of iron per annum. The cars and engines required in addition to the original stock are made at these shops, and are produced of better quality and at as low a price as could be delivered at the east. The heavy ten wheel freight engines now building at these shops, under the superintendence of Mr. S. T. Newhall, are of the most thorough and improved construction, having much work about their frames of a better description than that usually found upon eastern engines while the cost complete is but \$9000, or no more than the cost of engines of similar capacity sent from the east. The Michigan Central road is insufficiently provided with motive power, while many engines of the original stock are of a very inferior class, so that their shops are over taxed to repair old and build new engines, as fast as wanted. The most liberal encouragement is offered by this company, to any locomotive factory organizing in Detroit.

Although not engaged in the manufacture of iron, the Waterbury and Detroit copper smelting works deserve some notice. These works are owned by four of the principal brass manufacturing companies in Waterbury, Connecticut. The ore is brought mostly from the North American mines, on Lake Superior, 600 miles from Detroit by the present conveyance. About 12 tons of ore are smelted daily yielding nine tons of pure copper, valued at \$6400. By another year a copper rolling

It will be seen that the profits of the above roads reached their highest point in 1847. The dividends paid that year averaged 8 4-10 per cent., against 7 1-6 per cent. for the past year, or a falling off of 1¼ per cent., or 12½ per cent. of net earnings. In the same time the average price of their shares has fallen from 109 to 96½. This result illustrates what we stated in the commencement of this article, that the earnings of railroads cannot be maintained above the ruling rates of interest in the community where they are situated. Competition is reducing the profits of the Massachusetts railroads, and it will in the same way affect the profits of those in the other States. It will be borne in mind that the above are the best managed and most profitable of the Massachusetts road, with incomes much larger upon their cost and mileage than Erie; roads that have been built and managed with a great degree of economy.

We thus see that upon roads where nothing has been lost in construction, only moderate dividends can be maintained, notwithstanding their receipts may be very large. Does it not follow as a necessary consequence, that where large sums have been lost, dividends must suffer in the same degree. This is the weak spot in Erie. The cost of this road has reached an enormous figure, for its age; the aggregate being over \$31,000,000, or about \$70,000 per mile! The cost of the Massachusetts roads in our table was \$17,878,200 in 1844, when they had reached about the present age of the Erie. To correspond with these, the cost of the Erie up to the present time should not have exceeded \$21,000,000. If this sum could now be the starting point of this road, then the increased receipts might be expected to keep pace with the cost of the work. But the total cost of the road will advance with a rapid pace, which must carry up the aggregate to some \$45,000,000, or \$100,000 per mile, in the course of a few years, if the precedents adduced are applicable to the Erie road. In the meantime, other roads are in progress that will soon begin to divert a portion of its business, and reduce its earnings to a moderate profit upon the sum actually invested.

Another fact, having an important bearing upon the present case, is, that the gross earnings of

mill is expected to be in operation in connection with these works, from which a locomotive works could derive an advantage in a ready supply of copper for tubes pipes etc.

Altogether manufacturing enterprise is extending its operations in Detroit. The natural advantages of that city in its commanding position in the course of the great east and west commerce of the upper States, its relation to the great system of Canadian railroads, its unrivalled harbor accommodation and its communications with the great mineral regions of the country, are well understood by the enterprising and active portion of its inhabitants. The influence with which the old French ownership has surrounded the place is becoming broken and energy and enterprise are now regarded among its people as the sure means of success.

Journal of Railroad Law.

THE RIGHTS OF THE MAJORITY OF A CORPORATION.

The Newark Daily Advertiser gives an important opinion lately delivered by Cortland Parker, Esq., Master in Chancery, sitting for the chancellor, in the case of John Kean vs. John T. Johnson and others, and the Somerville and Eaton railroad company, otherwise, known as the Central railroad company of New Jersey. The case was one in which Judge Kean filed a bill for injunction and relief against the defendants, and they demurred against the application. On February 9, 1841, the Elizabethtown and Somerville railroad company was chartered, and in 1849-50, being in want of funds, the company borrowed and mortgaged not only the road but its franchises. These mortgages being foreclosed, the entire road fell into the hands of Stearns and Colkett, who divided it into eight thousand shares, one thousand five hundred of which were bought by the complainants.

In 1847 the Somerville and Easton road was chartered, and in 1848-9 an act consolidating the two roads under the name of the Central Railroad was passed, with the provision that the consent of the stockholders of the Elizabethtown and Somerville railroad should be obtained. A majority of the stockholders consented to this consolidation, but the complainant and two other persons did not. The complainant therefore avers that the transfer of the Elizabethtown and Somerville railroad to the Central railroad company was not valid, and that at the time of the transfer the former road was doing a good business, and had gathered a surplus. He therefore prays for a disclosure of the full amount of the earnings of that road from the issue of stock by Stearns and Colkett to the present time; that the defendants shall account for these earnings; the transfer be invalidated; and the Central railroad be enjoined against any further mortgage of the property of the Elizabethtown road.

To this application, the defendants by demurrer raised the questions whether the act authorising the consolidation required the consent of all the stockholders or only a majority, and whether a remedy could be given by this suit.

These and other incidental questions the opinion argues at length, and the chancellor is advised by the Master to overrule the demurrer, and the chancellor so decreed on Aug 5, 1853. The arguments in the case were made by F. T. Frelinghuysen and A. O. Zabriskie, for defendants, and J. P.

Bradley and Wm. L. Dayton for complainant. The defendants have appealed to the Court of Errors.

From the foregoing mere hints of the objections by which the consolidation in question has been assailed, it would be impossible to form any conjecture as to the prospects and the merits of this case. But unless the Legislative Act by which consolidation was authorised contains some extraordinary provisions, we should not think that the complainant would rely upon the ground that the E. & S. railroad company have not acted with perfect unanimity in merging their existence in that of another company.

It is a general principle of the common law that in a case of mere private authority and confidence unless provision be made to the contrary, the whole body must meet and agree in the decision. It is true that a majority of arbiters may at common law give a binding award, but this is an exception to the general rule. But in matters of a general nature if all meet the act of the majority will bind the whole body. See Commonwealth vs. the Canal Company, 9 Watts, R. 466.

In accordance with this Common Law rule is the provision of the revised statutes of New York, vol. 2, page 255, which declares that when any power, authority or duty is confided by law to three or more persons or officers,—or when three or more persons or officers are authorized or required to perform any act, the power may be exercised by a majority, upon a meeting of all the persons so entrusted or empowered unless special provision be otherwise made.

But we should not suppose that there was any great material for controversy in regard to this matter even in States where no such declaratory act has been passed. And moreover the act of the N. Y. Legislature regulating the general powers of Corporations expressly provides, that when the Corporate powers of any Corporation are directed by its Charter to be exercised by any particular body or number of persons,—a majority if not otherwise provided shall be a sufficient number to perform any act within the scope of their corporate authority,—and the decision of such majority shall be valid and binding.

Attorney General Legare in the case of the Louisville Railroad Company, vs. Lester & Hamard's 1 U. S. R. 522, contends that the rule is founded on a law of nature, as if unanimity were demanded it would be impossible for any Corporation effectively to will or act.

A forcible vindication of the rights of the majority is found in Judge Gibson's decision in St. Mary's Church 7 Serg. & Rawle p. 517. He says that the fundamental principle of every association for the purpose of self government is that no one shall be bound except with his own consent expressed by himself or his representatives. But unanimous assent is immaterial. The assent of the majority is the assent of all. And this is not only constructively,—it is also actually true,—for that the will of the majority shall be taken as the will of the whole is an implied but essential stipulation in compacts by which parties unite to form Corporations. Every individual who becomes a member, assents before-hand to all measures that shall be sanctioned by a majority of voices.

But in regard to the rights of a majority, a distinction should be noticed between the action of a

definite number of persons like a Board of Directors,—and an indefinite number like corporators whose number is not limited. In the former case, in the absence of any special provision in the case, a majority of the whole body is necessary to constitute a quorum.

And without such a quorum no act of the body is valid.

In the latter case provided all have been duly summoned to attend the meeting, a majority of those who appear may act.

Detroit Water Works.

The city of Detroit is supplied with good water from the river, the water being taken at the upper part of the city, and, with the growth of that section above the present source of supply, a feed pipe will be laid in the bed of the river to a distance of a few hundred feet beyond the outer line of the docks, whence, by the strength of the current in the river, pure water will be always reached. The present works were planned for a city of only 10,000 inhabitants and are therefore insufficient for the present size of Detroit. New works are in construction, however, capable of affording an ample supply for all probable contingencies. The present plan of raising the water is by pumps worked by high pressure engines, forcing into an elevated reservoir. The insufficiency of the present system, and its great expense, have elicited a useful report by Jacob Houghton Jur., Esq. the Commissioner and superintending engineer of works. His last report, in December, 1852 gave the following statements and suggestions.

The capacity of the reservoir when full is 353, 430 gallons, and the engines are generally stopped when the water is within 18 inches of the top.

Tabular Statement of the Duty of the Engines from May 1st to December 1st. 1852.

	No. gal's pumped.	Average No. gal's per day.	Cords of wood consumed.	Cost of wood.
May,	22,851,397	737,142	87.5	\$154 91
June,	24,004,611	800,154	95.98	169 00
July,	24,413,439	787,530	111.29	198 26
August,	27,001,527	871,017	113.9	196 63
Sept,	27,201,125	906,704	113.9	214 12
Oct,	30,019,530	968,372	136.39	196 37
Nov,	21,380,387	712,679	87.75	166 69
Total	176,812,016	826,505	746.71	1296 02

The above table shows the average daily use of water during a period of seven months to have been 2.1-3 times the utmost capacity of the reservoir. Now, to give a full and ample supply, the water should be kept constantly at the same elevation in the reservoir, and the engines should be so run as just to supply the amount drawn off. But the construction of the engines will not permit this.

The two engines now in use, the larger being 150 and the small one 45 horses power, are both non condensing, and are run at a high pressure of steam, and either of them, while being run, elevates into the reservoir a larger quantity of water than is drawn off for supply to the town, so that the only way of operating is to allow several feet of the water in the reservoir to be drawn off—to start the engine, and run until the reservoir is refilled, and then stop again, to go over the same routine. Thus there are several "runs" made during each day, and the head in the reservoir, varying at each "stop" and "start," affects the supply to hydrants connected with the pipes in the more elevated parts of the city, making the supply irregular and intermittent.

This mode of operating, caused by the incapacity of the reservoir, together with the use of steam at high pressure is also very expensive. The fires have to be kept burning almost constantly, and at

each "run" the steam has to be raised with an extra expense of fuel.

By reference to the tabular statement above, the average daily consumption of water is shown to have been 826,505 gallons, which has been raised to an elevation of 70 feet at a cost for fuel of \$6 05. This is believed to be a more expensive duty than that of any other pumping engine used for supplying water to towns. The engine at the Cincinnati works elevates 1,700,000 gallon 180 feet high for \$5 70, and to elevate the same number of gallons only 70 feet high with the Detroit engine would cost \$12 46. In Buffalo, a city twice the size of Detroit, the water is raised 88 feet high for \$5 per day. The number of gallons pumped daily in the latter city I have not been able to ascertain. Mr. Wicksteed's Cornish engine at the East London Water Works, does more than twice as much duty for the fuel consumed as the Cincinnati engine. From the examination I have been able to give to the subject, I am satisfied that we are operating the present works at a loss of more than \$1200 per year for fuel alone, and if continued upon the same plan, this proportion of loss will increase at the same rate with the increase of our inhabitants. The only remedy for this present and prospective evil, is the construction of a new reservoir and the adoption of the Cornish pumping engine, (low pressure,) in the place of the high pressure engines now in use.

In the estimate of the cost of new works which I give below, a new reservoir of the capacity of 10,000,000 gals. is included. The design is to build it of earth embankments, with two compartments, so either compartment can be cleaned without shutting off the supply from town as at present.

There is also included an estimate for two Cornish engines. You may consider it unnecessary to procure both of these at present, but one of them should be contracted for at the earliest possible period. The small engine at present in use, after another season will be entirely inadequate to any effective duty, as the probable increase of inhabitants will cause a greater consumption of water than it is capable of pumping. And as no works can be considered complete without two engines, one always being kept in reserve in case of accidents, you will readily perceive the necessity of procuring a new engine. The 150 horses power high pressure engine can be retained to advantage for the reserve engine at present. But in a very few years, you will probably find it necessary to replace it with the second Cornish engine.

Estimate of cost of new works.

An earth embankment reservoir of the capacity of 10,000,000 of galls.	\$50,000 00
Two Cornish pumping engines....	70,000 00
20 inch rising main from engine house to reservoir, 1 mile 1,380 feet....	42,565 50
1 mile 4,670 feet of 16 inch pipe....	51,981 23
2,200 do of 12 do....	6,607 74
1 mile 3,370 do of 10 do....	21,202 40
3,750 do of 8 do....	6,590 83
2 miles 3,090 do of 6 do....	21,129 09
22 miles 2,240 do of 4 do....	115,492 55
3,750 do or 3 do....	3,057 42
150 fire hydrants a \$35.....	5,250 09
200 four inch stop valves a \$30..	6,000 00
20 six do do a \$40..	800 00
6 eight do do a \$55..	330 00
12 ten do do a \$70..	840 00
6 twelve do do a \$90..	540 00
13 sixteen do do a \$150..	1,990 00
3 twenty do do a \$200..	1,000 00
Two hydraulic presses and fixtures	1,000 00
Expenses of proving pipes, including rent of yard &c.....	5,000 00
3,500 tons carted a 50 cts.....	1,750 00
	\$412,686 76
For contingencies and superintendence and 10 per cent.....	41,268 67
	\$453,955 43
Less the value of pipes on hand...	2,514 43
	\$451,441 00

Railway Mania.

Cincinnati, Sept. 12, 1853.

MR. EDITOR:

In the Railroad Journal of the 3d inst., is an article headed "are we building too many railroads?" The views you express upon this subject are sound and deserve the attention of the public, and particularly of capitalists.

There can be no doubt but that in Ohio and Indiana the mania for railroad building threatens to work great loss to the parties engaged,—at all events to the stock and bond holders.

Few people understand the modus operandi now resorted to for the purpose of getting up new roads, rivals perhaps, to roads already far advanced toward completion, or finished. I should not say finished, for until our roads are provided with double tracks, extensive depot facilities, and corresponding equipments, they cannot be considered finished. The Journal is right, in saying that the old roads will continue to supply the market with bonds to enable them to lay their second tracks, and make the necessary improvements for several years to come.

I have been an attentive observer for the past year or two, of the means resorted to in the west, to start new and merely rival projects, and will give you a brief sketch.

Mr. A. B., who has been a public man, and who is still ambitious to keep himself prominently before the public, conceives the project of a railroad and desirous of being its president, looks into the general laws, or hunts up some old charter and finds that a subscription of a few thousand dollars will enable him to organize a board of directors. This done, he waits upon some noted contractor who has made some noise in the world, the *clat* of whose reputation he wishes to secure for his road which he places under contract before it is even finally located. Extravagant prices are submitted to for the use of the contractors name, and contracts are entered into, to be carried out, provided the eloquence of the president can humbug the citizens and farmers into a sufficient subscription to commence operations with. The line is partially surveyed, and a demonstration is made by putting a few laborers to work at prominent points. Certificates of stock are easily provided, which are freely offered to certain parties for puffing the project into importance. Subscription books are circulated, and when cash is wanting, real estate at prices far exceeding its actual value taken for stock;—next follow efforts to raise by mortgage, a little ready money, and the work, according to the papers "goes bravely on." Soon the president makes his appearance in Wall street, fully prepared with statistics to show that his road is needed; and gives flaming accounts of large subscriptions—but takes good care not to mention they are paid or payable in "wild lands and water lots."

Finally a Broker or Banker is found anxious to do the country some service—and himself more—who takes up the project. His interest in the matter being measured the amount of bonds he can sell, he becomes a co-worker with the President in endeavoring to impose upon the credulity of your moneyed men. By a well contrived and well managed plan, a road may perchance be built, that is not wanted, and will never pay, and capitalists saddled with securities, that are no bet-

ter than the road. Certainly great caution is necessary, or the result I have forehadowed will be realized in more instances than the one, in

OHIO AND INDIANA.

New Field for Investment.

There cannot be, at the present time an enterprise which promises more safe and remunerative results from an investment of capital than the establishment of locomotive works in the west, and especially at Detroit, Mich. There are all the inducements needed, such as facilities for obtaining materials and labor, while an abundance of cash orders await the pioneer establishment. There is manifested a strong disposition, among the roads in this section, for encouraging a local manufactory, the cash price of eastern built engines, with expense of transportation westward added, being freely offered. An eastern built engine will often cost \$800 or \$1000 for expense of moving it from the place of its construction to the railroad dock at Detroit, and it is this expense whatever it must necessarily amount to, that the roads in Michigan stand willing to pay, over and above the cost of an engine purchased in New England. This inducement has been offered to Detroit capitalists and manufacturers by the Michigan Central Railroad Company, while the Oakland and Ottawa road stand ready to close a contract for \$1,000,000 value of cars and engines upon equally liberal terms. Nothing delays the commencement of the enterprise, but a want of sufficient capital. It is estimated that \$500,000 could be invested in these manufactures at Detroit which would repay twenty-five per cent. annually upon its investment. The profits of locomotive building eastward often amount to as much, and in frequent cases still more, while with the protective tariff secured by the charges of shipping engines westward, and the equally favorable, and in many cases, superior facilities for conducting the business in the west, it is confidently believed that the profit assumed could be realized in the ordinary prosecution of the business. The most favorable situation in the west has been already secured, and ample and convenient buildings erected sufficient for the manufacture of one hundred locomotives per annum. The services of experienced engineers have been engaged under whose direction it is believed engines of the most improved construction and superior capabilities will be constructed.

The facilities for obtaining materials are unsurpassed. The Lake Superior ore can be readily worked into any description of forged work without the necessity of blooming, at prices much less than the same manufactures can be produced at other places from pig or scrap. Copper is supplied, rolled into sheets, upon the spot. Arrangements are in progress at Detroit for the production of bar and plate iron.

The Michigan Central Railroad Company at Detroit have already built some engines for their own road, and have found, that after introducing all the improvements suggested by their own experience, and while they have conducted business in the absence of a systematized arrangement for that purpose, they can build their own engines at eastern prices, and secure at the same time, a better article. We would recommend capitalists to consider this matter as we are convinced, that no more timely or remunerative investments

could be made. The safety of such investment is beyond question, as the patronage of the great railroads of the west is already secured in favor of the proposed enterprise. Parties disposed to avail themselves of the opportunity offered are respectfully advised to confer with the Hon. Z. Chandler, O. M. Hyde, Esq., formerly Collector of the Port of Detroit, C. A. Trowbridge or Mr. S. T. Newhall of Detroit.

Manufacture of Iron and Machinery in Cleveland.

With the present demand for iron, and the recent development of the remarkable ores of the Lake Superior Iron region, there is a decided tendency in most of the western cities for investments in works for the production of this article in all its forms. Detroit and Chicago are stirring in this matter, and a large establishment at Sharon, is already at work upon the Lake Superior ores. Among the cities of the west, Cleveland, however appears as energetic in availing herself of the advantages of this branch of productive industry as any other.

There are, at the present time, two companies organized in this place for the conversion of iron, besides other establishments engaged in subsequent processes of manufacture. The Cleveland Iron Works, or Cleveland and Marquette company, in which Messrs. Outhwaite and Blackwell, of Cleveland, are largely interested, have a large tract of ore lands at Marquette, on Lake Superior and have already erected works there, employing as we are informed nearly one hundred men. Their heaviest investments will probably be made in Cleveland, where their manufactures will be completed and thrown upon the market in all the forms of boiler plate, bars, rails, spikes, chairs, etc.

The Forest City Iron Works, controlled chiefly by Messrs. Hayes, Moore, McLelland, Renton and others, will immediately commence the erection of their works on the Lake Shore, about one mile east of the dock in Cleveland. They have secured eight acres of ground, a space ample for the most extensive operations, upon which they will commence during the present week, a large smelting and refining works and rolling mill, the former to employ twelve of James Renton's improved ore-welding furnaces, capable of turning out upwards of 500 tons of blooms per month. The furnaces and other improvements employed, will, it is anticipated, effect a large saving in the cost of manufacture over that by the ordinary process. It is believed that bar iron can be produced at a cost of \$28 per ton, allowing \$8 for mining and shipping ore to Cleveland, \$10 for working into blooms and \$10 for conversion into the marketable article. This cost has been estimated, with the use of the improved furnaces as low as \$22 a ton, but \$28 is believed to be a liberal allowance capable of covering all contingencies. The raw ores will be furnished under a contract with parties owning ore lands in the Lake region. The ores secured by this contract are expected to yield 70 per cent of iron, and it is this degree of purity, and consequently small amount of waste, that will allow of shipping these ores with profit, in their raw state, from Superior to Cleveland, and thereby dispensing with the necessity of investments at the Lake. The location of these ores is on Carp river. The coal used at the Cleveland works will be a bituminous coal, dug upon the line of the Cleveland

and Pittsburgh railroad, 69 miles from Cleveland, and will be delivered in Cleveland at a cost of \$1.70, per ton.

From this our capitalists in the eastern cities can judge of the opportunities for profitable investment in this business. These enterprises invite capital and scientific and business talent from any quarter. Money, it can be safely said, would pay better, if brought from New York to manufacture iron and build steam engines and locomotives at the west, than if invested in the railroads of that country. Although the direction of capital into such channels might, and undoubtedly would, operate to advance their value, and thereby increase the cost of capital demanded for other improvements, such as railroads, it cannot be denied that railroads intersecting the locations of such investments would be in a better position to negotiate for capital than under any other circumstances. Money so invested, although not put into railroads, would secure a business for railroads which would enable them to command means anywhere.

The iron which can be placed on board of any of the cars running out of Cleveland, for less than \$30 per ton would be superior for engines, boilers, rails, job work, and other purposes, to the iron for which 5½ cents per pound is now paid. The blooms made from Lake Superior ore, which Mr. Hayes of Cleveland, estimates can be made for \$28 a ton, have been sold already in Cleveland for \$65 a ton, in lots of 100 tons, and have received offers in Pittsburgh of \$75 a ton. These were just as they were delivered from the Lake, where, from the imperfect character of the works, the ore was not thoroughly worked, and was not as valuable, as it will be made when the contemplated improvements are completed. Already has eastern capital been attracted here, but in view of the immense advantages likely to result from its investment, we may say that not the *one-hundredth part* which should be sent here has been yet subscribed or expended for works of this character.

Many of the new railroads in the west could be benefitted by no better means than by sharing equally, in an investment, with iron works to be located so as to be tributary to their lines. While the one investment would provide for the construction of the road, the other, invited by every inducement, would provide for its business and income when completed. Roads are often necessary at the east, and in other established settlements to accommodate an existing business. In the west, or in other less thickly settled and less wealthy communities, they are expedient to create a business; a result almost always effected, but often retarded from the scarcity of capital.

Manufacturers of machinery will be sure to follow the manufacture of the material in places like Cleveland, and it is well enough known that no domestic business can benefit the seat of its operations more than the manufacture of the more elaborate and finished descriptions of machinery. It requires an intelligent mechanic, or body of mechanics to build steam engines and locomotives, men who are better paid than those engaged in most other industrial occupations. Such men create a wider market for articles of comfort and convenience, and are better patrons of religious and educational institutions than mere miners or mechanics employed in common trades!

We will return from the speculations into which this subject has led us, and give some further account, as we at first intended, of the establishments devoted to the intermediate and final manufactures of iron in Cleveland.

The Lake Erie Iron Works of Ford and Otis, situated on the Lake Shore, west of Cleveland, has been engaged for upwards of a year in the manufacture of axles, engine frames, shafts, steamboat and other descriptions of forging. Some of these have been produced from Lake Superior blooms. The present works occupying a main building of 250×60 feet, and employing four of Lewis Kirks large steam hammers, are capable of turning out 2500 tons of finished forgings per annum. Large quantities of axles are sent to Chicago and to Canada. We ascertained Messrs. Ford & Otis' prices for engine forgings, and found them quite able to meet the eastern forges "half way," or in markets equally distant from each. In the items of cranks, frames, pedestals and axles, we found they could furnish from best stock, at present Boston prices. This is a consideration of the highest importance to Engine Builders and those interested in railroads in the west.

The Cuyahoga Steam Furnace Company, mainly in the control of Mr. E. B. Sterling, have erected a commodious new shop, with a beautiful condensing steam engine, and heavy and accurate tools of their own construction, and are now completing a very good, although a cheap style of locomotive at the rate of two a month. The Cleveland, Columbus and Cincinnati, and Cleveland and Erie roads have received more than half of their stock of motive power from this establishment, and their officers express themselves highly pleased with all the work from the Cuyahoga Works. To Mr. Rogers, foreman of the Cuyahoga Works, are attributed many improvements in locomotives, generally adopted at the present time by locomotive builders at the east. We believe he applied the first graduated, variable, independent cut off valve, in the country.

The former shops of the Cuyahoga company are still carried on in connection with the new works. The Condensing engine at the new shop with a cylinder 16 by 24 inches, consumes 900 lbs. of the Tallmadge coal per day, costing about \$1. At the time we saw this engine it was working under a vacuum, or without steam, for by opening a cock directly into the cylinder or steam chest, no steam could escape, but air would be drawn in with great force. While working in this way it was driving a considerable amount of shafting and machinery, all in fact that had been placed in the shop.

G. W. Sizer & Co., have one of their foundries here. They have another at Cincinnati, and one at Chicago. In their Cleveland foundry they are casting large numbers of chilled car wheels, and cast iron chilled engine tires, besides frogs, chairs, car work, etc. There is also a wheel foundry, we believe in connection with Wason's Car Factory, located east of the Cleveland and Pittsburgh railroad shops.

William S. Craig, J. Franklin & Co., and McLelland & Co., have foundries and machine shops also in operation.

The railroad shops are among the more important establishments of similar character in the Forest city. The Cleveland, Columbus and Cincinnati

ti, and Cleveland and Erie roads, have a large repair shop under the care of Mr. Wm. F. Smith, formerly of the Springfield Car and Engine company, at Springfield, Mass. This is well stocked with tools, mostly from Aldrich, Tyng and company of Lowell. The engine which operates the machinery is of beautiful construction, and was built by Messrs. Stone and Witt. The two roads now run under one management, have 39 locomotives, and have 9 additional engines contracted for from Taunton and from the Cuyahoga company.

These companies have also erected a fine car shop on the Lake Shore road east of the station, where they will carry on car building for their own road.

The Cleveland and Pittsburgh road has a repair shop, soon to give place for a larger and more complete establishment, on the line of their road, nearly a mile east of the station. This is under the care of Mr. Jacob Hovey, formerly of the Buffalo and Rochester railroad.

These, then are the principal establishments devoted to the manufacture of iron and machinery in Cleveland. With her railroad facilities and her commanding position at the point of divergence of the western and south-western travel of the northern states; with her abundant supplies of fuel, and her ready means for reaching the great iron region of our country, we should not be surprised if, in a few years she should rank among the first of the manufacturing towns of the west.

Time and Distance.

We have ceased to talk of the *distance* to New York or Philadelphia or Boston, and the time is not far distant when we shall say that, it is twenty hours to Charleston, twenty-four hours to Savannah, twenty-seven hours to Mobile, and thirty hours to New Orleans.—*Louisville Journal*.

There is a volume of truth contained in the above paragraph which it would be well for all engaged in railroad enterprises to keep constantly in mind. Emphatically, time is money in these days, and business men count time, making little note of expense or distance. Hence it should be the first object of those constructing lines for travel, to obtain such grades as can be run *speedily* and next cheaply. Having secured these two objects the rest will follow. On a straight line, well managed there will be little danger of delay from accidents and if the grades be easy and timetables well arranged almost any rate of speed may be obtained for there is scarcely any more danger on a straight line, at a speed of fifty miles per hour, on time, than at twenty.

Take for illustration two routes; from New-York to Buffalo via Albany by the Hudson River and New-York Central lines—distance four hundred and seventy five miles—time fifteen hours;—cost seven dollars fifty cents; and from New York to Washington—distance two hundred and thirty miles—time thirteen hours—cost seven dollars eighty cents. The accidents, fatal and otherwise have been more frequent and disastrous on the latter than on the former route. And so with increase of earnings which has been in favor of the western roads. Again it is idle to suppose the western and southwestern travel will come north via the Philadelphia & Baltimore roads while they are so far behind the northern roads in point of time, no matter how much shorter the distance may be. Time is money.

Air lines.

THE MOVEMENTS OF THE WORLD.

The apparent course of the sun is from East to West. The revolutions of the earth are from West to East. The tides of the ocean roll round the globe from East to West. The great trade winds take the same course, or directly the reverse. When Columbus set his little bark upon the waters to find the balance of the world, he set his prow nearly due West.

The commercial circulation is from East to West, and from West to East. The great tide of emigration, now swelling and surging over this globe rolls undeviatingly from East to West. All the active circulation of the world has its general circulation from East to West, and from West to East. The general direction of our steamships our commercial navy, and that of all other nations, is over oceans and seas, still East to West, or meeting the returning tide, from West to East. The continent of North America lies directly in the pathway of this great world's circulation. It must be crossed. Nothing can stop this Eastern and Western flood.—Hence our great lines of Railway, the main trunks lie *across* the continent. The Pacific Railroad, now rapidly tending to a fixed fact, is but carrying out this great involuntary movement of the World. And *direct* lines are now called for from East to West and the reverse. Hence the straightening of old lines and the establishing of new ones. And here comes the inevitable necessity of "Air Lines." The most *direct* course between any two points of this great Eastern and Western flood will be sought, will be constructed, and will be successful. Once it was thought that a Railroad might take a zig-zag, snake-like direction, from city to city, from one village to another, and all was right, because it accommodated *somebody*. The counter, devious, rambling lines, are all useful, all wanted, and will repay in part for their construction. But the one course, the air lines tending from East to West will move this great flood of humanity and matter on its course around the world, and become the *arteries* of the globe.

We rejoice, therefore, when we hear of Air Lines of Railroads. Not that other lines are to be injured, for this will not be the case, but that greater ends, and greater objects are to be accomplished, by direct and straight lines.

The term "Air Line" was first applied to a Railroad in derision. It was at once adopted by the road thus stigmatized, and an "Air Line", is now understood to be the most direct route that it is possible to attain for a Railroad between two given points. All Air Lines, it is not supposed, are to be entirely free from curves or grades but that upon such lines a high of rate speed is attainable, with the most perfect safety possible in rapid locomotion.

The Air Line Road now in process of construction between New-York and Boston, is the first and most important in this class of Roads. It is a link in the great central chain of artificial circulation, which is setting with its strong and irresistible current, from East to West and from West to East. This road will save over 25 miles travel in the distance between these two great cities. This 25 miles in time, is one hour. When 2000 persons pass over such a road in one day, it is a saving of 2000 hours, more than eighty days!—almost three months saved in a single day, by the passengers on one Railroad! A saving also more than \$1000 per day is made by these 2000 persons.—Then take into the account the exemption from the usual risk to life and limb, which is encountered on our ordinary roads, the increased care and comfort, and then multiply all the advantages by 313 traveling days per annum and the result to the 2000 travelers is immense.

The account would stand thus: The 2000 persons, in the aggregate, saved in traveling between Boston and New York in one day 50,000 miles in distance, nearly a quarter in time, and \$1,000 in cash.

It is this repeated 313 times a year, it saves
15,650,600 miles travel
76 years of time,
\$313,000 in Cash!

Revenue of the U. S. for the fiscal year ending June 30th 1853.

The following figures will show very nearly the revenue, and the sources whence received, during the last fiscal year, and also how the receipts compare with the two previous years of 1852 & 1851.

	1853	1852	1851
Customs	\$58,931 865	47,349 327	49,017 568
Public Lands	1,667 085	2,043 269	2,352 305
Incidental	738 624	345 820	943 006
	\$61,337 574	49,738 386	52,312 979

IMPORTS AND EXPORTS.

The Imports of dutiable and free goods during the year, using the amount of duties received as the basis for ascertaining the value of dutiable goods, as compared with last year, are as follows:

	1853	1852
Dutiable	\$226,000 000	183,252 507
Free	25,000 000	24,187 890
Total	\$251,000 000	207,440 397
Exports produce	\$185,000 000	154,931 144
" foreign goods	13,000 000	12,053 084
	\$198,000 000	166,984 228
Add California gold	33,200 000	37,169 091
	\$231,200 000	204,153,319

Excess Imports for \$19,800 000 3,287,078

In the above statements no reference is made to the importations or exportation of foreign coin which will, but slightly vary the general results.

EXPENDITURES.

The expenditures of the Government during the last two years compare as follows:

Civil—Miscellaneous and foreign intercourse	17,474,955	17,379,768
Interior—Pensions and Indian department	5,529,536	5,198,129
War	9,947,290	8,235 247
Navy	10,891 640	8,928 296
Public Debt	8,483 397	6,275 816
	\$52,026 818	\$46,007 896

Louisville and Knoxville Railroad.

This road will be about 140 miles long. Its cost is estimated at, 4,000,000. It is proposed to raise the means as follows:

City of Louisville	\$1,000,000
Shelby County	500,000
Anderson and Mercer	300,000
Lincoln County	200,000
Counties between Lincoln and state line	300,000
Individuals	250,000
Contractors	500,000
Leaving to be raised upon the credit of the company	950,000
Total	\$4,000,000

Ohio Central Railroad.

We learn from the late annual report of this company that the whole Western division is now completed, and built in so substantial a manner as to place it in the front rank of first class roads, admitting of the heaviest trains and the highest rates of speed. The cost of the Western division up to the present time has been \$1,172,516.71—equal to \$19,873 per mile. The expenditures upon the Eastern division have been \$783,983.71. The expenditures for machinery, &c. common to both divisions, have been \$263,577.30. These different sums make the aggregate expenditures 2,219,776.90, which deducted from \$2,839,240, the gross resources of the Company, show a balance of resources on hand available towards the completion of the road of \$619,463.10. In this amount, however, there is the sum of \$59,836.32 debits on the treasurer's books, being a balance of unsettled accounts,

the larger portion of which will probably be absorbed by unadjusted claims for work done, materials furnished, and for right-of-way cases.

American Railroad Journal.

Saturday, September 21, 1853.

Stock and Money Market.

There has been a marked improvement in Wall street, since the past week. Money has become more abundant, and after a long pause, speculation is again active. The principal movement has been in Erie. This has advanced very rapidly, and has recovered some 16 or 17 per cent from its lowest point of recent depression. The upward movement of this road has been assisted by the dividend of 3½ per cent, which has just been declared from the earnings of the past nine months payable Oct. 1st. We presume we shall have at that time, or on the 11th of October, the day of the annual meeting of the Stockholders, a full statement of the condition of the Company affairs, so that any criticism, at the present time upon this act of the directors, would be premature. The advance in Erie has affected favorably all other Stocks, so that the whole market wears an improved and cheerful aspect. Money is abundant on call, but is still not easily had in long time. There is little doing in the securities of new works, but prices are well sustained. Business of all kinds is very active, which creates an active demand for money, which state of things must probably continue for some time to come.

Railway in Australia.

By the last European advices we are informed that nearly four hundred railway laborers with their families had been embarked from Southampton for Sidney. They were under contract to work for two years on the Sidney railroad at five shillings sterling per day. If the gold excitement prevails as strongly at Sidney, on their arrival there, as it did some months since, the railway company may find some difficulty in getting their laborers to fulfil their contracts. Many of them will probably prefer trying their luck in the mines to grading railway track at five shillings per diem.

Ohio and Mississippi Railroad.

It appears from the recent report of the Directors that it is confidently expected that the road to the junction with the Illinois Central railroad (about sixty miles) will be completed by the 1st of Jan. next, and the whole line to Vincennes by the 1st of July 1855. The amount of money already expended, is \$612,604 77. There are 2,500 men at work on the line, and everything is going on prosperously.

Our readers will find some interesting notices of western roads and western enterprises, from our associate, Z. C., who is now on a tour through that section of country.

We learn that Judge McLean, of the Circuit Court of the U. S., has enjoined the Indianapolis and Bellefontaine R. R. from changing its gauge. It will be recollected that this Co. entered into an agreement with the Columbus, Piqua and Indiana R. R., to adopt an uniform gauge of 4 feet 8½ in., and for certain running arrangements. The former road preferring to unite with the Cleveland lines, undertook to change their gauge to 4 feet 10 in., which was resisted by the Columbus, Piqua & Indiana R. R., with the above result.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	85
Androscoggin and Kennebec..	55	809,378	1,016,500	2,064,458	140,561	80,063	none	36
Kennebec and Portland.....	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth..	51	1,355,500	123,884	1,459,384	208,669	.....	6	98½
York and Cumberland.....	20	285,747	341,100	713,605	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	106
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47½
Northern	82	3,016,634	.....	.....	328,782	163,075	5	55½
Manchester and Lawrence....	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,513	8	108½
Portsmouth and Concord....	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,500	.....	.....	none	16
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	40
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Vermont Central.....	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	14½
Vermont and Canada.....	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	99½
Western Vermont.....	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	21	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	96
Boston and Maine.....	83	4,076,974	150,000	4,092,927	659,001	338,215	7	104½
Boston and Providence.....	53	3,160,390	390,000	3,546,214	499,656	227,434	6	85½
Boston and Worcester.....	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch.....	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River.....	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern.....	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92½
Fall River.....	42	1,050,000	none.	1,050,000	229,445	99,589	8	104½
Fitchburg.....	66	3,540,000	112,305	3,623,073	574,574	232,787	6	96½
New Bedford and Taunton...	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County.....	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony.....	45	1,964,070	282,300	2,293,534	322,213	101,510	none	94
Taunton Branch.....	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts..	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	58
Western.....	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	98
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	63½
Providence and Worcester..	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven....	62	3,000,000	472,000	.....	600,408	332,223	none	122
Housatonic.....	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill..	50	.....	.....	In progress	69,629	.....	none	.....
New London, Wil. and Palmer	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven....	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	104
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven..	55	750,500	650,000	1,880,610	Recently opened.	.....	none	45
Norwich and Worcester.....	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	56
Buffalo and New York City... N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York.	132	.....	.....	In progress	.....	.....	none	65
Buffalo and State Line.....	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F..	50	.....	.....	In progress	.....	.....	.....	.....
Canandaigua and Elmira.....	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.....	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie)...	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	86½
Hudson River.....	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	75½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	60
Long Island.....	95	1,875,148	516,246	2,446,391	205,068	44,070	none	32½
New York Central.....	504	22,858,600	2,111,824	.....	.....	.....	.....	114½
Ogdensburg (Northern).....	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	30
Oswego and Syracuse.....	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.....	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.....	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.....	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.....	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland.....	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston.....	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome.....	96	1,011,940	650,000	1,693,711	225,152	116,706	8	100
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	160
Morris and Essex.....	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey.....	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central.....	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East.....	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster..	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.....	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	85½
Philad., Wilmington and Balt.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	77½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	98
Philadelphia and Trenton....	"	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	"	47	.....	.....	.....	.....	.....	.....	110 1/4
Baltimore and Ohio.....	Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	61
Washington branch.....	"	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna..	"	57	.....	.....	.....	418,673	152,536	.....	.....
Alexandria and Orange.....	Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	"	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	"	64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville.....	"	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg....	"	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac....	"	76	1,000,000	508,006	1,531,238	254,376	113,256	7	105
South Side.....	"	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central.....	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee.....	"	60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac....	"	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina.	S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.....	"	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina.....	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester..	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	"	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western.....	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscooke.....	"	71	.....	.....	In prog.	.....	.....	.....	.....
South Western.....	"	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River	Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	"	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	"	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point..	"	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern.....	Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia..	Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga...	"	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington....	Ky.	.....	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.....	"	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	"	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh....	Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, Painesv. and Ash..	"	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.....	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	132
Columbus, Piqua and Indiana..	"	46	.....	.....	2,000,000	.....	.....	.....	98
Columbus and Lake Erie.....	"	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton	"	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	106
Cincinnati and Marietta.....	"	.....	.....	.....	In prog.	.....	.....	.....	72 1/2
Dayton and Western.....	"	40	310,000	550,000	925,000	.....	.....	.....	80
Dayton and Michigan.....	"	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton.....	"	36	.....	.....	.....	.....	.....	.....	70
Greenville and Miami.....	"	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro.....	"	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami.....	"	84	2,370,784	.....	2,634,157	526,746	314,670	10	119 1/4
Mansfield and Sandusky.....	"	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.....	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central.....	"	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi.....	"	.....	.....	.....	.....	.....	.....	.....	97
Ohio and Pennsylvania.....	"	187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley....	"	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd	"	87	552,000	800,000	1,317,140	.....	.....	.....	.....
Xenia and Columbus.....	"	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois.....	Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central.....	"	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern.....	"	181	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine	"	83	.....	.....	.....	.....	.....	.....	103
Lawrenceburg and Ind.....	"	.....	.....	.....	In prog.	.....	.....	.....	80
Lafayette and Indianapolis....	"	62	.....	.....	.....	.....	.....	.....	78
Madison and Indianapolis....	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	86
Peru and Indianapolis.....	"	40	.....	.....	In prog.	.....	.....	.....	70
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	"	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.....	"	113	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central.....	Ill.	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago.....	"	92	1,932,361	500,000	In prog.	473,548	286,152	.....	124
Michigan Southern.....	Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	124 1/2
Michigan Central.....	"	282	4,000,000	4,067,396	8,614,193	.....	.....	8	112 1/2
Pacific.....	Mo.	38	1,000,000	none.	In progres	.....	.....	.....	.....

Chicago and St. Louis Railway.

The lines of railroad, of the first importance, as regards their uses and income, are those connecting the great depots of trade and business. These are *trunk* lines, and have all the advantages possessed by *trunk*, over *branch* roads. Such are the Central New York, the lines from Boston to Albany, from New York to Philadelphia, from Buffalo to Cleveland, from Cleveland to Cincinnati, from Cincinnati to Chicago, and from Chicago to St. Louis. Of these, we regard the *last* named as one of the most important. It not only connects two leading cities of the west, but it occupies the convenient route of travel and commerce between sections of country widely separated, and abounding in *different* products, in the exchange of which, commerce consists. Certain articles of prime importance, consumed in the west, such as sugar, coffee, salt, fish, etc., etc., will always come up the Mississippi river, from which they will be distributed over the west by means of R. R. On the other hand most of the foreign and domestic merchandise used in the west, will be received by way of the *Lakes*, and will be distributed among the consumers in the same manner. This law, or course of trade, has already given rise to a very large commerce between Chicago and St. Louis, the latter of which may be considered the depot of the trade of the Mississippi river; the former, of the *Lakes*. This trade by means of the Illinois and Michigan canal has risen to a first rate importance, and the Illinois river is now one of the great routes of commerce and trade in the country.

The river has been used thus far, only for the want of *better* means of inter-communication. To supply this want is the object of the Chicago and St. Louis, or technically, the Chicago and Mississippi road, a considerable portion of which is completed, and the remainder in rapid progress. The whole length of line immediately to be constructed, is 220 miles, as at present, that portion of the Rock Island and Chicago road between Chicago and Joliet, a distance of 40 miles will be used. The whole distance between Chicago and Alton being about 260 miles.

Of the lower portion of the line, 113 miles are already in operation. By the 15th of October, 19 miles more of the track will be laid, which will carry the *completed* portion to Bloomington, a distance of 132 miles from Alton. At Bloomington a junction will be formed with the Illinois Central road, and through this and the Rock Island roads, a continuous railway will be formed between the Mississippi and Lake Michigan. This route, though some 33 miles longer than a direct line, will command the whole travel between St. Louis and the east, till the more direct line shall be opened, and will bring the lower division of the above road into immediate and profitable use. These connections will be formed by the 15th of October. At that time the road will be earning a large income upon the cost of this division, and a much larger sum than the interest on the entire funded debt upon the whole line of the road.

Between Bloomington and Joliet, a distance of 87 miles, the graduation is so far advanced as to offer no impediment to the laying of track at *both* ends. Already has track laying commenced at Joliet, where is a large quantity of rails. From Bloomington north, the track laying, as before stated will commence about the 15th of October.

From both ends of the northern division, the laying of the track will be urged forward with all possible dispatch after that time. For this division iron sufficient for 60 miles of road is either already on the ground, or on its way from New York. The balance is secured and will reach the line of the road as soon as wanted. To facilitate the laying of the iron, the ties, of which a large portion have been delivered upon the line of the road, are being placed in the track, so that the work can go on with rapidity after the frosts set in. It is the expectation of the company, from a careful examination of the work before them, to have the iron laid upon the whole line by the first of Feb'y next, at which time it is believed that a straight line of railroad will be formed, (with an exception of twenty-five miles from Alton,) between St. Louis and Chicago.

This great work has thus nearly reached the point of completion, without exciting much attention, for the reason that no popular appeals, and no arguments addressed to the public, were necessary to secure for it the confidence of capitalists. The inherent strength of the project was sufficient argument for this purpose, and has supplied the company with ample means for a vigorous prosecution of the work which has advanced with extraordinary rapidity.

The route of the road occupies the shortest practicable line between its termini, and has the additional advantage of passing through the capital of the State. The fact that no rival road can compete with it on equal terms, will probably always protect it from rivalry for its appropriate business. It traverses a district certainly unsurpassed for fertility, and the extent of its resources, which are already so far developed as to supply a lucrative traffic to a railroad. From Bloomington, south, is one of the best cultivated and most productive portions of the west. For the entire distance the country traversed has no natural outlet, in the shape of navigable rivers, which fact must secure to the above road the entire amount of its carrying trade. For this reason, the above road will secure the advantage of two markets, and will enable the inhabitants to forward their productions, at all times, in the direction of the demand.

The earnings of that portion of the road in operation, have averaged for some time past, about \$35,000 per month. This amount will probably be increased to \$60,000 per month, as soon as Bloomington is reached, as the road will then command the northern and southern travel. We see no reason why it should not become in the outset, one of the most profitable of western roads, while it will be less liable than any we know of, to have its business drawn off by rival roads.

The entire cost of the road is estimated at \$6,000,000. The funded debt we believe will be \$3,000,000. The amount already expended in construction, including amount due in outstanding contracts, is \$5,370,309.

A railroad between the cities of Chicago and St. Louis is a work eminently called for by the business wants of the whole community. Chicago, which bids fair to become the commercial city of the west, is already the great point of concentration of western travel. From thence, the next step is to St. Louis. A railroad between the two is necessary to the convenience of the business public, and to the harmony of our railroad sys-

tem, and we are gratified that this want is so soon to be met by the above road.

Outside Connected Locomotives.

Engines arranged with the outside cylinders and connections are coming more into favor every season. Intelligent engineers and railroad managers, having charge of the most important roads have given them an unqualified preference. The great lines of the country are becoming stocked with them. Many of the eastern engine builders have produced no other engines, and are now turning out large numbers of them, perfected and balanced so as to remove the antiquated objection against their instability. Many other builders also, in New England, those who commenced with the "crank engine," and who have continued to manufacture it for years to the exclusion of other patterns, are now building outside connected engines. Hinkley & Drury, were once the leading builders of crank engines, and although they have not abandoned them, they are now turning out large numbers of the "outside" engines. The Amoskeag Company, and more recently, the Taunton Company have also relinquished the preference for the inside engine. The recent outside connected engines by the Taunton Company, are not calculated however to give credit to the general plan of their construction. These engines, among which are a number which we have observed on the Cleveland and Erie, and on the Detroit and Pontiac roads, are improperly balanced and have already caused complaints by reason of their irregular motion. They are also imperfect in another respect, which is, that their boilers are confined at both sides to the frames, without any means for expansion except by straining the connection of the waist of the boiler and the outer fire-box. This is a serious defect, one which the most successful builders of outside connected engines have taken especial pains to avoid. The "expansion brace" of the Paterson engines is the most elegant and mechanical means of securing the requisite of a tight boiler. The Taunton engines, although double riveted on the under side of the furnace connection, have commenced leaking in consequence of the absence of this provision.

The outside connected engine when constructed to possess a secure attachment of the cylinders without straining the boiler, and when properly balanced by proper counterweights in the drivers; conditions readily fulfilled,—are superior to crank engines for many good reasons. The most important feature in their favor is the great reduction which they allow in the height of the boiler from the rails, a reduction amounting to nearly one foot. The great weight, expense, friction and danger of the double crank is dispensed with. The power is more directly applied, and with more mechanical advantage in its results. The machinery, much of which is reduced in weight, is more convenient for repairs, and, in running, is always under the eye of the engineman. The engine is more simplified and a better arrangement can be secured for the valve motion. The furnace can be lengthened to a greater extent without interfering with the position of the driving axles, a very important consideration where the curves of a road admit of but a short wheel base. One great advantage in the reduction of the height of the boiler is the opportunity afforded for using a long-

er chimney, an important consideration upon a road limited by low bridges and station doors. In the case also of low-wheeled freight engines the room gained under the smoke-box allows of a better arrangement of the truck frame. The connection of the back drivers too, can be made directly from the main connecting rod, without straining the forward wheels, an advantage which Swinburne of Paterson has secured in his recent engines.

On the whole we do not know of a point on which the outside connection, properly constructed, may not be defended, nor can we discover an excuse for the construction of another inside connected engine for a narrow gauge road.

The English money market.—Increase in the rate of interest.

The Bank of England to-day (Thursday evening, Sept. 1-) have raised their rate of discount to 4 per cent. This time last year the rate was 2 per cent. It was advanced to 2.1-2 per cent on the 6th of January, to 3 per cent a fortnight afterwards, and to 3.1-2 on the 2d of June last. Within less than eight months, therefore, it has been doubled. So rapid a movement is without precedent since the passing of the Bank Charter act in 1844. except during the panic of 1847 and even then, although the rise was practically more considerable, inasmuch as it was from 4 to 8 per cent, it was spread over a longer period.

There can be no question, however, that the Bank have acted soundly. The propriety of their previous steps in the same direction has been demonstrated by experience, although on each occasion the public, who are unaware of the immediate extent of the drain in progress, were disposed, while they approved the principle that had been pursued, to consider that it had been carried out with almost undue promptitude. But the steady diminution in the stock of bullion was the true guide for the directors, and by following it implicitly, and thus giving the system of Sir Robert Peel its natural cours, they have saved the commerce of the country from any violent shock, and prevented an extension of commercial speculation which it is now seen would have ended disastrously.

Yet, while the necessity of a continuance of decisive measures is admitted, there is nothing to create alarm. The causes of the drain which has continued, almost without interruption, for exactly twelve months, and which has taken away upwards of 25,000,000 of bullion, are all perfectly distinguishable, although they have mostly arisen from unlooked for casualties, and been protected beyond any period originally contemplated. These causes have been:—1. The shipments of coin and merchandise to Australia, the merchandise being created out of raw material imported and paid for in cash while the returns from the colony must involve the lapse of a year. 2. The rise in wages and the general employment of the working classes, so that every family, including those that were previously destitute, have now perhaps, on an average, two or three sovereigns in their possession. 3. The demand for an increased circulation to meet the larger payments caused by a rise of prices. 4. The heavy draughts of the English and American merchants at the Chinese ports on the London houses with whom they have credits, such draughts being consequent in the increase in the value of money, in consequence of the hoarding practised during the rebellion. 5. The augmented demand for specie on the continent, for the armies set in motion on the Turkish question, which has caused all available credits on this country to be used at Hamburg and elsewhere. 6. The considerable, although not excessive, number of foreign undertakings in course of completion by British capital; and lastly, the fears regarding the harvest, and the consequent enormous speculations in wheat, under circumstances that have been aggravated by the apprehension of equal or greater deficiencies in France, Italy and elsewhere.

Among this singular combination of powerful influences, those from the Chinese rebellion, the Turkish dispute, and the deficient harvest have all been accidental, while even the Australian speculation, inasmuch as it has now been carried to a point that, notwithstanding the favorable accounts hitherto received of the markets, may warrant very great anxiety, is also to be included as exceptional, since it is strangely in contradiction to the apathy at first exhibited. We have here, therefore, three or four of the most important elements of the whole movement, which are to be regarded as entirely of a temporary nature, and which must all cease at certain limits and be followed by a proportionate reaction. The Chinese drain, serious as it has been must ultimately find a check in the exhausted credits of the merchants since, however tempting may be the prices at which they can now buy teas and silks for cash, the process will soon assume a speculative character that will excite reserve on this side. The Turkish affair seems already to have been removed from the list of dangers, although the coin it has called into employment may not return to its ordinary channels for some months. As regards the grain speculation, owing to the want of comprehensive statistics no reliable opinion can be formed whether it has yet been carried beyond proper bounds, but it is impossible not to see that there have been for some time indications of an ardent tendency in the market, especially when the rates of freight are taken into consideration, such as usually end in partial losses. At all events, although a question which still depends in a great degree upon weather must be out of the reach of argument, the turn which affairs will take after the requisite supplies, whatever may be their amount, shall have been obtained is a matter of certainty. In none of these cases, therefore, is there any cause for disquiet, such as arises from hidden processes which seem to indicate some unsound condition of the country generally, and the end of which cannot be defined. They may continue longer, and operate, as they have done already, to greater extent than any one calculated upon but they can lead to no destructive effects, and the ultimate recovery from them is certain. In the case of the Australian shipments the prospect of an inevitable reaction is still plainer. If the hopes of the exporters are realized, the homeward remittances of gold must soon be continuous, and far exceed any that have yet been received. If, on the contrary, accounts should eventually come of falling markets, the rage for sending goods will be suddenly stopped, and the proceeds of the past year will be reversed, since, while we are receiving payment, although perhaps, at depreciated prices, for the supplies already sent, we shall be sending nothing from this side, and thus the stream, instead of being a comparatively exclusive one of merchandise from England to Australia at a heavy outlay, will be one of gold from Australia to England, with little going hence in return.

The remaining circumstances that have operated on the money market, and which, unlike those just named, were all foreseen, are such as are not likely to have much further influence. The coin absorbed in consequence of the improved circumstances of the poorer classes will not need any addition, since, after each family has become provided, as is now the case, with sufficient gold and silver for their current wants, all surplus accommodations will find their way to savings banks or general investments. At the same time the call for extra circulation rendered necessary by the higher prices of goods can be continued only if the rise should go on: and, as it has already obviously been beyond what can be accounted for by the influence of the gold discoveries, there would be no reason to suppose that this will be the case, even if it were not rendered impossible by the present movement of the Bank of England.

Under all circumstances, therefore, the conclusion is evident that the position of the country is safe in every way; and that at no distant period a decided and steady reaction from the existing condition of the money market is to be looked for. But this safety and the early prospect of greater

ease, can be rendered certain only by a vigorous adherence on the part of the bank to the principle of letting the currency contract with the efflux of bullion, so as to increase the value of the capital which is being extracted from us until the inducement for the drain shall be terminated by its becoming dearer here than in other quarters. It may be hoped that the step taken to day will finally answer that purpose, but another month must at least elapse, so as to admit of the harvest question being entirely settled, before any confident view can be arrived at, and no doubt is felt that, if the result desired should not speedily be attained, a further advance will be adopted without hesitation.

The English funds opened this morning a shade above the reduced quotations of yesterday, but the market had an unsettled appearance, and when the alteration in the bank rate of discount became known, a fresh fall took place. Consols were first quoted 97.3-4 to 7-8, whence they receded to 97.1-2, at which price there were buyers at the termination of business. For the 13th of October they left off at 97.5-8 to 3-4. Throughout the afternoon incessant storms of rain increased the prevailing anxiety regarding the harvest. Bank stock closed at 227 to 228; Reduced, 98.1-4 to 3-8; Three-and-a-Quarter per Cents, 100.5-8 to 3-4; India Stock, 255 to 257; India Bonds, to 18s premium.

Illinois.

Mississippi and Atlantic Railroad.—There having been no decision in the case recently got up to test the competency of the above company, under the Gen. Railroad Law of the State, to construct their road, the delay is claimed by the *Alton* interest as indicating a probable decision in their favor.

Should such be the case, which is yet by no means certain, we can only express our regret at the result. Apart from the iniquity of the thing, the end will be the construction of two roads, where only one should be built. To gratify a local interest the right to construct a road in the outset upon the direct and appropriate route is refused. This refusal gives a temporary advantage to the *Alton* route, which is some thirty or forty miles longer, (St. Louis being the assumed western terminus,) than the *straight* line. The grounds of opposition to the latter are, that should a charter be granted it, the former could not be built; that is the public would not aid it; and there being not sufficient local strength for its construction, it would necessarily fall to the ground. The strength of this road therefore depends upon a mere fiction of law which the next puff of wind may blow away; for no one pretends nor believes that Illinois is going to adhere to her niggardly and mistaken policy. Should the *Alton* interest succeed in building their road, the result will be as we said before, two roads where one only is needed. Such is always the result of partisan or partial legislation. Its operation is most unjust, and its consequences always disastrous. It stimulates the construction of works that are undertaken to accommodate local, or personal, interests, which are soon superseded by those of a more public and comprehensive character, by which the former may be rendered comparatively worthless, and the latter less productive than they otherwise would have been. Had the legislature of Illinois in the present case, left the questions at issue to be determined by the obvious wants of the public, and the profitable employment of capital, it is easy to see that only one line, and that the *straight* line would have been built. Now the only part or interest that we have taken in this controversy is, to endeavor to induce the legislature to leave to the

umpires named, questions that can be correctly determined by no other, and not commit a manifest wrong, and a great blunder in a financial or pecuniary point of view, at the same time. We trust these mistakes will yet be corrected.

Ohio.

Cleveland, Columbus & Cincinnati, and Cleveland and Erie Railroads.—These two roads now run under one management, are now doing a heavy business in passengers, and for the season, a large business in freight. The additions made, since July, and to continue, in the motive power of the roads, amounting to over 25 per cent above the stock in July, sufficiently indicate the extent of the business, present and prospective. These companies, in connection with the Cleveland and Pittsburgh company are erecting their Cleveland station, and making improvements in their docks, machine shops, etc., involving an outlay of \$250,000. On the line of the C. C. & C. R. R., the grading for a double track from Cleveland to Grafton, 24 miles, is in progress, while it is expected that most of the second track to Gallion will be in use next year.

The Cleveland and Erie road, although under the disadvantage of the break of gauge at Erie, is doing a very heavy passenger business. The stock of the Erie and North East road, which embraces the 19 miles of the odious gauge, is now controlled in New York and Buffalo, and at the next election of directors, in January, arrangements will be effected for establishing an uniform gauge between Buffalo and Cleveland.

Cleveland and Pittsburgh Railroad.—This road is now doing a fine business, the receipts for August being above \$36,000. The extensions of this road from Wellsville to Bridgeport, opposite Wheeling 36 miles, from Wellsville up the Ohio to Beaver, 22 miles, and down the Sandy and Tuscarawas valleys, 30 miles to New Philadelphia, are all going rapidly forward. The coal beds adjacent to the line of this road will be the source of a large business upon the completion of the enterprises now in hand in Cleveland, whereby much coal will be used in the manufacture of iron and machinery. This company having withdrawn from all competition with the Ohio and Pennsylvania road for the western travel, are now running their trains under an harmonious arrangement with that company. A beautiful and capacious Listation has been completed at Alliance for the accommodation of both roads.

Cleveland and Mahoning Railroad.—We learn from the Cleveland Plaindealer, that this work is going forward with great vigor. It will be remembered that this road adopts the gauges of the Pennsylvania roads, and will connect Cleveland and Philadelphia with an uniform gauge. Near Cleveland the road has been altered to pass over the C. C. and C. railroad, instead of crossing that road on a level as was proposed, whereby all chance of collisions will be avoided.

The Cleveland and Toledo road now run their express trains through in five hours.

The Cleveland and Sandusky road is completed to Berea, within a few miles of Cleveland, and will be opened throughout within two weeks from the present time.

At a meeting held in Cleveland on the 9th inst., Erastus Hopkins, Esq., general agent of the Cleveland and St. Louis Air Line road, stated that the

proposed road would be 340 miles in length, and would cost \$8,500,000. He also stated that \$1,000,000 had been unconditionally subscribed, and that \$200,000 had been offered conditionally, while further subscriptions were retained to await the result of the movement to raise subscriptions in Cleveland. It was expected to raise \$1,000,000 in Cleveland, for which Mr. Hopkins pledged himself to raise \$2,000,000 additional elsewhere.

Ogdensburg, Clayton and Rome Railroad.

The surveys of this road are nearly complete and maps and profiles of this line—plans and specifications of the work,—will be ready for examination by the 10th of October next, at their office in the village of Rome. The whole road is to be put under contract on the 24th of October as will be seen by an advertisement in this paper.

This is one of the most important railroad projects now going forward, connecting as it does, the Central line of railroad and Erie Canal with the river St. Lawrence. From Rome, its southern terminus, it extends along the rich and fertile valley of the Rock river through the counties of Lewis, Jefferson, and St. Lawrence—first, touching the river St. Lawrence at Morristown, opposite the flourishing town of Brockville in Canada, the terminus of the Brockville and Ottawa railroad—*now under contract*;—and terminating at Ogdensburg, opposite Prescott, in Canada, the terminus of the Prescott and Bytown railway, now nearly completed. The two last named Canada railways extend through rich agricultural districts to the Ottawa river—reaching one of the finest and most extensive pine forests in the world—a country of at least 80,000 square miles—containing a population of 160,000,—tributary to those roads, and all this tributary to the O. C & R. railroad, as being the most direct and shortest route to the great market of this country, the city of New York.

How important it is then for the citizens of N. York, the business men particularly to investigate this railroad project as it will bring a large amount of freight and travel to this city, which now finds its way through another channel to more eastern markets.

The Slip Chilled Tire in Ohio.

We find the Cleveland, Columbus and Cincinnati road have three sets of these tires in use on their heavy engines. They are used mostly upon the gravel trains, where, from the severity of their use, they show with great distinctness the marked disparity of the wrought tire in the point of economy of maintenance. By reason of the entire safety of these tires and the favorable climate of Ohio, by which no tires are so badly tested in winter as at the East, we have no doubt that this Company will find it for their interest to apply this improvement to all of their freight engines, and no greater inducement could be offered than in the superior quality of the article so long manufactured by Bush and Lobdell.

The Cleveland and Pittsburgh road also using two sets of the slip tires, and two sets, of eight wheels each, of the whole chilled wheel. Mr. Hovey, their master mechanic thinks for *graveling* they have no superior. Although attended with greater saving in their use on gravel engines, from the more severe test to which they are applied, we have no doubt that could this company be impressed with a clear sense of their economy

for freight engines, they would order them applied at once. We stand committed to the chilled tire by reason of its economy and safety, but there is as much difference in *cast* as in *wrought* tires;—and as a good cast iron, tire is the result only of great care in the selection of iron in melting and in pouring, we should prefer recommending the tires cast by Bush and Lobdell, from the deservedly high reputation they possess for strength of iron, evenness of chill, smoothness of surface, and uniformity of diameter and true circular form.

Progress of Cleveland.

A brief stay in this beautiful and growing city has impressed us with a comprehensive idea of western progress. The whole business part of this place seems rivalling the growth of the natural productions of the west, rather than the less spontaneous development of artificial erections. It would be needless to specify each improvement as these would be of more interest in a local point of view. But in so far as the whole country is interested and rejoices in the growth of our great western towns, we can say, that railroad building, steamboat building, car and engine building, iron making, all are progressing with much and many with great vigor in the beautiful Forest city.

Many beautiful buildings, as churches, hotels, stores and dwellings, are in process of construction, mostly from handsome free stone of which the second Presbyterian church, the Weddell house, and other buildings are already constructed. This stone is obtained upon the line of the canal, about forty miles from Cleveland, and from the appearance and the ease with which it is worked is in general use there.

While upon this subject we will take occasion to refer our friends, passing through Cleveland, to the Franklin House, kept by C. Patrick and Son. This is a resort of business men, who are sure to improve physically, under the care of the worthy proprietors. This house is also the head quarters of the Cleveland agency of the Michigan Southern and Northern Indiana Railroad line to Chicago.

New Locomotives.

We perceive that the Taunton Locomotive manufacturing Company have commenced the construction of outside connected engines, after having persisted for five years in the manufacture of "Crank engines," of which they must have built full 125. Their new outside connected engines have nothing especially new in their arrangement, as they retain the old forms of truck, valve motion, etc. A great blunder was committed by the builders in counterbalancing the drivers of these engines, one which could never have been committed had the builders seen the very excellent treatise on balancing drivers in *Clark's Railway Machinery*, which we have transcribed to our columns in previous numbers. Acting upon an idea that the counterweight should not be placed exactly opposite the crank pin to be balanced (which is correct under the rule for ascertaining the exact position,) they have gone into the extreme of carrying the center of gravity of the counterweight $51\frac{1}{2}$ degrees past the radius opposite the crank-pin. These engines are upon the Cleveland and Erie road, and as might be readily supposed, are very unsteady upon the track.

Conscious that they were testing a doubtful experiment the counterbalances were not cast into wheels, but were secured by bolts, whereby the defect may be remedied without throwing aside the wheels.

The Taunton company take a warrantable pride in the superiority of their engines with independent variable cut off, and we expect it will be long before they will adopt the link motion. Other builders however who for a long time defended the separate valve are now adopting the link, and we believe that were its action clearly demonstrated others would adopt it also. The authority quoted above, D. K. Clark, gives the whole operation and results of the link in his excellent treatise. We would like to impress every master mechanic and engine builder in the country with the value of this work.

Fredericksburg and Gordonsville R. allroad.

We learn that a Company has been organized for the construction of a road of forty to forty-five miles in length, connecting the points above mentioned in Virginia. Dr. B. L. WELFORD of Fredericksburg is President of the Board of direction, and Mr. B. H. LaToabe, the well known Chief Engineer of the Baltimore and Ohio Road is consulting engineer; while Mr. George McLEOD, has been appointed Chief Engineer of the work.

Under the superintendence of these gentlemen the surveys are now going forward, and it is anticipated that nearly an air line with very favorable grade may be decided upon. It is expected that this road when completed, will considerably shorten the route from Baltimore to the South and Southwest, and therefore command the great bulk of the through travel in those directions. The anticipated cost of the road when fully equipped is about \$600,000 a large proportion of which is secured.

East Tennessee and the Rabun Gap Railroad

In order to suggest to the people of East Tennessee some idea of the advantages to be derived from the construction of the Rabun Gap railroad, we submit the following tables of distances. From Knoxville to Charleston, upon the completion of this road, the distance may be thus stated.

From Knoxville to Anderson C. H., S. C.	180 miles.
" Anderson C. H., to Aiken, S. C.	80 "
" Aiken to Charleston,	130 "

Total from Knoxville to Charleston, 390 "

Should the Savannah River road, which is attracting so much attention, be constructed, as we doubt not it will, (stock enough being now subscribed to secure the charter,) the distances from Knoxville to Augusta and Savannah may be thus stated.

From Knoxville to Anderson C. H.	180 miles.
" Anderson C. H. to Augusta,	80 "

Total from Knoxville to Augusta, 260 "

From Augusta, by Waynesboro' and Central railroad, to Savannah, 140 "

Total from Knoxville to Savannah, 400 "

The distance from Knoxville to Charleston by the present route is 517 miles, comparing this distance with that of the Rabun Gap, it is seen that 127 miles are saved. The distance from Knoxville to Augusta by the present route is 381 miles; comparing this with the Rabun Gap, it is seen that 124 miles are saved. The distance from Knoxville to Savannah by the present route is 501 miles; comparing this with that by the Rabun Gap route, it is seen that 101 miles are saved. These figures are accurate, as reliable surveys demonstrate.

The great advantage which will result to East

Tennessee from a highway to the Atlantic one hundred and twenty-seven miles shorter than that we now have, must be apparent to every one. It will save us at least \$2.25 on every ton of freight either imported or exported. It brings us that much nearer to the West Indies, to Europe, and so far as freights are concerned, to the eastern Atlantic cities, and must inevitably contribute very much to swell the local business of the East Tennessee and Virginia road, from its eastern terminus to this place, and as a matter of course, enhance very materially the value of stock in that road.—*Knobsville Reg.*

Wisconsin Railroads.

The Milwaukee *Sentinel* furnishes the following items of the progress of some of the Roads of Wisconsin centering at, or passing through that thriving and populous city. When we reflect that Milwaukee had but about seventeen hundred inhabitants in 1840 and now has a population of upwards of thirty thousand we are scarcely surprised at the number and magnitude of her enterprises or the vigor with which they are prosecuted.

The Milwaukee and Mississippi Railroad is doing a heavy and increasing business, the receipts averaging over \$1000 per day, and the trains bringing in daily, 6 to 7000 bus. of grain, besides other produce. Its extension is progressing westward with diligence.

The Milwaukee and Watertown is pushing along the important route which it takes north westward, with energy. Successful efforts are being made in Columbia Co. to take up stock for the extension beyond Watertown.

The Milwaukee, Fond du Lac and Green Bay has filed all the necessary securities required by the Common Council, and the issue of \$200,000 in City Bonds to the Company has been ordered.

The La Crosse R. R. is gradually filling up its force of hands with men returning from the harvest, and is at work steadily.

The Lake Shore R. R. Co. is at work at or near Racine and Kenosha, and will break ground here shortly. We understand that the Depot grounds have been pretty much settled upon, and will be near those of the Fond du Lac R. R.

Oakland and Ottawa Railroad Company.

The Stockholders of this Company held a meeting at the Office of the Company in Detroit on the 5th inst. to receive the report of the President and Directors and elect a Board of Directors for the ensuing year. Hon Lewis Cass was President and Mr. Nelson P. Stewart Secretary of the meeting. The following named gentlemen were elected Directors: Hon. Lewis Cass, Henry N. Walker, Edmund A. Brush, Zachariah Chandler, Buckminster Wight, Willard M. McConnell, of Pontiac, and Isaac Buchanan, of Hamilton, Canada West.

Of the above Directory and the enterprise of which they are to have the control and management the *Detroit Tribune* remarks as follows.

If any thing were before wanted to convince the public that the men engaged in the enterprise are and have been acting in good faith, and to inspire general confidence in it, we think the character of the Directors will supply the omission. There could not probably have been found six men in Michigan possessing more weight of character or representing more wealth, the two great requisites in such an enterprise as they are at the head of, than Gen. Cass, E. A. Brush, Z. Chandler, H. N. Walker, and B. Wight, of Detroit, and William M. Mr. Connell, of Pontiac.—Mr. Buchanan, the Canadian

member of the board of Direction, is also a gentleman of high character and wealth, being the representative in the great Western Road of all, or nearly all, the English stockholders in that company.

The name of Gen. Cass alone will give character to the road, both at home and abroad. Whatever cavilers may say, the public will not believe that he would lend his influence to schemes designed to defraud and humbug them; nor will they that the other gentlemen associated with him, would engage in any such conspiracy.

Milwaukee and Mississippi Railroad Receipts.

We learn from the Milwaukee News that the receipts of the Milwaukee and Mississippi Railroad for August last amount to \$18,253.71, an average of more than \$700 a day. Below we give the figures comparing the receipts of the road for August with the receipts of the same month last year, and also with the receipts for the month of July of the present year.

Earnings of the M. & M. R. R. for the months of August, 1852 and 1853.

	Freight Income.	Pass. Income.	Total.
Aug. 53,	9,472 30	8,782 40	18,254 71
Aug. 52,	2,570 89	3,047 33	5,618 22

\$6,901 41 \$5,715 07 \$12,636 49

Balance in favor of Aug. 53' as above.

The earnings of the road for July last were as follows

Passengers	\$8,384 64
Freight,	7,776 21

Total \$16,164 85

Showing an increase in the receipts for August over that of the month of July of \$2,099 86.

Upon this gratifying state of facts the *News* remarks that last year in August the road was in operation about 36 miles, now it runs to Janesville, 79 miles. So it will be seen that while the running distance is hardly doubled, the earnings of the road have nearly quadrupled. The month of September will exhibit still more gratifying evidences of the prosperity of this road. There is very little in the above receipts for grain, except during the last three or four days, when the receipts averaged about \$1000 a day. With the magnificent crop that has just been gathered in our favorite State, and the vast quantity of grain now waiting for a market, the road will undoubtedly be tasked to its utmost capacity to carry freight, and the passenger business will also be much larger the present month than during the harvest season. We shall not be surprised if the road should average nearly or quite \$1000 a day during the month. This will do for a youngster that has only been in running order for about eight months.

Lawrenceburgh and Indianapolis Railroad

We learn that G. Haven Esq., late Superintendent of the Fall River Railroad, has resigned his place on that, for the purpose of accepting a similar position on the Lawrenceburgh and Indianapolis Railroad. This road is to be opened for business on the 1st of October, and in view of its importance and the extent of prospective business, the Company felt the necessity of securing the services of a Superintendent possessing the best qualifications for his office. We are happy to say that we believe they have made a fortunate selection. The Fall River, of which Mr. Haven has long had charge, is the model road of Massachusetts, admirably managed, and one of the most profitable in the State. We know that this company part most unwillingly with Mr. Haven, who has chosen to go, to a more extended and interesting field for labor and enterprise. Mr. Haven will carry with him a high reputation, and

a wide experience in his appropriate duties, which will not only exert a favorable influence in advancing the interests of the above road, but will render him a valuable accession to the corps of western Superintendents.

Panama Railroad.

The Herald has the following in reference to this road: "Among a variety of facts connected with this road which have been forced out by the present contest for time and speed, it is stated with truth that the Pacific Mail Steamship Company, in connection with the original stockholders, have taken the entire construction of the road into their own hands, Messrs. Law & Story having failed to fulfil the terms of their contract. In conformity with this determination, the Vice President was despatched to Ireland, in August, where he is now collecting two thousand men, to be forwarded direct to Aspinwall. From Ireland he proceeds overland to China, where he will meet the clipper Sea Witch, and despatch by her two thousand Coolies to Panama direct. In the meantime, agents have been sent through the Isthmus and Carthage, gathering a native force, while others have been collecting mechanics in this State and in Pennsylvania. The whole force, numbering nearly 6,000 strong, it is expected will be brought to bear on the road by January next, and it said that if human efforts avail the connection between the two oceans by railroad will be effected within the year.

The road was to have been completed in August last. From the preparations now making, one would suppose that the work of construction had only commenced.

Sacketts Harbor and Saratoga Railroad.

The annual meeting of the stockholders of the Sacketts Harbor and Saratoga Railroad Company was held at this village yesterday, and the following gentlemen were unanimously elected Directors of said company for the ensuing year:

Otis Clapp of Boston, E. G. Merrick of French Creek, Patrick S. Stewart, Carthage, Anson Thomas and O. B. Matteson, Utica, L. R. Lyon of Lyons Falls, Robert Spier, West Milton, James M. Cook, Ballston Spa, Wm. C. H. Waddell, Simeon Draper and S. P. Lyman of New York city, Charles E. Clark of Great Bend, Jefferson Co., and James M. Marvin of Saratoga Springs.

By the report of the late Board of Directors from \$1300 to \$1400 have been expended in surveys during the last year, in examining all the routes which could be reasonably calculated on through the great wilderness lying north of us, and several lines found upon which the road can be favorably constructed. We think from present appearances that there can now be no doubt but that the road will be energetically pursued and completed. The first meeting of the new Board will be held at their office in New York city, on the 27th inst.—*Saratoga Whig.*

Racine, Janesville and Mississippi Railroad.

A large additional force of men and tools for this important work landed here yesterday, and to-day are at work on the road. With the ample means now at the command of the company, with the best organized corps of Engineers in the West and one of the most energetic, experienced and competent contractors, this work is going forward with a rapidity unparalleled in this country. We learn that parties from Boston are in town for the purpose of making a large investment in the stock of the company, and are also negotiating for lots for residences for themselves and families. We can only say that a better investment cannot be found than the stock in this road offers; and a more healthful and desirable location for business purposes, or for a residence, cannot be found in the Union, than the city of Racine.—*Racine Advocate.*

Cincinnati and Marietta Railroad.

The Boards of Directors of the Cincinnati and Hillsboro', and of the Cincinnati and Marietta Companies, have concluded an agreement to consolidate their two lines, which is subject to the ratification of the stockholders of the two companies. By this agreement the two companies are to become one. From Blanchester east to Charleston near Jackson, two lines are to be opened and run—one by the way of Hillsboro' and Piketon, and the other by the way of Chillicothe to Charleston. From thence the line of the Marietta company is constructed through Marietta, crossing the Ohio river above that city, and intersecting the Northwestern Virginia and Baltimore extension 37 miles east of Parkersburg. The Virginia section of this new line is to be constructed under a charter to the Independent Company, granted last winter. Both these lines enter the coal fields in Jackson and Vinton counties, and each may secure a good business between these fields and Cincinnati, while one line east will be sufficient to accommodate all the through business for many years. If the terms are any way fair, and such as will secure the continued and steady use of both local and through business, the arrangement will be advantageous, and enhance the price of the consolidated stock above the highest point of that of either company at present.—*Cin. Gazette.*

Application for an Injunction to prevent a Change of Gauge.

The Columbus, Piqua, and Indiana Railroad Company, of Ohio, has filed a bill for an injunction in the Circuit Court of the United States against the Indianapolis and Bellefontaine Company, to prevent the latter company from changing the gauge of their track from the Indiana gauge of 4 feet 8½ inches to the Ohio gauge of 4 feet 10 inches, claiming a contract for through freight cars to run over both roads from Columbus to Indianapolis, the Ohio road being constructed on the Indiana gauge. The motion, we learn, is to be argued by Henry Stansbury and Judge Blackford, for the Ohio company, and Simon Yandes, Esq., and S. I. Andrews, Esq., for the Indiana company, on Thursday next, before Judge McLean at Cincinnati.

Panama Railroad.

A correspondent of the *New York Post* from Panama, gives a discouraging account of the progress of that road. The unhealthy climate has made an appalling loss of life among the laborers, of whom the minority only are acclimated. He says:

Between Barbacons, the present terminus of the road, and Gorgona, seven miles, much of the road is graded, and thence to Cruces six miles, there is some evidence of work; but from Cruces to Panama, twenty three or four miles, the road is to pass over the high, broken Isthmus range, and not a day's labor has thus far been expended upon it."

Cincinnati, Logansport and Chicago Railroad.

This road is being rapidly pushed to completion and will be shortly opened to Hagarstown, to New Castle by the 1st November, next, and to Logansport as soon thereafter as the rails can be laid. The rolling stock will be ready for use as soon as the road is ready.

Rock River Valley Union Railroad Directors.

The following persons were elected Directors of the Rock River Valley Union Railroad Co., at the meeting at Janesville, on the 1st, inst.:

A. Hyatt Smith, J. B. Doe, T. Jackman, and W. A. Lawrence, of Janesville; S. F. Butterworth and W. Ward, of New York; W. M. Cook, of New Jersey; M. J. Thomas, of Fond du Lac, and Hon. Robert J. Walker, of Washington City.

Indiana and Illinois Central Railroad.

The entire line of the Indiana and Illinois Railroad from Indianapolis to Decatur is under contract—to be finished by December 1, 1855, at \$22,000 per mile, except ballasting, by Messrs. M. C. Story & Co., N. Y.

Covington and Ohio Railroad.

We learn from the *Kanawha Republican*, that of the 45 miles of the Covington and Ohio Railroad, between the mouth of Big Sandy and the Kanawha rivers, 32 miles are now in the hands of contractors, and they have all commenced work on their respective contracts.—Large companies of laborers, mostly Irish have within a few days, passed Charleston, on their way to the work now in progress.

The road, it will be recollected, connects at Cattlettsburg in this State, with the roads to Maysville and Lexington, and will form the shortest and speediest route to the Atlantic seaboard from Louisville and the South West.

The Effect of Railroads in Kentucky.

This State begins to feel the vivifying effect of Railroads upon its growth, wealth, and business. Of Louisville the *Journal* says, in 1848 she had not a single railroad running into her. Since then she has raised \$800,000 for the building of the Louisville and Frankfort railroad, has subscribed \$200,000 to the Jefferson and Columbus company, \$100,000, to the Louisville and Nashville company, and has proposed to subscribe \$1,000,000 to the Louisville and Frankfort company to enable them to build a branch road to Knoxville. The value of the property in Louisville in 1848, when she entered upon the grand scheme of railroad building, was a little over \$14,000,000; now after five years only, it is a little less than \$30,000,000, and the city was never increasing more rapidly in population and never exhibited more evidences of general prosperity.

Ruttan's Ventilating Car.

We noticed, favorably, some time since, a new method of ventilation for Railroad cars, by H. Ruttan, Esq., of Cobourg, Canada, which we understood had been tested on the Rochester and Syracuse Railroad, much to the satisfaction of Company and the public. Mr. Ruttan has pursued the subject of ventilation for years, as amateur, and had brought out a plan which promised to accomplish a most desirable result. We have however, recently learned, with regret, that the car fitted up with his method has been removed from the road. We are at a loss to know how this has happened. Will some one please inform us?

Dayton, Xenia and Belpre Railroad.

The stockholders of this company met a few days since at Dayton, and elected the following board of directors:

E. F. Drake, Xenia; J. C. Johnston, Jamestown; W. H. Latham, Washington, John Harbine, Green county; Joseph Clegg, Horace Pease, and R. W. Steele, Dayton. Mr. Drake, president, and the other officers of the board were re-elected in the evening.

Atlantic and Ohio Railroad.

The stockholders of this road met at Columbus on Wednesday, 14th, and organized by the election of the following gentlemen as directors, viz: Jacob Perkins, D. K. Carter, John Miller, William Neil, Joseph Ridgway, Wm. Dennison Jr., and J. F. Bartlit. After this election the directors met, and elected Wm. Neil as president. This is an important road for Columbus, and vigorous means are being taken to get an early survey of the route.

Albany and Binghamton Railroad.

We learn from the *Albany Journal*, that the new surveys of the proposed route for this road are completed resulting in a confirmation of opinions previously expressed, which were based on partial surveys. The route is declared feasible, the grades easy, and the Company having the contract from Albany to Schoharie Creek, began work on Monday last. The whole work we believe, is under contract, many sections are now ready for the commencement of operations, and contractors or others are only waiting the desired releases to commence and push forward their work with all desired dispatch. The intention is to have the cars running from Albany to Schoharie Creek, within twelve months.

Indiana Central Railroad.

We learn that this road will be completed from the Ohio State line to Indianapolis on Monday, (12 inst.,) with the exception of three miles between Greensfork and Centerville, where the work is very heavy. This portion will not be completed under three weeks. In the mean time passengers trains will be put upon the route through, (passing this break of three miles by means of omnibusses,) When the road is completed, the trip from Cincinnati to Indianapolis, via Hamilton, Eaton, and Richmond may be made in about four hours.

Wabash and Eel River Valley Railroad from Logansport to Covington, Ia.

The recent election for officers of this road, resulted as follows: President, Joseph Ristine; Vice President, Graham N. Fitch; Secretary, Samuel Favorite; Treasurer, R. Hetfield.

Boston and Maine R. R.

We learn from the late annual report of this company that the gross earnings of the year ending May 31, 1853, exceed those of the previous year \$96,178 51 and notwithstanding about 550 tons of new rails have been laid, and the road and equipments kept in good order, the net earnings of the year exceed those of the preceding year by \$46,597 15, and the Directors, after paying two dividends amounting to 7½ per cent, have been enabled to carry \$52,557 87 to the surplus fund, thereby increasing it to the sum of \$189,425 32.

The Stockholders then proceeded to ballot for Directors, and the regularly nominated candidates, viz., James Hayward, Southworth Shaw, Dr. Wm. K. Walker, Geo. H. Kuhn, Geo. W. Kittridge, Samuel Batchelder and John Aiken were elected.

The Grand Trunk Railway Company of Canada.**ELECTRIC TELEGRAPH.**

THE Directors are prepared to receive Tenders for the erection of an Electric Telegraph along the entire length of the Company's Line from Portland to Sarnia, and from Richmond to Quebec and Trois Pistoles. This Telegraph is for the purposes of the company exclusively, and is to be erected in Sections as required.

Scaled Tenders, marked on the outside "Tenders for Telegraph," can be addressed to the undersigned until Wednesday the 5th of October next. Each Tender to specify the price per mile, at which the POSTS and ONE WIRE will be supplied and erected, and the price per INSTRUMENT, at which they will be supplied.

The Directors do not bind themselves to accept the lowest Tender.

By order, C. P. RONEY,
Managing Director.

MONTREAL, 14th Sept. 1853.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by
384 JOHN H. HICKS, 90 Beaver st.

Notice to Contractors.

OGDENSBURGH, CLAYTON AND ROME RAILROAD.

THE OGDENSBURGH, CLAYTON & ROME RAILROAD COMPANY will receive proposals at their Office in the Village of Rome, until the 24th day of October next, for the construction of their railroad from Rome to Ogdensburgh, to be completed as follows:

The Road between Rome and Boonville by the 1st day of August next. Between Boonville and Denmark by the 1st day of October, 1854. Between Denmark and Philadelphia by the 1st day of May 1855. Between Philadelphia and Ogdensburgh by the 1st of November, 1855.

The proposals will be received for the construction of the whole Road, including Lumber Ties and all other materials, with or without the Rails, in one contract, or in short sections, at the option of contractors, or offers will be received for furnishing the Lumber, Ties, and other materials separately, either for the whole Road or for sections.

The Maps, Profiles and Plans of the Road, together with specifications of the work and materials will be ready for the inspection of Contractors at the office, on or before the 10th day of October and Engineers will then be ready to show the line of the Road to persons desirous to contract.

By Order of the Executive Committee,
HENRY A. FOSTER, President.
R. S. DOTY, Secretary.
Sept. 12, 1853.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Wason's well known establishment at Springfield Mass., for the last Six years, we can guarantee ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.
Address, HENRY SIZER, Agent,
Cincinnati Ohio.

Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

Henry I. Ibbotson,
MANUFACTURER OF
FILES AND SAWS,
Warranted of superior quality.

Office and Warehouse, 218 Pearl st., New York.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
50 South 3rd Street,
Philadelphia.

May 1st, 1853.

TYRES.

LOCOMOTIVE AND CAR WHEEL TYRES, from the Manufactory of the celebrated and well known Iron Works of the LOW MOOR CO., in England, are furnished by the subscriber, Agent, by direct importations, ready Welded, Blocked, and Rolled, from only ONE BAR and with only ONE WELD, at a cost much below that of any other stamp.

Importations through the last year of nearly 3000 Single-welded Tyres, which are now found running on the important Railways, have rendered them in almost exclusive use, and their performance of over 20,000 miles each, have elicited the highest recommendations of their superiority.

All work of this Company is warranted to give satisfaction. Sample Tyres may be seen at the Crystal Palace, New York, and at my Warehouse, 9 Liberty Square, Boston.

W. BAILEY LANG,
24 BROADWAY, N. Y.
9 LIBERTY SQUARE, BOSTON.

N. York and N. Haven, R. R.

NOTICE OF SUMMER ARRANGEMENTS.



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.

New Haven, May, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PREATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

New York and Erie R. R.

PASSENGER TRAINS

leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. York City R. R., without change of baggage or cars; and also for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Susquehanna and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAT, at 3½ p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

BRANDS' LIQUID,

FOR DISSOLVING AND PREVENTING INCORUSTATIONS IN STEAM BOILERS,

It is acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel *gratis* to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents, Messrs. BOURRY & ROEDER, Consulting and Mechanical Engineers,

Aug. 10, 1853.

333 Broadway, N. Y.

Railroad Iron.

2809 Tons, T pattern, weighing about 57 lbs. per yard, of Guest & Co's make (G.L.), shortly expected at this port, for sale by BOORMAN, JOHNSTON & CO., Sept. 7. 90 Broadway, New York.

Railroad Iron.

THE Subscribers are at all times prepared to enter into contracts for Railroad Iron, of Messrs. Guest & Co., or other leading manufacturers' make, delivered free on board vessels in England or in this country.

BOORMAN, JOHNSTON & CO.,
90 Broadway, New York.

Stuart, Serrell & Co.,

CIVIL ENGINEERS,

Rooms 22, 24, 26 & 27,
157 Broadway, New York

CHARLES B. STUART,
DANIEL MARSH,

EDWARD W. SERRELL,
SAMUEL MCELROY.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms.

Also, McMillen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.

Aug. 10, 1853. 3m Office No. 25 Cliff street, New York.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

SIMEON DRAPER, 46 Pine st., offers for sale a variety of Railroad Bonds and Stocks; also, State, City, Town and Country Bonds, among which are:

State of Pennsylvania 5 per cent. coupon Bonds, \$1,000 each, coupons payable Feb. 1 and Aug. 1, in Philadelphia, mature 1877.

State of Georgia 7 per cent. coupon Bonds, \$500 each, coupons payable Jan. 1 and July 1, in Savannah, mature 1861.

State of Wisconsin 12 per cent. coupon Script, for improvement of Fox and Wisconsin Rivers, whole issue \$75,000, coupon payable Jan. 1, in New York, mature 1862.

State of New York 5 per cent. Canal Certificates, interest payable in New York.

City of Troy, N. Y., 6 per cent. Bonds, whole issue \$500,000, Bonds \$1,000 each, coupons payable Jan. 1 and July 1, in New York, mature 1867 and 1872.

City of Newburg 6 per cent. Bonds, whole issue \$100,000 coupons payable March 1 and Sept. 1, in New York, mature 1873.

City of Racine, Wis., 7 per cent. Bonds, whole issue \$300,000 bonds \$500 and \$1,000 each, guaranteed by the R. J. and Mississippi Railroad, and convertible into its stock, coupons payable Jan 1 and July 1, in New York mature 1872.

First Mortgage Convertible 7 per cent. Bonds of the Buffalo, Corning and New York Railroad, whole issue \$550,000, coupons payable in New York, April 1 and Oct. 1, mature 1867.

First Mortgage Convertible 7 per cent. Bonds the Western Vermont Railroad, whole issue \$400,000. coupons payable in New York Jan 1 and July 1, mature 1861-71.

First Mortgage Convertible 7 per cent. Bonds of the Columbus, Piqua and Indiana Railroad, whole issue of \$600,000, coupons payable in New York Jan. 1 and July 1, mature 1862.

First Mortgage Convertible 7 per cent. Bonds of the Mississippi and Rock River Junction, whole issue \$400,000, coupons payable in New York Jan 1 and July 1, 1863.

First Mortgage Convertible 8 per cent. Bonds of the Milwaukee and Mississippi Railroad, whole issue \$600,000, coupons payable in New York Jan. 1 and July 1, 1802.

First Mortgage 7 per cent. Bonds, Corning and Blossburg Railroad, whole issue \$150,000, coupons payable in New York May 1 and Nov. 1, mature 1873.

First Mortgage 7 per cent. Bonds, Toledo, Nowalk and Cleveland, whole issue \$525,000 coupons payable in New York Feb. 1 and Aug. 1, mature 1863.

First Mortgage 7 per cent. Bonds, Mansfield and Sandusky, whole issue \$730,000, coupons payable in New York Jan. 1 and July 1, mature 1860.

First Mortgage 7 per cent. Bonds Vermont Valley, whole issue \$386,000, coupons payable in New York April 1, Oct. 1, mature 1861.

First Mortgage 7 per cent. Bonds Troy and Bennington Railroad, whole issue \$100,000 coupons payable in Troy, New York Jan. 1 and July 1, mature 1862.

First Mortgage 7 per cent. Bonds New Jersey Central Railroad, whole issue \$1,500,000, coupons payable in New York Feb. 1 and Aug. 1, mature 1860/70.

First Mortgage 7 per cent. Bonds, Brunswick Canal Co., whole issue \$200,000, coupons payable in New York Jan. 1, July 1, mature 1857.

Also, Second Mortgage Bonds of many of the above Companies, and 7 per cent Bonds, Saratoga and Washington Railroad, whole issue \$340,000, coupons payable in New York, mature 1862.

7 per cent Bonds Troy and Boston, whole issue \$300,000 coupons payable in New York April 1 and Oct. 1, mature 1864.

10 per cent. Bonds Mansfield and Sandusky Railroad Co., whole issue \$170,000, coupons payable in New York April 1 and Oct. 1, mature 1855/57.

7 per cent. Mortgage Bonds of the Atlantic Steamship Co., whole issue \$700,000, coupons payable in New York, mature 1855.

8 per cent. Convertible Bonds of the Michigan Central Railroad Co., whole issue \$2,459,500, coupons payable in New York April 1 and Oct. 1, mature 1860.

Notice to Contractors.



PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile railroad, will be received at the Railroad Journal Office, New York, on the 1st of October next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 225 miles; commencing at Girard, in Russell County, on the west bank of the Chattahoochee river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.

GEO. S. RONEY, Chief Engineer.

Girard Railroad Office, 6th July, 1853.

To Contractors.



SEALED PROPOSALS will be received at the Office of the Chesapeake and Delaware Canal Company, No. 64½ Walnut street, Philadelphia, until the 15th day of September next, for the construction of the NEW LOCKS to be made on the Chesapeake and Delaware canal. Plans and specifications for said Locks will be exhibited at the office of the Company on and after the 8th of September.

ANDREW C. GRAY,
President Ches. and Del. Canal Co.



WHITE'S SUSPENSION BRIDGE, OF
WOOD OR IRON.

A Model may be seen at the office of CHARLES T. GRANT, 80 Broad St. N. Y.

Length of span, anything short of 1,500 feet with perfect safety for every kind of travel. The above cut represents a Wooden Bridge with a roof. The arrangement for the Iron Bridge is such as to avoid all the bad effects of changes of Temperature. For a full description, see pamphlets; for further information, respecting models, rights, &c., apply, by letter or otherwise, to ANNE WHITE, or JOSEPH P. TRAYLOR, Proprietors, Cambridgeport, Mass.
Office next door to the Athenaeum.

Notice to Contractors.



BUFFALO & PITTSBURGH RAILROAD.

SEALED PROPOSALS will be received at the Engineer's office in the city of Buffalo, until the 20th day of September next, for the gradation, masonry, and for the entire construction of the line of road, (about 75 miles) between the city of Buffalo and the Pennsylvania state line, in the valley of Tunawgant.

Plans and specifications will be ready for inspection at the office of the engineer on and after the 10th day of September instant. The proposals may be made for the grading, masonry, ties, fencing and entire construction in a single proposition or for the same and all items separately and independent propositions; and proposals as above for a single section or any number of sections will be received, the company reserving the right to reject such propositions as are not satisfactory. Any further information desired may be obtained by addressing Hon. Orlando Allen, president of the company, Buffalo.

Proposals are invited from contractors of ability for the whole road. Buffalo, Sept. 1, 1853.

E. R. BLACKWELL, Chief Engineer.

Notice to Contractors.



THE UNDERSIGNED will receive proposals, at the railroad office in Indianapolis, to construct the Evansville, Indianapolis, and Cleveland Straight Line Railroad from Evansville to Indianapolis. The proposals will be for the whole line, 150 miles, more or less, or for either of the three sections of about 50 miles each. First from Evansville to the crossings of the Ohio, and Mississippi railroad in Davise's Co.; second, from that point to Spencer, Owen county; Third, From that point to Indianapolis. The bid will be for the whole work the company finding the iron, chairs, and spikes), up to the rolling machinery, or for the earth and rock-work alone. The proposal will state what part of the pay will be received in real estate, bonds, and stock of the company.

O. H. SMITH, President.

WILLARD CARPENTER, Vice President.
Augt. 13, 1853.

Railroad Spikes.

THE Subscribers are manufacturing Railroad Spikes with Swett's Patent Improved Machines; and are prepared to execute orders for any quantity, on the most favorable terms. These Spikes are made of the best quality of iron, and, for shape and finish, are superior to any others. Railroad companies and others in want, are respectfully solicited to order a sample before purchasing elsewhere. All orders will receive prompt attention.

SWETT, ELLIOT & CO.
Pittsburgh, Pa., August 25, 1853.

OFFICE CINCINNATI, HAMILTON and DAY-TON Railroad Company.—Cincinnati, Aug. 9th, 1853.—The directors of this company have this day declared a dividend of five per cent. on their capital stock, payable to the stockholders registered in Cincinnati on demand, and to those registered in New York, on and after the 25th inst., at the office of the Ohio Life Insurance and Trust Company, in New York.

Im.

FRANK S. BOND, Sec'y.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 40.]

SATURDAY, OCTOBER 1, 1853.

[WHOLE No. 911, VOL. XXVI.]

The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, October 1, 1853.

Hudson River Railroad.

We regard the experience of the past year as decisive as to the question of the success of this great work. A year ago the Hudson River boats maintained so formidable an opposition and divided so large a portion of the travel, that the ability of the road to sustain their competition was an unsolved problem. It was impossible to say which had the advantage. But causes were then at work which have completely turned the scale. To compete with the river, it was necessary that both the road and its management should be superior to any in this country. A more delightful mode of travelling cannot be imagined than by steamboat upon the Hudson. These floating palaces afforded every comfort to be found in the most luxurious abodes. They moved at nearly the ordinary rate of passenger trains on most roads. The scenery, on the whole route to Albany, (only advantageously seen from steamboats,) is celebrated the world over for its beauty and grandeur. The distance by river, or by railroad is the same. The traveller could be drawn from the river only by being taken the same distance in half the time, at about the

same expense, and with a good degree of comfort. To fulfill all these conditions was no easy task. It is no longer strange that it required nearly a year or two for the railroad company to see clearly the task that was before them, and to bring up the management of the road to that degree of perfection necessary to achieve it. After repeated trials and disappointments, to which it is useless now to refer, this has been done. The degree of success obtained, may be best estimated from the fact that the *River* competition for first class passengers is completely broken down. It no longer pays to run the magnificent day boats that used to ply, and their places are now taken by the *Armenia* and the *George Washington*, which are mere *diminutives* both in size and accommodations to the stately and gorgeous palaces to which they have succeeded. Even these are but poorly patronized. The night boats are mainly given up to freight and emigrant passengers, upon which they will have to almost solely rely. The glory and pride of steamboat navigation on the Hudson, once the pride and boast of the country, has departed. This great highway has degenerated to a mere channel of business. The few who still patronize the day boats in summer, are the strangers who wish for once in their lives to behold the magnificent scenery of which they have heard so much.

While the passenger business has been rapidly declining on the river, that of the road is increasing in equal ratio. For the last three months, the increase of receipts upon the road, which are almost entirely from passengers, have been as follows, viz:

	1853.	1852.
June.....	\$94,978 79	\$64,827 73
July.....	121,584 00	86,016 01
August.....	130,627 76	79,455 97
Total.....	\$347,180 55	\$230,299 71
	230,299 71	
Gain.....	\$116,886 84	

or over 50 per cent.

While such are the results that the road has achieved upon the course of travel, the question of principal and interest is, their bearing upon the value of the road as an investment. The cost of the road up to the present time is probably \$11,000,000, the interest on which is \$770,000. The earn-

ings for August are \$130,627 76. Assuming this rate for the coming year, which we think will be exceeded, and we have an aggregate of \$1,567,532 12. Estimating one half of this sum for expenses, and there will be left \$783,766 56, which is more than seven per cent upon the entire cost of the road. Now although it will probably require \$2,000,000 more to complete the road, we see no reason why the earnings should not increase in an equal, and in fact greater, ratio, than the cost; nor why from this date, the road should not pay at least 7 per cent upon its cost. Such we believe will be the result.

We must say that we have been surprised at a success which seems no longer problematical. Till we saw the fact we did not believe that so large a part of the travel would quit the river for the land route. The company deserve the success they have achieved. The time allowed for the express trains between New York and Albany is four hours, requiring a speed of nearly forty miles an hour. The trips are performed with great punctuality, and every precaution is taken to secure the safety and comfort of the traveller. The rate of fare is only one cent per mile, or one half less than the average charge of other first class eastern roads, and less than one-third the amount charged on Southern roads. The result on the Hudson River railroad, is an era in the history of this country, and shows what can be effected by a system of low prices, united with high speed and good management.

To the city of New York the value of this road cannot be estimated. It brings the most remote portion of the state within an easy days ride of the city. A traveller leaves Buffalo in the morning, and early in the evening is comfortably housed in New York, having made a journey of over 470 miles. The greater part of this, and considerable portions of neighboring states, are, through the means of this road, brought within one days journey of this city, at rates that tempt nearly every body to travel, and New York is fast becoming the shopping place, not only for this state, but for large portions of New England. A person who has a few dollars to spend is attracted hither, because by doing so, he "kills two birds with one stone;"—makes a better selection of what he wants, and sees the sights at the same time. What is true of this

state, is also true of a considerable portion of the west, which is drawn to us in consequence of cheap and expeditious travelling over the above route. If New York possesses unsurpassed commercial advantages, she is becoming equally distinguished for the excellence of the artificial avenues which connect her with the interior. The Erie canal is now that great channel for freight between the east and the west. The Hudson River R. R. is equally a part of the great route of travel between the same extremes of the country. Next to the Hudson river and the Erie canal, we regard the Hudson River railroad as the most important means of maintaining the present and developing the future greatness of New York; and we are gratified that those to whose public spirit and unflinching energy amid the greatest obstacles and discouragements, so much is due, are so soon to reap the only pecuniary reward they ever looked for, a satisfactory income upon the cost of the road.

Railways of the United States.

We give below an article from the London Times upon the Railroads of the United States. Our readers will see that the article is made up entirely of extracts from different numbers of the *Journal*. It is none the worse for this, however. The first table given, we published on the 6th of Nov., 1852; the others, January 1, 1853. An article published in the *Journal* January 29, 1853, is the basis of the one in the Times. We should have liked it had credit been given, but we are still content with the good which we hope we have accomplished, in presenting a clear and intelligible view of our public works before the European public.

The augmentation of American wealth and the development of American resources, are due to so great an extent to the railroads that have already been built, and such vast amounts have been invested in them by Europeans, that I have considered the subject worthy of full investigation for my correspondence in *The Times*. I propose in this letter to begin a more thorough and detailed account of the progress of our railways, in order that your readers may form their own conclusions in regard to a matter which interests to them so deeply—viz, how safe and valuable are the railroad bonds and securities of the United States for permanent investment.

1. In all instances the railroads of the United States have received their charters from the Government of the several states through which their routes extend. I am not aware, with a few exceptions, of an instance in which the application of a company for a charter for a railway has been refused, provided the responsibility of the applicants, or the amount of capital stock subscribed, has afforded a satisfactory guarantee for the execution of their designs. The powers and privileges conferred by these state charters are very similar to those conferred by the British Parliament. Railroad property in the United States occupies the same relation to state government as the property of individuals. The companies are independent in their action, and responsible to the state authorities as private citizens.

2. I shall dwell more particularly upon the Western railroads, because their history, condition, and prospects more materially concern European readers, their bonds being those now most frequently in the market. A very large number of the Western railroads have obtained their charters under what are termed general railroad laws in distinction from special statutes, enacted for the incorporation of companies named within the acts. Within the last few years the tendency in this country has been to general, rather than to special, legislation. The great states (New York leading the way) have many of them enacted general laws authorizing the construction and providing for the management of

airways, as well as other corporations and great institutions. General railroad laws now exist in New York, Illinois, Ohio, Indiana, and Wisconsin, in all of which states special charters conferring special powers are prohibited. The same principle of legislation will doubtless be adopted in the other states. There are many advantages to the public in general laws, particularly as they concern railroads, for monopolies are thereby rendered impossible, and the principle of *laissez faire* is adopted and carried out with the least possible interference with private rights. Under their operation, associations of men have the same right to construct railroads as to build factories or ships, and it is found by experience that each community is as fully competent to regulate it is own affairs.

3. The stock and bonds of railroads are regarded as personal property, and as such, within specific limitations, subject to taxation. No tax ever can be laid upon the bed of a road, its iron, cars, &c.; but, where valuable real estate is owned for depots, taxes may be levied. But shares and bonds can only be taxed to the holder thereof; and, of course, cannot be taxed when held abroad. In this respect, European holders of American shares and stocks have an advantage over ourselves.

4. Companies organized under general laws cannot be dissolved without special authority from the Legislature of a state, and if the time comes that any American railroad Company asks for a dissolution, then, and then only, will the property of the company be distributed *pro rata* among the stockholders. I do not know a single onerous condition or obligation laid upon an American railroad company by any state, while I am not aware that any railroad corporation has been formed in England of which the same can be said.

5. No railroad can exist in the United States that has any right to declare dividends until it has discharged all its obligations due at the time; and all its bonds and debts of every description take precedence, and can be prosecuted and collected before the original stockholders can either receive a dividend or profit from it in any shape whatever. If there be a failure to pay its bonds or mortgages the bondholders or mortgagees can, by a short and simple legal process, become vested with entire control over the property, and manage it on their own account. In other words, the right to apply the wellknown principles of law to the relations of mortgagees and mortgagors, obtain in all our railroads, and they can be enforced by any court of equity within the judicial district. The payment of railroad bonds is generally secured by deed of trust to some known and responsible citizen of New York as trustee, with full power given in the deed to the trustee to take possession of the road, its income, franchises, personal effects, &c., in case of default, and to sell the same for cash to the highest bidder, at sixty days' notice, without the intervention of a Court of Chancery.

6. Nearly all the bonds issued by American railroads have the same general features. They are either secured by mortgage upon the property of the roads themselves, or they are common bonds for the payment of money. But they are subdivided into two classes—those which are convertible into stock at the option of the owner, to the amount of their face, whenever the owner sees fit; or they have no such condition attached. Convertible bonds have an advantage over the latter, in as much as they can be converted into stock so soon as that stock rises above par. This condition has been found peculiarly advantageous to many of the bonds of the Western roads, since the stocks of most of these roads have gone above par as soon as they were completed.

7. Nearly all the Western railroads were projected and built for the special benefit of the people themselves in those districts through which they pass. Their sole object was to be brought nearer to a market for their produce, and many municipal bodies subscribed for stocks with no expectation that they would ever become valuable in any other way. Capital was scarce in the West, at it is in most new countries. There was a serious want of outlets to New York and navigable streams. Hence these

railroads were undertaken with the expectation of general advantages to the community. But cities and counties could not create debts, or expend the money in their treasuries for such purposes, without special authorization from the state legislatures. The object of this was to give character and legality to their acts, that they might have binding force, and also to equalize the burden of those debts over the owners of property in those sections.

The charters, therefore, of almost all the Western railroads authorized those cities and counties through which they passed to subscribe by a uniform mode to the stock of those roads. But invariably one safe condition was attached to this permission—that such action should be authorized by a vote of the majority of the citizens themselves. This voluntary principle has worked admirably, because no city or county has had the right to subscribe for stock in roads until a majority of the voters thereof so decided; and thus the highest sanction of the will of the tax-payers and of law was imparted to their action.—In no one instance can I ascertain that any city or county has thus incurred a debt of more than from 2 to 5 per cent. on the taxable property of its citizens. The amount subscribed by cities and counties has ranged from \$50,000 to \$400,000, where the taxables would rise as high as from \$4,000,000 to \$16,000,000.

8. These municipal debts thus created have been secured by all the guarantees that the state legislatures could throw around them. The cities and counties have been required to levy and collect, in case of necessity, taxes (as any and all other municipal taxes are) from their own citizens, sufficient to pay the interest and provide a balance as a sinking fund to pay off the debt, when it should finally become due. In no instance has any Western city or county hitherto neglected to do this, nor is it likely that any ever will.

9. The bonds thus issued to railroad companies by cities and counties are guaranteed by the roads, and then sold in the market. They have all the legal force of a lien on all the property of those cities or counties, real and personal, and, if the proper authorities do not provide for the payment of the interest and principal, a *mandamus*, or an ordinary suit at law, can be issued, by which all the real and personal property of the citizens of those cities and counties can be attached and sold. Many years since the city of Bridgeport, in Connecticut, gave her bond to a railway company for \$100,000. For some reason the payment of these bonds was delayed. A holder brought a suit against the city in the State Court, and the Supreme Court decided on appeal that the individual property, real and personal, of each citizen, was liable for the debt of the city, and could be sold on execution of the decree.

10. The operation of these laws and of this system of subscription to roads has been uniformly, I believe, beneficent. I cannot learn that there is a completed road in Ohio, for instance, that has paid less than 10 to 14 per cent; and as in a great majority of instances, the cities and counties that gave their bonds have been enabled, either by converting them at their will into stock or otherwise, to sell them, and often at a large premium, thus realizing large profits for thus lending their credit. The city of Cleveland, in Ohio, subscribed \$400,000 to two or three roads, and she is now selling that stock at a premium of from \$24 to \$27 advance. Her taxable property since 1849 has risen from \$3,000,000 to \$7,000,000, while the population as well as taxable property has increased in almost the same ratio in those cities and those counties throughout the West where railroads have been built.

11. Another point of vast magnitude should not be overlooked. Nearly all the roads that have been constructed in the West, and those now in course of construction have been begun within the last 5 or 10 years. A large portion of those roads have paid from 7 to 10 per cent. before they were finished. This may be said of those which strike off into dense forests, as well as of those which lead from city to city, and for a reason that will be obvious to every reader. A road

can be built nowhere in the west that does not afford facilities to agriculturalists for taking their produce to market. To show by a mathematical demonstration the whole philosophy of the subject, after a remark or two, I will give you a table exhibiting the increased value of agricultural products in those districts where there is railway access to markets, and in those districts where there are none. We have no great interior markets. We are obliged to find the sea coast, to which our manufactures of almost every description are mainly confined; and from which of course, all our exportations to foreign countries are made. It has been proved that agricultural produce can be transported over railroads at one-tenth the cost that it can over earth roads, or common highways. The table I now give will show the amount that is saved per ton in transportation by railway, over the ordinary highways:

Statement showing the Value of a Ton of Wheat and one of Corn, at given points from market as effected by cost of Transportation by Railroad and over the ordinary Road:—

	Transportation by Railroad.		Transportation by ordinary Highways.	
	Wheat.	Corn.	Wheat.	Corn.
Value at market.	\$ 49 50	\$ 24 75	\$ 49 50	\$ 24 75
10 miles from m't.	49 35	24 60	48 0	23 25
20 "	49 20	24 45	46 50	21 75
30 "	49 5	24 30	45 0	20 25
40 "	48 90	24 15	43 50	18 75
50 "	48 75	24 0	42 0	17 25
60 "	48 60	23 85	40 50	15 75
70 "	48 45	23 70	39 0	14 25
80 "	48 30	23 55	37 50	12 75
90 "	48 15	23 40	36 0	11 25
100 "	48 0	23 25	34 50	9 75
110 "	47 85	23 10	33 0	8 25
120 "	47 70	22 95	31 50	6 75
130 "	47 55	22 80	30 0	5 25
140 "	47 40	22 65	28 50	3 75
150 "	47 25	22 50	27 0	2 25
160 "	47 10	22 35	25 50	0 75
170 "	46 95	22 20	24 0	
180 "	46 80	22 5	22 50	
190 "	46 65	21 90	21 0	
200 "	46 50	21 75	19 50	
210 "	46 35	21 60	18 0	
220 "	46 20	21 45	16 50	
230 "	46 5	21 30	15 0	
240 "	45 90	21 15	13 50	
250 "	45 75	21 0	12 0	
260 "	45 60	20 85	10 50	
270 "	45 45	20 70	9 0	
280 "	45 30	20 55	7 50	
290 "	45 15	20 40	6 0	
300 "	45 0	20 25	4 50	
310 "	44 85	20 10	3 0	
320 "	44 70	19 95	1 50	
330 "	44 55	19 80	0 0	

You thus see that although the value of a ton of wheat in the market be \$49 50c., and a ton of corn \$24 75c., the expense of getting a ton of the former to a market 330 miles off by the common highway eats up all the value of it, and a ton of corn in 170 miles; or in other words, the man who should get his wheat for nothing, and be obliged to carry it 330 miles over the common highway, would have no money left in his pocket, nor make anything if he got his corn for nothing and had to transport it 170 miles; yet he could take wheat, for which he paid \$44 55c. per ton, and transport it by railway 330 miles, without losing money, and when he got his corn, which cost him \$24 75c. per ton, to a market by railway 170 miles distant, he would still, after expenses, have \$22 20c. per ton left in his pocket, while the man who transported either of these articles by earth roads would have nothing.

This table is valuable, because it shows how permanent and secure must be the reliance of western railroads for their income. The vast bulk of our Western population is agricultural, and will long continue to be so, and by far the largest proportion of the receipts of their railways

will be from the transportation of freight. There is besides, hardly a country in the world where the same amount of labor produces an equal amount of freight. These and other reasons which will suggest themselves from the facts given, go to show how solid the basis would seem to be for the prosperity of the Western roads generally, while the premium for which their roads and stocks are selling, and the dividends they divide, illustrate the matter by incontestable facts.

13. The year 1852 has been the most prosperous year for our railroads in operation and in progress we have ever yet seen. Their increased earnings are said, upon good authority, to average an increase of 16 per cent. upon their *mileage*, and 10 per cent. upon their *cost*. Their vast increase is attributed partly to abundant crops and partly to a general increase of activity in every department of business; but in this country more than in any other the extension of the railroad system seems likely to exert a beneficial effect upon each individual railroad for itself. There is scarcely such a thing now heard of as travelling or freight transportation except on railroads or by water. Our people are perceiving that undue importance has been hitherto attached to our canals, and it is now found to be quite difficult, if indeed it will not ultimately prove impossible, to get the people of the State of New York to appropriate \$10,000,000 more for the final enlargement or completion of the canals already built in this commonwealth alone. Transportation or travel by canals is too slow—it does not suit the electric speed with which we are advancing. We may therefore expect in the future that little more will be done for canals, while a network of railroads seems destined inevitably to cover this continent.

14. I give you below a tabular statement, showing the number of miles of railroad in operation and in progress on the first of January, 1853, with the specifications for each state:—

States	No. of miles in operation.	No. of miles in progress.	Tot.
Maine.....	395	111	506
N. Hampshire.....	500	42	542
Vermont.....	439	....	439
Massachusetts.....	1,140	66	1,206
Rhode Island.....	50	32	82
Connecticut.....	630	198	828
New York.....	2,150	1,004	3,154
New Jersey.....	254	85	339
Pennsylvania.....	1,211	914	2,125
Delaware.....	16	11	27
Maryland.....	521	....	521
Virginia.....	624	610	1,234
N. Carolina.....	249	248	497
S. Carolina.....	599	296	895
Georgia.....	857	203	1,060
Florida.....	23	....	23
Alabama.....	236	666½	902½
Mississippi.....	95	875	970
Louisiana.....	63	200	263
Texas.....	82	....	82
Tennessee.....	185	509½	694½
Kentucky.....	94	659	753
Ohio.....	1,418	1,736	3,154
Indiana.....	755	979	1,734
Michigan.....	427	....	427
Illinois.....	296	1,662	1,958
Missouri.....	....	515	515
Wisconsin.....	56	417	473
Total.....	13,315	12,029	25,343

I have carefully compared this table with an authentic one published one year before, and it shows an increase of 2,500 miles of roads built and in operation, and 1,150 miles of roads in progress, during the short period of twelve months. I may also add, that with hardly an exception, there has been a corresponding, if not a greater, increase in the revenues of the American Railways during the same period.

If we go back to January 1, 1848, we find that there were only 5,565 miles of road in operation at the time, while the table I have given above shows

on January 1, 1853, 13,315. I subjoin another table, showing the area and the number of square miles to each mile of railroad in the several states:

States.	Areas.	Sq. miles to each mile of railroad.
Maine.....	30,280	506
N. Hampshire.....	9,000	542
Vermont.....	10,212	439
Massachusetts.....	7,800	1,206
Rhode Island.....	1,306	82
Connecticut.....	4,674	828
New York.....	46,000	3,154
New Jersey.....	8,320	379
Pennsylvania.....	46,000	2,125
Delaware.....	2,120	27
Maryland.....	9,356	521
Virginia.....	61,352	1,234
N. Carolina.....	45,000	497
S. Carolina.....	24,500	895
Georgia.....	58,000	1,060
Florida.....	59,268	23
Alabama.....	50,722	902½
Mississippi.....	47,156	970
Louisiana.....	46,431	263
Texas.....	237,321	32
Tennessee.....	45,608	694½
Kentucky.....	37,680	723
Ohio.....	39,964	753
Michigan.....	56,243	427
Indiana.....	33,809	1,734
Illinois.....	55,405	1,958
Missouri.....	67,380	515
Wisconsin.....	53,924	473
Total.....	....	25,343

I add still another, showing the population of the several states in 1850, and the number of inhabitants in each to one mile of railroad:

States.	Miles of Railroad.	Population.	Inhabitants to one mile of railroad.
Maine.....	506	683,188	1,512
New Hampshire.....	542	317,964	587
Vermont.....	439	314,120	719
Massachusetts.....	1,206	994,499	828
R. Island.....	82	147,544	1,799
Connecticut.....	828	370,791	447
New York.....	3,154	3,097,349	982
N. Jersey.....	339	480,553	1,417
Pennsylvania.....	2,125	2,811,786	1,088
Delaware.....	27	91,535	3,348
Maryland.....	508	583,035	1,104
Virginia.....	1,234	1,421,661	1,152
N. Carolina.....	499	868,903	1,748
S. Carolina.....	895	568,507	747
Georgia.....	1,060	905,999	855
Florida.....	23	87,401	3,800
Alabama.....	902½	711,671	855
Mississippi.....	970	600,555	620
Louisiana.....	263	517,739	1,968
Texas.....	32	212,592	7,043
Tennessee.....	694½	1,002,625	1,449
Kentucky.....	753	982,405	1,304
Ohio.....	154	1,980,408	628
Michigan.....	427	897,654	931
Indiana.....	734	988,415	570
Illinois.....	948	51,470	434
Missouri.....	515	882,033	1,324
Wisconsin.....	473	605,091	646

You will therefore see that Massachusetts which has 1,200 miles of railroads and 1,000,000 of people has one mile of railroad for every 828 persons.

Americans themselves can hardly imagine the railroad progress of the United States till they come to the figures of what has been actually done; much less can they comprehend our probable progress in the future. Those who have bestowed the most reflection on the subject entertain no doubt that the construction of railways in the southwest and west—that illimitable granary of the world—will continue and increase with augmented ratio for a long time to come. If that vast

district should be supplied with railways as Massachusetts now is, it would demand at least 100,000 miles of railway. What student of political economy in England or in America can fail to draw an inference here in favor of free trade? With the superior facilities of Great Britain for manufacturing iron, and our still greater facilities over her for the prosecution of agriculture, who is so blind as not to see that she ought to make our iron and take her pay for it in bread, unless bad and unhealthy legislation interrupts this natural order of the law of providence?

Tennessee and Alabama Railroad Company.

This Company organized to construct a railroad from Nashville, Tennessee South to the intersection of the New Orleans, Jackson and Great Northern Railroad with the Tennessee River and the Memphis and Charleston Railroad at Tusculum, nearly opposite Florence Alabama made their first annual report to the Stockholders on the 19th July last, at which time their annual meeting was held at Franklin Tennessee.

The following is a list of the officers and Board of Directors: John S. Claybrooke, President. R. H. Bradley, Treasurer. Capt. John Childre, Chief Engineer and Mr. A. Anderson, President Engineer.

DIRECTORS.

John S. Claybrooke, Triune, Samuel Henderson, Franklin, Elijah Thompson, Franklin, Thomas F. Perkins, Murfree's Fork, Frank Harleman, Murfree's Fork, Peter A. Perkins, Franklin, Thomas Parkes, Franklin, James H. Wilson, Little Harpeth, John McGayock, Little Harpeth. M. G. L. Claiborne, Nashville. Jefferson Martin, Lawrenceburg, Claiborne H. Kimbard, West Harpeth. William P. Cannon, Johnson Jordan, Harpeth Lick.

The experimental lines of Survey were commenced by the Engineers and an efficient corps of assistants about the 27th of September last and having been concluded and estimates of the cost of construction formed, the Board selected the most eligible route and reported it to the Stockholders.

The report of the President proceeds as follows:

The direction of the road being north and south, and crossing the streams and ridges nearly at right angles, and the ridges generally being composed of deep stratas of limestone, it required much care and skill in selecting a judicious and economical line for the location of the road; but we can congratulate you in the good fortune of having obtained the services of an experienced and enlightened Engineer, with well qualified assistants, whose extensive experience in locating as well as in constructing Rail Roads, will compare favorably with any similar officers in the Union.

Much of the responsibility in all matters connected with a judicious location and a proper and durable construction of Rail Roads, devolves upon the Engineers, therefore it is all important that they should be qualified to discharge the various duties that properly and legitimately belong to their office.

Twenty-eight and half miles of the road have been placed under contract, commencing at Nashville and terminating in the vicinity of Spring Hill, including graduation, bridging and a portion of the masonry. The whole estimated cost of the said 38½ miles, ready for the iron rails, will be two hundred and eighty-seven thousand one hundred and three dollars.

The necessary surveys for the determination of the location of the road as far as its terminus on the dividing line between the States of Tennessee and Alabama, have been made, and negotiations are now pending for the connection with the Rail Roads now under construction in the States of Alabama, Mississippi, Louisiana, and West Tennessee. When the roads shall be completed and the

connections formed, Nashville and central Tennessee will be by the Tennessee and Alabama Rail Road, placed in connection with New Orleans, Memphis, Florence, Mobile, Huntsville, and all the intermediate country and towns.

The capital stock of the Company is represented as follows:

Amount subscribed by individuals,	\$725,800 00
" " by the town of Franklin.....	20,000 00
" " by the county of Davidson..	200,000 00

Making a total of \$945,300 00

The subscriptions of the town of Franklin and county of Davidson were made payable in bonds, and the bonds are now in a state of preparation for execution and delivery to the Company, after which they will be negotiated.

So soon as thirty miles of the road are graded and the bridges and masonry are completed and cross ties are prepared and furnished along the line, ready for putting down the iron rails, according to the general Internal Improvement law of Tennessee, the Company will be entitled to State aid or to the bonds of Tennessee for \$8,000 per mile, to pay for the iron and machinery.

The object of the Board of Directors, has been to press forward to completion, a section of thirty miles, commencing at Nashville and terminating in the vicinity of Spring Hill, in Maury county, and to have, if practicable, the locomotives and cars running on that distance of the Road within 12 months; and accordingly have ordered the contracts to be made for the necessary quantity of iron, locomotives, cars, &c., which will put that portion of the road in complete operation.

Such a policy was deemed advisable, to carry forward materials for constructing the road, as also that so much of the capital as was vested, might not be dormant, but producing an income. If a Rail Road of thirty miles in length, passing through a rich productive and densely populated country, will pay, we are clearly of the opinion that this portion of Tennessee through which the Tennessee and Alabama Rail Road runs, will compare favorably with the same extent of territory, any where in the valley of the Mississippi.

From a comparison with two roads in Tennessee, a short distance of which were put under running operation, it is confidently believed that the road from Spring Hill to Nashville, will pay a fair profit on the amount of capital vested in its construction.

When the whole road shall be completed, being about one hundred and twelve miles in length, and its various connections formed, the Board of Directors are satisfied that it will be one of the very best investments of capital in the southwest, not only because it passes through a rich and densely populated country, from which it will receive a heavy way patronage, but likewise from its connection with other roads, crossing the parallels of latitude from the Lakes on the north to the Gulf of Mexico on the south, the Tennessee and Alabama Rail Road, being the intermediate link or line of road over which the passengers and products of the two extremes will necessarily pass, at least so long as the centre of population lies east of said road.

The permanency of a work so valuable as this is contemplated to be, should be well executed, as the road will pass over a section of country that abounds in stone, one of the best and most durable materials for construction. The cost and repair of the road itself alone being considered, the more substantial structure would be preferred to a lighter one, when the annual repairs of the latter in perpetuity, would exceed those of the former, by an amount greater than the additional first cost of the former.

From practical experience and observation, the more firm the roadway and the more complete the finish of the work in all its parts, the less is the cost of transportation upon it, consequently the the greater are the profits of the road from a given amount of transportation at fixed rates.

Such is the result of experience, that a liberal and judicious expenditure in the best economy, and this rule has been therefore adopted by the Board of Directors in the construction of the road.

The Directors will close this report by assuring you that the enterprise in which you are engaged, is one of much importance and value, not only as a good investment of capital to those who are concerned in its construction, but the whole people along its line, and the day is not far distant in the future, if you will be only true to yourselves, that any assistance you may need to hasten it through, will be freely afforded to you, from the north and south, and along the whole line, such will be the necessity and demand for a thorough and complete connection with other roads, therefore all reasonable anticipations and expectations will be realized.

JOHN S. CLAYBROOKE, Pres't.

The condition of the finances of the company is shown by the report of the Treasurer as follows:

The undersigned respectfully submits to the President and Directors of the Tennessee and Alabama Rail Road Company, the following report of the condition of the books of the Company, on the 1st of July, 1853:

Capital Stock—which consists of Individual Subscriptions	\$725,300 00
Davidson county Subscriptions	200,000 00
Town of Franklin Subscriptions	20,000 00
	<hr/> \$946,300 00

Am't in Cash rec'd on Indiv. Subscriptions. \$31,643 25

Am't paid out for Graduation and Masonry

Engineering & contingencies... 6,102 60

Real Estate 600 00

Incidental expenses.. 709 10

Cash on hand 711 01

\$31,643 25

Am't in work after deducting 20 per cent, and paid in stock,

By Marr & Tarkington \$1,077 10

By Henderson & Hughes.. 984 44

By Perkins & Cannon.... 3,586 24

By H. & A. C. Maberry... 1,332 95

By Jno. Thompson

son

By Thompson & Core.... 4,894 68

By Perkins & Bradley ... 2,983 78

\$15,780 51

\$47,873 76

Balance of original Stock

R. H. BRADLEY, Treasurer,

T. & A. R. R. Co.

We annex in full the report of the Engineer which shows the route selected and the condition of the work on the 1st July last.

To the President and Directors of the

Tennessee & Alabama Rail Road Company:

GENTLEMEN:—The preliminary surveys for the Tennessee and Alabama Rail Road, under its present organization, were commenced at Nashville, on the 25th of September last. The charter requires the road to pass by way of Franklin, Spring Hill, near Columbia and Mount Pleasant, to the State line of Alabama in the direction of Florence. The several points mentioned divided the road into sections, and the surveys and location were made accordingly.

From Nashville to Franklin two lines were run, the eastern by way of Brown's Creek, Atkinson's

and Bradley's Gaps; the western passing near the Penitentiary, and through Smith's and Berry's Gaps. From the notes of a survey by Mr. Mead a profile was constructed of his line through the White Gap. An approximate estimate of the comparative distance, cost, grades and curves of these lines was submitted to the Board of Directors in November, and all things being in its favor, the eastern was selected. The location was immediately commenced at Atkinson's Gap, and the first four and five-eighths miles north made ready for contract. This was let on the 19th of November, and work commenced by the first day of December, since which it has been steadily going forward.

The surveys were resumed south from Franklin and two lines were traced to a common point four miles beyond Columbia, one of them passing through Hood's Gap, the eastern part of Spring Hill, and the town of Columbia; the other by Forth's Mill, Gidding's Gap, through the western part of Spring Hill, and two miles west of Columbia. A map, profiles and estimates of the two lines as far as Spring Hill, were submitted to the Board, January 24th, and the western line being selected as the best was immediately located, and together with that part of the road from Atkinson's Gap to Franklin, was put under contract the 14th of February, the whole to be completed by the first day of March, 1854.

The two miles next to Nashville were let last month to a company, who have commenced the grading with energy, and if not prevented by sickness, or other misfortunes, will have it in condition to receive the track by the first day of February next.

From this it will be seen that all the graduation is now under contract, and going vigorously forward, from South Nashville to within one and a half miles of Spring Hill, a distance of twenty-eight and a half miles.

The bridging is all taken by Maxwell, Briggs & Co., of Knoxville, an energetic, practical and responsible firm, who are ready to complete it when called upon.

The graduation of one light section next Spring Hill remains unlet, to make up the thirty miles required to be prepared for the track before the State aid can be obtained.

The heaviest masonry between Nashville and Spring Hill is not let, but arrangements will be made that the opening of the road will not be delayed in consequence.

The plan on which the road is being constructed is of the most substantial and durable character, equal to the first class of northern roads, and fitted to do the immense business that must inevitably crowd upon it on its completion and connection with the different roads north and south.

The contracts for delivering the cross ties on the first thirty miles, are to be closed the present week, and it is anticipated they will be ready to lay down by the time the iron can be received.

The amounts of money expended on the road, up to the first day of July are as follows:

On account of graduation and masonry	\$23,774 41
On account of Engineering and contingencies	6,239 00
	<hr/> \$30,013 41
Value of work done on the road	\$51,236 62
Am't paid as above	\$23,774 41
" retained on contracts	7,731 24
" executed by stockholders in payment of their stock	19,780 97
	<hr/> \$51,236 62

The estimates of cost of the road as far as under contract, 23½ miles, ready for the track, are as follows:

For graduation and masonry	\$205,249 70
" ballasting	30,138 75
" cross-ties	20,715 00
" station grounds, right of way, &c.	30,000 00
	<hr/> \$287,103 45

The preliminary surveys have been made for the entire road. The line as run, passes just east of Mt. Pleasant, and ascends the ridge beyond, by following up Buckner's branch of Bigby Creek. From the summit, two general lines present themselves, both of which have been examined: the eastern on Lawrenceburg route, which intersects the Alabama line at the head of Blue Water Creek, nineteen and a half miles from Florence; and the western, which following the ridge between the waters of Shoal Creek, and Big Buffalo River, strikes the Alabama line on Cypress Creek, seventeen and one half miles from Florence. On a portion of eastern line, we depended on the surveys of a party under the direction of Mr. Hazkurst, of the New Orleans Road, the notes of which were politely furnished by order of Mr. Grant, Chief Engineer of that road.

By the eastern route, the distance from Nashville to the Alabama line is 98½ miles; by the western it is 112 miles.

Should the New Orleans road cross the Tennessee River at Chickasaw, as is most probable, the western is the shortest line to New Orleans and Mobile by nine miles,—and to Memphis by the Mobile and Ohio Branch Road, and the Memphis and Charleston road, be 23½ miles.

A few words as to the position and prospects of your road. Running through the wealthiest portion of the State, and much the most favorable for the construction of a road east of the Tennessee River, with the exclusive right to build railroads through a belt of country forty miles wide, and forming the grand trunk connection between the system of railroads north and south, it cannot if properly managed fail to prove the best railroad investment in the whole southwest. At its northern terminus it connects with the Nashville and Chattanooga railroad, now nearly completed; the Louisville and Nashville railroad, in progress; the Edgefield and Kentucky railroad, proposed, and a portion under contract, connecting with southern Indiana and Illinois; the Nashville and north-western road to the Mississippi river, in the direction of St. Louis, and the Nashville and Cincinnati road, through central Kentucky, to Cincinnati, and thence to New York, Philadelphia and Baltimore.

At its southern extremity it will connect with the New Orleans, Jackson, and Great Northern railroad, and by a branch of the Mobile and Ohio railroad, with that road, and the Memphis and Charleston railroad in the direction of Memphis, forming the most direct communication between central Tennessee and the rich cotton lands of Arkansas. No just idea can be formed at this time of the immense amount of trade and travel, that must from the position of your road, of necessity pass over it, when these connections are completed.

The policy of your company then, is obvious, to go on with the construction as fast as their means will permit, and spare no exertion to meet the New Orleans and Mobile and Ohio Branch Roads, by the time they can reach the points for connection. To Mt. Pleasant it should be put under contract at the earliest practicable moment. When completed to that point, you would have a road fifty-three miles in length, on which you would be entitled to the State aid to the amount of \$400,000, and \$24,000 more, when an additional seventeen miles should be prepared for the track, and which would pay a handsome profit on the investment from the way business alone.

Respectfully submitted.

A. ANDERSON,
Resident Engineer.

Franklin July, 1853.

Macon and Warrington Railroad.

At a meeting last week of the Provisional Board of Directors of this Company, we understand that Col. Wm. G. Bonner was appointed Engineer. We also learn that Col. Bonner is now in Augusta arranging his corps, and will as early as possible commence the survey at Warrenton, and run a route to this city, and another corps will simultaneously make the survey from this

city to Macon. Col. Bonner's instructions are to run the most direct route from Warrenton to Macon, passing through Sparta and Milledgeville and as near to Clinton as possible, and to have his estimates based on a grade not to exceed 35 feet to the mile.—*Federal Union.*

European and North American Railroad

The ceremony of breaking ground upon this important work came off, with great eclat on the 14th inst. at St. John, New Brunswick. The occasion collected great numbers of the leading railway men of the Provinces, and the State of Maine, and may be regarded as the most important era, in a mercantile point of view that has ever occurred in the Provinces of New Brunswick, and Nova Scotia. The Governor of the Province of New Brunswick Sir Francis Head, officiated at the ceremony of breaking ground. The whole affair passed off in a most happy manner. Among the gentlemen present were Messrs Jackson & Betts, representing the parties contracting to build the road. We give Mr. Jackson's speech on the occasion, that our English readers may see how one of their own countrymen talks when on this side of the water. His speech was in reply to some remarks of the Lieutenant Governor, recognizing the eminent character and services of the contractors, proposed the health of Messrs Peto, Brassey Betts, and Jackson.

Mr. Jackson rose and replied as follows:—In acknowledging the toast which has been proposed by so illustrious an individual, and received in such a gratifying manner, I feel some difficulty; but I do not feel any difficulty in expressing the gratification which my partners and myself have experienced in witnessing the efforts made in co-operating with us in the enterprise. We have seen a will, a heart thrown into the whole of your operations, and a fixity of purpose which can only end in one way. That gives to us, who may be said—(and I speak with diffidence and deference, as representing the capitalists of England)—It gives to us a confidence greater than I can express. It gives us an assurance that among you the general benefit is to be considered before private interests; it gives us an assurance that the same spirit will be acted upon throughout, and that every man will patiently wait for his turn to come, before thinking of self. I came here last year a stranger; I came here quite unprepared to see what I have seen; I came as a practical man, versed in commercial affairs, and having for 36 years been hard at work at the plow; I came to see and hear, and learn; but all that I have ever heard, or read of or seen, or witnessed, does not come up with what I have seen in these British Provinces. (Here Mr. J. was interrupted by a long roar of uproarious applause.)

I came here to be useful; first to myself; don't be mistaken; I did not come here on the narrow-minded principle of merely selfish interest, regardless of others; but for the benefit of others. I have travelled through all these Provinces, and I will challenge any man in this room to say, that he has gone through all the same districts, that he has seen the same scenery or witnessed as much of these Provinces as I have. I have gone through them on the principle that my friends and partners will ask me on my return, have you seen all these things that you speak of? and I am prepared to say, "I have." To use an American piece of phraseology, "I am properly posted up." Your rivers and lakes are unquelled, your forests and fisheries are inexhaustible; your soil is fat, producing subsistence for man, even while he is destroying it; for in these young countries man destroys while he creates; your indomitable self-will and energy are beyond all praise, and will assuredly lead you on to prosperity and wealth. One portion of your great Province

is a fertile producer of food; another produces every mineral necessary to the interests of mankind;—and these want only the combination of one with another, and uniting them together, to render them abundantly available. You have within you the means of attaining a great greatness, and you must attain it. Therefore when I came here last year, I did not hesitate in meeting your wishes, in promoting your interests, and in making a profit for ourselves. That profit may be long in coming, but our children will enjoy it; and the principal being in honest hands, we may safely trust it with you. I took the measure of New Brunswick, of Nova Scotia and of Canada. I said "it will never do for conflicting interests to exist here; the work can only be done by a combination of all the provinces." It was said there would be difficulties in New Brunswick. I saw none; in Canada there were much greater difficulties: there were conflicting interest to be reconciled; there were the jealousies of various localities to be overcome. But what has happened there? We have brought about an amalgamation of the whole; all these interests are now united; there is not one of them that is not satisfied; all are united in one great combination to carry out the whole project. There are many in this room who can witness that I have never lost sight of the lower Provinces, or of your interests. You have only occasion to sink all your own local differences, all your conflicting prejudices and feelings; do not look at this district, or at that district, but at the whole Province. Let us feel that New Brunswick without Maine is useless; Maine without New Brunswick is useless: let the iron band run over all alike, and you will find that yourselves will be infinitely greater and more prosperous than can now be conceived. The works in Nova Scotia will be ample, and easily effected. We have thought it our duty to lay before you a comprehensive scheme; and I intend to do so before I go away from this city. I entreat you, as you love the interests of your country; to sink all your differences, and to establish a Railroad through both the Northern and the Southern districts of the Province. No doubt many of you have read the speech of that eminent man, Mr. Stephenson, at Toronto. He spoke impressively of the folly of Legislation, which has been experienced in these matters in the mother country, arising from conflicting interests, and legal expenses; he showed, that from sixty to seventy millions of money have been thrown away in these contests. Now you cannot afford that. We came here, courting no man's favor and fearing no man's frown. We have had railway experience in every part of Europe, and are therefore well versed in the business; and in this undertaking, of which the first sod has been turned to-day, we feel that we have a local interest, that we have a right to speak; we have a right to give our views clearly and explicitly. They are not the views of to-day or of a few days, but the views of every day since I left you last year. We have also, since then, taken the views and opinions of others of men of eminent experience and judgment; and we can only say, that if, dropping all local feelings and differences, and forgetting all sectional prejudices, you will cordially unite together with us, we will carry the whole thing through for you. But there must be no want of confidence for that we will not overlook. We stand on our character, and if you dispute that you throw us out of the country.

We stand on that, and we have a right to it, for we have earned it by long experience and practice. We will stand on the scheme advanced by Mr. Poor at Portland. You must give a little now that you may reap much. We will carry the railroad through the whole of your provinces, which will redound immensely to the good of all. I am glad to see many here from various parts of the province apparently approving of our proposition. But if you think you can do better, then at once tear off the seals from the contract and annul it. But there is not one single word of that contract which we will ever deviate from in the slightest

degree; and under that contract we will make a railroad through your province, which will be a pattern road for your sister provinces to come and look at. We will deal with you as we have ever dealt with others, and we will come to you with our characters in our hands, requiring your entire confidence. Everything we have hitherto done in New Brunswick, shows that we have the fullest confidence in you; we believe that there is a fixity of purpose in you worthy of being trusted; and one great proof of that is the tight and hard bargain that you made with us. That we consider as a guarantee of your entire sincerity and good faith. [Here, from the bustle around us we lost a few words.]

I do hope and trust, that the railroad which will unite the provinces, will have the effect that has been shadowed forth by previous speakers. I have heard but one feeling in Canada, of a desire to meet this question fully, fairly, and freely; and I think it but right to state, that if ever you come to meet this question of Provincial union, Canada is prepared to do her duty; and I believe that Nova Scotia is equally so prepared. I have had the honor of interviews with the Duke of New Castle and Mr. Gladstone, the Chancellor of the Exchequer upon this subject; and I think I may say that the project is favorably viewed by the Government at home. In Canada, so strong is the desire to open further and more rapid communication between the provinces, that Canada is prepared to make great sacrifices to effect this measure. If you are prepared to meet her in a kindred spirit; if you will only forget the past, and will only endeavor to remember what will benefit the provinces unitedly; there can be but little doubt of a successful arrangement of the matter. I can tell you that your honest, indomitable perseverance and industry have given you a high character in Canada; and if you only go on in the same way, you will effect a most important change in your situation. You have a land teeming with riches. You have within yourselves resources of unparalleled extent and value; and if you only go on in a right spirit, you will leave to those who are to follow you such an inheritance and possession as any portion of the world might envy; and if you meet Canada if that spirit, your united efforts and resources must result in prosperity and greatness. I may not have another opportunity of paying my respects to so many inhabitants of your province; but I feel assured that when we meet again, I shall feel at home among you; and it will give me the greatest pleasure to meet you again. When I come again I hope that all will meet together with good feeling and unanimity;—that all will act together with good intentions to unite in promoting the permanent prosperity of the province at large, which will assuredly promote our own individually. The surest way to attain our ends, is to study the good of the public at large, in all our projects and enterprises.

Mr. Jackson sat down amid thunders of applause, which were repeated again and again.

We also give the speech of JONAS A. POOR, Esq., of Portland, Maine, whose name is intimately associated with this enterprise.

Hon. J. H. Gray proposed the health of JONAS A. POOR, Esq., which was drunk with enthusiasm.

Mr. Poor rose to respond; and observed, that no one present could look forward with any expectation of witnessing another occasion, that for interest and enthusiasm, should exceed the one that had brought them together. He felt honored by the complimentary manner in which his name had been proposed, and for the cordial response with which that sentiment had been received. He might well feel proud of having taken any part in a measure which had united, on an occasion like this, so large an assemblage from so many different quarters, for one great purpose.

Allusion has been made to the early measures towards the carrying out of this enterprise, and the citizens of Portland feel just pride in the recollection of the memorable Convention, when the

plan of the European and North American Railway was matured. The Portland Convention was a kind of "love at first sight." When first they met together, they felt all the tenderness, all the diffidence, all the blushing bashfulness of young lovers. They looked forward with diffidence when they made their first proposition. But how had that proposal been responded to? His own Government on one side, and the Provincial Government on the other side, had made mutual advances, and he looked forward with entire confidence that the two countries would soon be indissolubly united.

The follow out the figure, they might now have confidence enough in each other to say, that Maine and New Brunswick "were engaged"—that offered to be united. The parental consent had been fully given on both sides. The Home Government had consented for New Brunswick, and our own National Government is equally well pleased with the match. (Loud cheers.) A little further courtship may do no harm, but they may be permitted to look forward with impatience to the consummation of their hopes an ardent longings.

Mr. Poor said he might, perhaps, be misunderstood: he was no politician; he hoped and expected that the present political relations between the two countries might long continue. The great and glorious government under which he lived, owed to the parent country those institutions and principles which had made the United States what they have now attained; they would not have had the stimulus and emulation which have led them forward in their onward career. He had been led to modify his own notions on this subject, as he had gained experience and knowledge in political affairs.

Great Britain, in his estimation, had gained as much by the separation of the thirteen colonies from the mother country, as had the colonies themselves. This union of the States into one confederacy was as a necessity as a war measure, and many feared that the Union would fall through when this pressure was withdrawn. But the difficulty was, in keeping the confederacy together, cementing and strengthening the Union, until its bands should become strong. But for the outward pressure, the danger was that the States would have been thrown off from each other, in the accelerated movement of our political system.

The presence of a superior power upon this continent held the elements of internal discord in check, while it kept the States in their respective orbits, as the law of gravitation holds the stars of heaven in their courses. This wholesome training like the influence of family government, gradually inspired confidence and respect, improved the material condition of the people, drew forth the kindlier influences of humanity and good fellowship till the nation rises superior to the mere claims of political convenience, and confidence in our own government, and a love for the Union, had become the popular sentiment of the United States. (prolonged cheering.)

Our political system had by this means grown into greatness and strength: it had enlarged its borders,—from thirteen States they became thirty-one States, and the figures had been reversed, which seventy years ago numbered the stars of our political constellation. All this has come from the fact of our Union, and this Union might not, and probably could not have been preserved, but for the necessity which the power of England imposed upon us, of being united.

In this way the United States had become a debtor to England, and from this condition of things, under God, this government of ours has grown into greatness and importance. Since the settlement of the Boundary question there remained little matter of difference, and the men of both countries can now look across the border and see men of common race and origin engaged in the same great works.

He believed that under the Providence of God, they owed more to the Government of New Brunswick, for this result, than to all the other Provinces put together, from the continual intercourse and traffic between the two countries. The people of

both owned a common origin, they had a common interest, and a common destiny. They were bound to become one in all those purposes for which life was to be desired.

They would not question under what banner they range, whether under the glorious old flag that braved a thousand years, the battle and the breeze, or under the 31 Stars; they must feel they belonged to the same family, were of the same kith and kin, and the same blood, and that the same spirit animated them all.

Mr. Poor said, if he had only lived to see this day, he would say that he had not lived in vain. The ties between the two countries, ties social and commercial, would now be cemented: the proceedings of this day would strengthen those ties of friendship and good feeling that ought ever to prevail between them. He could not but congratulate his own countrymen and those of this Province. What had they seen to day for the first time? A great international communion. To-day, we saw not only Maine and New Brunswick united, but we saw England and her Provinces on the one side, and the States of the Union on the other, in friendly council. Members of the English Parliament are sitting side by side with those of the American Congress, and the Lieut. Governor of New Brunswick, in his national uniform, is in the closest intimacy with the distinguished officer of the U. S. Navy, (Com. Shubrick), who has honored us this day, with his presence, and shared in this day's labors.

The great event of this day was not celebrated in feebleness as they had begun three years ago, and he was happy to congratulate them on this great international celebration, at which attended, men representing the gallant old South Carolina, Louisiana, Massachusetts and the other New England States. The great State of New York, "the Empire State" of the confederacy, has sent her representatives to share the festivities of this occasion. Louisiana was the first of the Southern States, to recognize the international character of the enterprise this day commenced. She claimed that the E. and N. A. Railway, and "The Teban tepec railroad," were parts of one great chain of railroads, were in fact the extensive links in that mighty system of railway connections that was to bind together, in one harmonious whole, the entire Continent of North America.

The same spirit animates us all. They all had a common origin, a common interest; and let that community of feeling continue forever! Let them each, like the stars that travel in the heavens round the sun as their common centre, regard with one common feeling old England as their parent and their centre of attraction; and while States and Provinces belonged to distinct and rival—but not hostile systems—let each obey its own law of gravitation, and, confined to its own orbit, they would like the constellations above us, one bright and resplendent whole. (Loud cheers.)

They all wanted the products of each other's territories; let then that reciprocity of commodities be extended, and they would all enjoy together the rich products of the whole. (Long continued applause here drowned the voice of the speaker during several sentences.)

It was not through political motives that he engaged in railways, but he wanted that the west and east should be brought together, and that the products of Canada and the West should find an outlet in Portland and St. John. He desired to see the railroad completed, and the great scheme fully carried out; an entire reciprocity established between the countries, that they may fairly exchange their productions, enjoy the rich productions of the South and the rich productions of the North, beneath these beautiful and benignant skies. (Loud cheers.) The enterprise has seen its darkest hours, doubts and objections had all passed away, and now there was but one voice from East and West and North and South, calling for a railway connexion irrespective of political lines of boundary. (Loud and prolonged cheers.) Mr. Poor proposed—

"The Union of the Provinces, and the Union of the States, and the perpetual union of both in the

bonds of mutual interest and a common brotherhood."

The above is a part of the great line which is to carry the Railroad system of this country to that point on this Continent, most easily accessible from Europe. It consequently connects with a leading route of commerce and travel, and is one of the most attractive projects before the public. It will do more to develop the vast resources of New Brunswick, and N. S. than all other causes combined. It will make these Provinces known, and nothing else is necessary to attract to them population, capital and enterprise.

Manufactures of Machinery in the West.

Had the railroads of the west been built upon local means they would have been stocked with machinery manufactured west of the Alleghanies. The capital of the west is held mostly in lands and agricultural improvements, to the holders of which iron and steam engine making would be a new and doubtful business. The western people do not seem fully awake to the advantages they possess for the prosecution of this branch of industry. Chicago, for instance, has 2500 miles of railroad trunk lines, and 1500 miles of branch lines immediately tributary thereto, and about the entire equipment of Engines for those roads is built or building at the east. Chicago has one establishment for the manufacture of Locomotives but this is wholly inadequate to the wants of the market, the capacity of its capital and machinery being equal only to \$100,000 worth of work per annum, while the value required to stock the above 4000 miles of road would be full \$7,000,000; or enough to employ fourteen such shops, each five years to complete! The superiority of the Lake Superior iron and copper (materials of important application in locomotives) combined with Eastern skill which can be readily commanded, would insure the production of as good engines at Chicago, as at Boston or Paterson, and ultimately at a great saving to the purchasers. The engines built by the Michigan Central Railroad Company at Detroit, and by the Galena and Chicago Union Railroad Company, and by H. H. Scoville and Son, at Chicago show fully, that the work of western shops is in no way inferior to to eastern work, while the cost of such engines is less than the cost of eastern engines with expense of transportation added.

We should say that no better investment could be made than in these branches of business in the large western towns. We have advocated such investments at Cleveland and Detroit, and for the same reason we should recommend Chicago as another extremely favorable point. Not that we suppose that one establishment, or one city, will derive all the profits of this business, for as well might one flour mill or one saw mill supply the domestic wants of the west. The demand for engines is such that each important city must be able to produce them, at least cities having such elements of success as Cleveland, Detroit, Chicago, and Saint Louis. The successful prosecution of engine building at one of these towns will naturally be an inducement for others to go into it.

Were it not for the indifference of western capitalists as to securing this business, and the pertinacity with which eastern machinists continue to confine their sphere of action to their own vicinity,

the present extension of the locomotive business at the east would be injudicious and unadvised. Already there are one shop in Maine, one in New Hampshire, seven in Massachusetts, one in Rhode Island, one in New York, five in New Jersey, one in Delaware, two in Pennsylvania, three in Maryland and three in Virginia, besides the shops devoted to railroad repairs where engines are often built or wholly reconstructed. With these powerful sources of supply already in operation, nearly all of which subsist principally on Western business. There is a new shop starting at Manchester, New H. and one at East Bridgewater, Mass.

The manufacture of cars and car wheels is already carried on largely at the west. The expense of transporting cars being so great in proportion to their value, and their construction requiring less mechanical skill than that of locomotives, they are now made successfully and on a large scale at Cleveland and at Chicago, and also by the Michigan Central Railroad Company at Detroit. Eastern Capital and skill have effected it however.

We shall hope to see the Chicago establishment grow to a large business. The Scoville's are are building as well designed, as substantially constructed, and as highly finished engines as we have seen elsewhere. The field for this business in Illinois, has been already largely occupied and secured by eastern builders, who have large contracts, extending to deliveries in some cases a year ahead. But the productions of western establishments, since there is no longer doubt that they will bear comparison with those of eastern origin, will be immediately secured by roads in their own vicinity. The difficulty is not to procure orders, but to procure capital to complete them.

With what we have seen of the demands for machinery in the western market, and of the favorable disposition of roads in that section towards establishments in existence or organizing in their vicinity, we feel entirely safe in recommending experienced and enterprising builders, operating either on their own or hired capital, to engage in the business at once in Detroit, or Chicago, and if sufficient capital can be had in both places at once. We have no doubt they could amalgamate with mutual advantage, with concerns already on the ground, or if deemed best, to prosecute an independent business they could do so with success.

Cleveland and Zanesville Railroad.

The Forest City says this railroad is gradually approaching completion, and we learn from a friend, will be formally opened as far south as Millersburg on the first of January. The grading and levelling is mostly finished from the latter place as far north as the point at which it crosses the C. & P. Road to Millersburg, within a month. The completion of this road will be of vast benefit to Cleveland, besides opening up a means of transportation and travel through the richest and most fertile section of Ohio, it passes through one of the most prolific coal and mineral regions in the West. The coal mines of Holmes and Coshocton counties are inexhaustible, and only need a market to render them immensely profitable; while to roll the wealth of their iron hills into the lap of Cleveland they only need means of transportation, which this road will open. We learn that several wealthy operators are only awaiting the completion of the road, in order to open and commence business in the coal and iron trade in those counties. The road south of Millersburg to Zanesville will be built during the next year, when we will have another route to Cin-

cinati, through the very garden of the State—and the greatest wheat growing country in the world.

Danville Railroad.

The Richmond Dispatch contains a very flattering exhibit, by P. Van Deusen, Treasurer, of the business operations on the Danville Railroad during the last five months. According to this statement, the monthly receipts from the 1st of April to the 1st of Sept. averaged \$16,140.56. The aggregate receipts for this period amount to \$80,702.79, being a total increase of \$41,971.58 over the same time last year. We are not advised whether or not the statement embraces only the receipts from the road, or includes estimate for freights on material used in its construction. The average monthly receipts from passengers were \$4,583.76. The monthly passenger receipts on the Virginia and Tennessee Railroad for the same period, exclusive of passenger fare receipts, on account, for connecting with stage lines for through tickets, amounted to \$2,352.56.

American Railroad Journal.

Saturday, October 7, 1853.

Share and Money Market.

The money market remains very much in the same condition as at our last report, and without the improvement anticipated for the season of the year. There is very little doing in securities of any kind. For railroad bonds the market is decidedly flat, and the conviction is gaining ground, that the present state of things is to continue for some time to come. The scarcity of money is regarded as arising from an absolute deficiency in the supply, rather than from any accidental or temporary causes. Should such be the case, it is easy to see our railroad companies will be compelled to curtail their operations, or suspend them altogether. Money is tolerably well supplied on call, but is difficult to be had on time. The rates on first class paper are from 10 to 12 per cent. For a more distinct statement of the condition of the market, we refer to our review for the week. While there have been but few legitimate transactions, there has been extraordinary excitement in the fancy stocks the past week. This has been due to efforts of speculators to elevate and depress the market. The principal contest has been in Erie, as this has risen and fallen. Other stocks have moved in the same direction by natural sympathy.

Thursday.—There was an active Stock market to-day, with very large operations. The principal transactions were in Erie, Harlem, and Hudson River roads, and in Cumberland, and Parker Vein, Coal Companies, and in Nicaragua. Erie touched 87, being an improvement of one per cent in the previous day, but closed at 86. Hudson River, opened at 75, and closed at 73½. Nicaragua improved one per cent selling at 27. Cumberland was a trifle lower. The contest between the Panama and Nicaragua appears to be operating against the former. The market as a general thing closed heavy. The statement of the Erie Company published to-day, is not well received; chiefly we think, because it appeared to be both unintelligible and incredible. The debt of the Company is much larger than the sum upon which interest was paid. The whole amount of the debt cannot have been correctly stated. We cannot see why the whole amount of interest occurring during the nine months covered by the dividend was not deducted. The statement, it appears to us, should have been substantially as follows.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles op.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for 30.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,978,700	5,150,278	254,743	113,520	none	85
Androscoggin and Kennebec.. "	55	809,878	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland.. "	72	876,411	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	98½
York and Cumberland.. "	20	285,747	341,100	713,005	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,588	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	107½
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47½
Northern	82	3,016,634	.....	.....	328,782	163,075	5	55½
Manchester and Lawrence.. "	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell.. "	15	600,000	none.	651,214	132,545	51,513	8	108½
Portsmouth and Concord.. "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,600	.....	.....	none	16
Connecticut and Passumpsic. Vt.	61	1,097,600	550,000	1,745,616	.....	.....	.....	38
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,589	none	25
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	14½
Vermont and Canada	47	1,500,000	.....	1,500,000	Leased to the Vt. Cent.	.....	.....	100
Western Vermont.. "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	21	.....	.....	.....	.....	.....	none	.....
Boston and Lowell.. Mass.	28	1,330,000	.....	1,996,249	388,108	130,881	7½	94½
Boston and Maine	83	4,076,974	150,000	4,092,927	659,001	338,215	7	104½
Boston and Providence	53	3,180,390	390,000	3,546,914	469,656	227,434	6	85½
Boston and Worcester	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92½
Fall River	42	1,050,000	none.	1,050,000	229,445	99,589	8	105
Fitchburg	66	3,540,000	112,305	3,623,073	574,574	232,787	6	95½
New Bedford and Taunton.. "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony	45	1,964,070	282,300	2,293,534	322,213	101,510	none	94
Taunton Branch	12	250,000	none.	307,136	137,406	24,399	8	.....
Vernon and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17
Worcester and Nashua.. "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	58
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	98
Stonington	50	.....	.....	.....	.....	.....	.....	63½
Providence and Worcester.. R. I.	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.. "	62	3,900,000	472,000	.....	600,408	332,223	none	122
Housatonic	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progress	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.. "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	104½
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester.. "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	55
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progress	.....	.....	none	65
Buffalo and State Line	69	579,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progress	.....	.....	.....	.....
Canandaigua and Elmira	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.. "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).. "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	76½
Hudson River	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	71½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	58½
Long Island	95	1,875,148	516,246	2,446,391	205,068	44,070	none	32½
New York Central	504	22,858,600	2,111,824	.....	.....	.....	.....	114½
Ogdensburg (Northern)	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	30½
Oswego and Syracuse	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.. "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome	96	1,011,940	650,000	1,225,152	116,706	8	100	.....
Camden and Amboy	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	150
Morris and Essex	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central	63	986,106	1,500,000	2,379,880	260,899	124,740	8½	.....
Cumberland Valley	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,944	200,249	106,932	8	.....
Philadelphia and Reading.. "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	85
Philad., Wilmington and Balt. "	98	8,850,000	2,408,276	6,818,839	687,754	383,501	5	77½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	98
Philadelphia and Trenton.... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	110 1/4
Baltimore and Ohio..... Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	65 1/4
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.... "	57	.....	.....	.....	418,673	152,536	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg..... "	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac..... "	76	1,000,000	503,006	1,531,238	254,376	113,256	7	105
South Side..... "	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee..... "	60	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac..... "	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh..... N. C.	161	1,338,878	1,184,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina. S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia..... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester. "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia..... "	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western..... "	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston..... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point. "	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia. Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.... "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington..... Ky.	38	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington..... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort..... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh..... Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, Painesv. and Ash.. "	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus..... "	135	3,027,000	408,200	3,655,000	777,793	483,454	12	125
Columbus, Piqua and Indiana. "	46	.....	.....	2,000,000	.....	.....	.....	98
Columbus and Lake Erie..... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton "	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	106
Cincinnati and Marietta..... "	.....	.....	.....	In prog.	.....	.....	.....	72 1/4
Dayton and Western..... "	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	70
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,370,784	.....	2,634,157	526,746	314,670	10	119 1/4
Mansfield and Sandusky..... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie..... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	97
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley.... "	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd "	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	.....
Xenia and Columbus..... "	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern..... "	131	.....	.....	.....	Recently opened.	.....	.....	.....
Indianapolis and Bellefontaine "	83	.....	.....	.....	.....	.....	.....	103
Lawrenceburg and Ind..... "	.....	.....	.....	In prog.	.....	.....	.....	80
Lafayette and Indianapolis.... "	62	.....	.....	.....	Recently opened.	.....	.....	78
Madison and Indianapolis..... "	88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Peru and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	70
Terre Haute and Indianapolis "	72	632,887	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago..... "	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi..... "	113	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central..... Ill.	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago..... "	92	1,932,361	500,000	In prog.	473,548	236,152	.....	124
Michigan Southern..... Mich.	315	2,459,410	2,629,000	6,430,246	592,187	293,046	.....	124 1/4
Michigan Central..... "	282	4,000,000	4,067,396	8,614,193	.....	.....	8	112 1/4
Pacific..... Mo.	88	1,000,000	none.	In progress	Recently opened.	.....	.....	.....

Earnings for nine months.....\$3,235,887 24
Interest on Funded debt of 24,603,867 1,246,183 09
Rent of Union Railroad..... 58,500 00
Transportation expenses..... 1,803,662 38

Leaving for Dividend..... 3,102,315 47
.....\$138,571 77

Or 1/3 per cent on the capital stock 10,000,000

The last mortgage of \$10,000,000, is known to be in the hands of the Companies Bankers, and partly sold, and the interest on this, which either has been, or must be, provided for, should have been deducted as well as that the old funded debt.

The statement of course might vary somewhat from the above, but not in its main features. It is a noticable fact that the statement makes the debt of this Company at 1,500,000 less than what Mr. Loder stated it to be on the first of March last, which cannot be the case. We are satisfied that the statement operated prejudicially to the stocks. It would have been much better to have postponed any statement till the appearance of the promised report.

Among the events of the day, is the failure of Mr. Marvin, president of the board of Brokers, caused by the recent rapid advance in Erie. It is perfectly honorable to gamble in stocks, but very disgraceful not to pay the stakes: so by the rules of the game, Mr. Marvin retires from the table or the hall.

Friday.—The downward tendency noticed at the close of the previous day continue to-day. Erie closed at 83 3/4, a fall of 1 1/2 per cent. Hudson was 2 per cent lower, Harlem sold at 59 1/2, and Reading at 86. Coal stocks were heavy. The foreign news was not well received. The English market is reported very dull for American securities, while the orders from the continent are much less than for a corresponding period the past year. Money was tolerably well supplied on call at 7 per cent rates on business paper from 10 to 12 per cent.

Saturday.—The stock market to-day is very active with slightly declining prices. Erie sold at 80, dividend, which was equal to 83 1/2. Harlem sold at 59 1/4, Hudson River at 73. Reading at 85, Nicaragua at 25 1/4, Cumberland Coal company 37 1/4, Panama 100, a large decline from the last sale. In money there is no perceptible change; the demand is active and is materially assisted by the number of railroad companies in the market for short loans.

Monday.—There was an active business to-day in the Stock Exchange, with a decline upon Saturday's prices. Erie went to 78 1/2, a decided falling off. As previously stated, the recent exhibit of the company operates unfavorably. Hudson River sold at 72 1/4. The most important decline was in Panama, which went to 88, which is a fall of 57 per cent from its recent highest point. The great mystery in which this concern is shrouded is one cause of its weakness, and bad management another. Money was more abundant on call, and easier on long loans, though still in very active demand. Exchange took an upward turn. Messrs. Decoppett's circular for the steamer, quotes as follows:

On London.....	109 3/4	109 3/4
Paris.....	5.12 1/2	5.16
Amsterdam and Frankfurt.....	40 7/8	41 1/8
Bremen.....	79 1/8	80
Hamburg.....	36 1/2	36 1/2

The following is the statement of the Banks for the week ending, Sept. 24:

	Sept. 17.	Sept. 24.	Dec'se.
Loans.....	\$90,220,589	\$90,079,877	\$140,702
Specie.....	11,870,055	11,346,486	523,569
Circulation....	9,576,823	9,478,694	98,129
Deposits.....	57,612,251	58,339,400	*727,149

* Increase.

Tuesday.—At the Stock Board only a moderate business was done to-day. The tendency was still downward. Erie went to 77, a fall of 1 1/2 per cent. Hudson River to 71 3/4, Harlem to 59. Prices were heavy for coal stocks. Money is easy on call, but rates for paper and long loans range from 10 to 12 per cent.

Wednesday.—The stock market is still downward. Erie is the principal fancy dealt in, of which very large sales were made. At the first board the stock touched 76 1/4, which is a fall of 6 3/4 per cent since the dividend was declared. The stock was a little better at the second board. The sales of to-day exceeded \$8000 shares. Other stock fell off. Hudson River, Harlem and Reading one-half cent each.

The state of Missouri, through her last legislature extended her credit thus:

To the Hannibal and St. Joseph railroad with grant of land from government.....	\$1,500,000
In favor of the Pacific railroad.....	3,000,000
In favor of the Southwestern Missouri railroad, with grant of land from government.....	1,000,000
To the Iron Mountain and Pilot Knob branch of the Pacific railroad.....	750,000
In favor of the North Missouri Railroad.....	2,000,000

Making in all.....\$8,250,000

The semi-annual interest on the Columbus City Bonds to the Columbus and Xenia Railroad; on the Cleveland City Bonds to the Cleveland, Columbus, and Cincinnati Railroad; on the Marion and Shelby (Ohio) Counties Bonds to the Bellefontaine and Indiana Railroad; on the Cleveland, Palmsville, and Ashtabula Second Mortgage Bonds, and on the Ohio and Pennsylvania Railroad Income Bonds—all due on the 1st of October, and will be paid on that day at the Banking House of Winslow, Lanier & Co. in this city.

Railroad up the Connecticut Valley and Quebec.

At the annual meeting of the Hartford and New-Haven Railroad Company, a vote was passed authorizing the Company to join all the other lines through the Connecticut River Valley between White River Junction and New-York, embracing a line of near 300 miles, in guaranteeing \$100,000 of Pref. 6 £ cent Stock to be issued by the Connecticut and Passumpsic Railroad Company for the purpose of making a connection with the Canadian Railroad, will which in six months be completed from Quebec to Richmond, and thence to Island Pond in Vermont, where the Connecticut River Valley lines will join it. This, says *The Hartford Times*, virtually makes Quebec the northern terminus of the great valley chain of railroads, and makes a new route between New-York and that capital, 71 miles shorter than can be made by any other line or union of lines. This of course will bring a very large and valuable access-

sion of business to the Hartford and New-Haven line. The total cost of the proposed connection will be \$1,500,000 of which all except this \$100,000 has been already secured.

Chicago and St. Louis Railroad.

The Daily-Commercial Advertiser, of Chicago, 15th inst., says:

"The Chicago and Mississippi Railroad is finished ten miles further, to Hamilton, and the staging is reduced to only twenty miles between the two cities. The company is progressing with the Road, on air line, toward this city with all the spirit of this go-ahead age. We shall soon hear of its iron horse entering Joliet, the most beautiful and flourishing inland city in the State. This must ever be a favorite thoroughfare from the great Mississippi to the Lakes and Northern Atlantic cities, and for freight and way travel will be without either a rival or equal, and must be one of the best paying Roads in the Union. Joliet has already introduced manufactures, or an improved and enlarged plan, in advance of her sister cities; and the completion of her Railroad due east, to connect with the great Eastern Roads at Laporte, will place her far in advance of any other inland city in the West—if a city accessible by both river and canal can be called inland. While the citizens of other places have been blind to the true elements of a wealthy city, those of Joliet have exhibited their sagacity by introducing manufactures, and placed their city on the surest foundation for permanent prosperity and opulence."

Cleveland and Toledo Railroad.

This road is enjoying a large and lucrative business and is constantly improving in condition, and in facilities for increasing traffic. Ballast trains are running daily, and the track is becoming more firm and secure. The condition of this part of the work was anything but good when delivered by the contractors. The company have been at much expense in transporting materials for road covering, hauls of from thirty to fifty miles being necessary for a supply of sand, which is the best material that can be commanded for ballast.

At Norwalk extensive improvements are in progress, embracing a large engine and machine station, passenger and freight houses, etc. The Engine house is now erecting, the design contemplating a large circular building of 182 feet diameter, having stalls for 20 locomotives. The inner walls will be sustained by cast iron columns and arches. The remaining parts and the machine shops will be of brick. The machine shop is 160 by 70 feet, with walls of 18 feet height. The foundations of this building have been laid in the most substantial manner, consisting of a batter wall 5 feet high and 5 feet wide, laid in cement, and carried up from a bed of concrete mauld in a wide trench. The blacksmith's shop, 75 by 40, is also of brick laid upon similar foundations. The Machine shop will possess the best facilities for a convenient and economical prosecution of the repairs of the engines, having slide and drop tables, and a full stock of the best tools. The lathes, planers, &c., are from the Union Works of Seth Wilmarth, Esq., of Boston, Mass.; the stationary engine and boilers are from the Cuyahoga Steam Furnace company of Cleveland, Ohio.

The wood and water sheds are immediately adjoining. The company have been at considerable expense in procuring a certain and uniform supply of water; iron pipes of three inches bore having been laid for upwards of two miles. The water supplied from this source is of very good

quality, an important consideration for locomotive purposes in the western states.

The engines upon the southern division of this road, which includes the section from Grafton to Toledo, are principally from the Boston Locomotive Works. They now number fifteen, and are under the charge of Mr. J. A. Jackman, formerly of the Boston and Worcester Railroad. The northern division from Ohio City to Sandusky will soon be opened throughout its entire length.

Pennsylvania Central Railroad.

The Central Pennsylvania Railroad Company are rapidly pushing the surveys of a new road from Altoona to the summit of the Allegheny Mountain, about twelve miles in length, intended for the transportation of freight. By adopting two inclined planes, they secure, on this route, an easy grade for their burden trains, and preserve the road now nearly completed, exclusively for rapid transit of passengers. The new route will be placed under contract in a short time.

Lake Superior Iron.

We are in possession, through the kindness of the *Detroit Tribune*, of two remarkable specimens of this iron. One is a shaving turned from a cast iron shaft, and when removed was over ten feet long, but has since been broken. The structure of the iron however, resembles that of the best wrought iron, and many would judge it to be a sample from a Lowmoor or Bowling tire. Shavings turned from cast iron, hardly ever exceed a few inches in length, and still more seldom ever take the spiral form.

The other sample is of Lake Superior pig. It presents large and beautiful crystals, and gives indication of great purity and toughness. It is a settled fact that for excellence of iron the Lake Superior country challenges the world.

On another page will be found an analysis of some ores recently discovered within two miles of the Lake. We have seen specimens of these, which without having been refined, have been tested, and show the properties of steel. For conversion into steel, we have no doubt they are well adapted.

Toronto and Sarnia Railroad.

From the *Guelph Herald* we learn that the Toronto and Sarnia Railroad, "after passing through the Market Square, will reach the Waterloo road by a tubular iron viaduct, spanning the roadway obliquely between Richardson's and Hall's corner. The viaduct will have two arches of 30 feet span, and one of 50 feet, and will be of sufficient height from the ground to permit the passage of laden vehicles beneath—twelve or thirteen feet—which will necessitate an excavation of some depth on the north side. This plan will be far preferable to having the line intersected by the roadway on the same level, will obviate much annoyance and detention, and possibly prevent many accidents."

New Project in Canada.

Montreal papers contain long accounts of a large and enthusiastic meeting, held on the 29th ult., at Waterloo and Sheffield, to take measures for pushing on the Stanstead, Shefford and Chambly railroad. Speeches were made by Attorney General Drummond, Mr. Terrill, M. P. P. for Stanstead, Hon. Porteous Baxter, of Vermont, and others. We are glad to find the Lower Province beginning to wake up and set forward right earnestly in the march of improvement. The resources of the Eastern Townships are abundant—we trust that the energies needed for their full development will not be wanting.

Railroad to the Pacific.

With the increasing interest felt in the project of a railroad to the Pacific, we must expect to see parties in the field, for the purpose of taking the initiative, and if possible of placing themselves in positions which shall enable them to take the lead in this enterprise, whenever movement shall be made. As there are several routes proposed, different interests and companies will undoubtedly be organized, each of whom will put in a sort of *pre-emption* right to routes, which they expect will enable them to control matters, should their own be selected; or to "sell out" at a round profit. In other words, the project of a railroad to the Pacific is likely to be taken up by various parties as a matter of speculation, for the purpose of making money out of the scheme, rather than with any intention of building the road, and who, to accomplish their objects will endeavor to associate their names with this work before the public, as a means of exerting influence, or for the purpose of demanding a consideration, as a condition of giving their places to others.

It is from such influences, selfish in their character and aims, that the greatest obstacles are to be experienced in carrying out this great work. Could it be committed to the charge of exactly the right sort of men; men who have both the personal character and experience in the construction and management of railroads, that entitle them to command the confidence of the public, then there would be no difficulty in carrying out this work, unaided by the general government, except by grants of lands, and contracts for mails, etc. As it must of necessity be the work of many years, the sum annually required would not be large, compared with what our people are yearly investing in railroads. With the incidental aid that might be expected from government, the scheme could be made attractive to capitalists the world over; while if it were in proper hands, there is hardly a person in the country of any means, who for the sake of aiding such an enterprise, would not take one or two shares in the work, perfectly satisfied to lose it in case the project could be realized. We repeat that no difficulty need be experienced in providing the means for a railroad to the Pacific, nor in constructing this work with all reasonable dispatch, considering its magnitude; but we anticipate great difficulties from the causes we have enumerated.

Of the necessity of this work the public are already sufficiently convinced. They are equally so, that built and managed with economy it would yield a satisfactory income. This being admitted, the next question is to determine the route. The proper route can be selected only when the characteristics of all that are proposed are known. They may all be practicable, but we must know which is the most so. This can only be ascertained by comparing them with each other. When the question of the topography of the country is disposed of, others will arise such as the capacity of each for furnishing abundant supplies of wood and water. When these are settled, considerations of a commercial character must be allowed their due weight, for it is to accommodate commerce, that the road is to be built. As this last question must to a great extent be a matter of opinion, while the others are simply matters of fact, it is easy to see that different portions of the community will in-

ist that the routes which favor them are the best; and that it will be impossible to bring all into one plan. We think therefore that the General Government should extend the same encouragement to several routes, leaving the ultimate selection to the sense of the parties who are to furnish the means for construction.

Upon the question of the superiority of route, in their physical characteristics, we have as yet no competent evidence. The several explorations of the parties now in the field, under the auspices of the United States government, will throw much light upon this subject; but of a general, rather than a critical and practical character. The altitudes will be determined by the barometer. The nature and extent of the obstacles to be encountered, in the rapidity with which the explorations will be made, will only be glanced at. All that can be expected from them is that the several routes will be shown to be practicable; while further and more careful and elaborate surveys will have to be made to determine the question of superiority between the routes proposed. Our people consequently are in no condition to commence the construction of a railroad to the Pacific, even if we already had the means in hand for such a work, nor can be for some time to come, perhaps years, to say the least.

We therefore regard all organizations which propose the immediate commencement of this work as premature. Such appears to us to be the one at the head of which is the Hon. Robert J. Walker, which contemplates the construction of a railroad through Central Texas, via El Paso, and the Gila River. In the first place he assumes what remains to be proved, the practicability of the road, and its adaptation to the commercial wants of the country. But admitting these in favor of this route, the steps that have thus been taken, have not been those calculated to inspire public confidence, or secure the co-operation and unite the energies of the whole country upon this scheme, without which, this or any one to be undertaken, will be found to be impossible. Mr. Walker's scheme has all the appearance of a speculation for the benefit of the parties proposing it, and as such certainly cannot command the confidence of capitalists nor the moral support of public opinion. It strikes us that Mr. Walker has gone the wrong way to work. Any chartered rights he may have acquired are worthless, unless he first secures for his route the conviction of the support of the country. To do this, his efforts should first be devoted. He must show his not only to be the best route, but the most convenient one. This done, it is then time to develop his plan for construction. Unless he proceeds in this manner, and carries the interest of the country with him, he has no basis upon which to predicate success, and the more he attempts under this state of things, the less will be accomplished.

Other projects equally plausible, will be put forward by other parties equally pertinacious, who can subscribe equally large sums to the stocks of their roads, and who can present equally strong claims to the confidence of the public. In this way half a dozen projects will be brought forward which will only serve to distract attention, to divide the means of the country, and to render the construction of any line impossible, simply for the want of unanimity and concert of action.

Mr. Walker does not even throw his scheme open to the public, but keeps it a sort of close corporation for the benefit of himself and friends. He has subscribed \$10,000,000 to his scheme, which, with one other subscription of \$2,000,000, are the only ones yet made. It is easy to see that this course is just the one to provoke hostility and opposition, the first object of which will be to defeat his plan, as a necessary step to their own success. By commencing wrong, and being the first to show his hand, his scheme will be the first one that will be swamped, and we have seen a spirit of opposition which has probably already effected this result. Mr. Walker has not laid a foundation broad enough to sustain his project, which will soon tumble of its own weight, and if he is not careful carry down his own reputation and influence, which otherwise might render essential aid to this great work.

Western Railroads.

We in the West, are becoming sick of the systematic tone of alarm of the Eastern press, about our new Western Railroads. No sooner is a great line of railway projected in the West, than the hue and cry is raised in the Eastern press, that the West is running the system into the ground, by entirely over-doing the matter. Whether the object of all this is to alarm capitalists; so that no new investments will be made in new works, to the utter ruin of those who have already invested in them, for the purpose of creating a monopoly of the old roads, many of which should never have been built, and thereby keeping up the value of their stocks and bonds, knowing that New England and New York have exhausted all their powers of discovery to find ground upon which to lay a new track or whether it is to secure the stocks and bonds of the new Western roads to themselves at great sacrifices, or a real fear that Eastern and foreign capitalists will burn their fingers in new Western roads, may be a question. Be all this as it may, if there is one thing more certain than another, it is, that the safety of capitalists, at home and abroad, so far as railroad investments are concerned, does not lie in the short, costly, competing railways of the East, traversing a half barren country, requiring heavy daily repairs, and in a few years, re-construction; but in the cheap long lines of the West, whether new or old, laid out with judgment, traversing a fertile country of great extent, every acre susceptible of the highest state of cultivation, free from mountains, hills, or barren lands, populating with a rapidity unparalleled in the history of any country on earth; a country that is yet to be the granary of the world, and to contain the most dense population of any part of the Globe,—for where the bread is, there will be the mouths to eat it—and a country but yet in its infancy.

Please say to your readers, for the eye of capitalists at home, and abroad, that if the railroad system is overdone in any part of the world, it is not in the Valley of the Mississippi. While we know that the position of our roads should command the surplus capital seeking investment, and that many of our new roads will be the paying lines of the United States, we do not feel satisfied to find the Eastern press against us, under the garb of caution to capitalists against new railroads. If you go against the whole system, say so; but do not throw your force against the new works that require your aid. It may be assumed that

capitalists are capable of seeing to their interests. That might be true if the press would let them alone. But the press makes public opinion, and that opinion governs private investments in public works. The writer, who is connected with an important Western road, knows that it is hard to contend against the press, and he therefore invokes its justice.

INDIANAPOLIS.

"Indianapolis" is mistaken. The eastern press is not out against any further increase of western roads. It is as much in favor of their rapid increase as are western papers. We simply tell western people that they cannot get money on such easy terms as formerly. This they have found out we should suppose. Our foreign supplies are less, and a large portion of our domestic means are already invested. We wish to apprise our friends of the facts, that they may "cut their coat to their cloth."

We think that in some portions of Ohio they are "running the thing into the ground." We think the proposed road from Cleveland to St. Louis, a case in point. We see no necessity for a new line of road out of Cleveland, in the direction of St. Louis. If parties wish to construct such a work, let them commence at Lima, for instance, which is about 120 miles from Cleveland, and we have nothing to say. We think too, the proposed road from Union to Indianapolis is "running the thing into the ground," with a vengeance.

Our correspondent makes a great mistake in his estimate of the receipts of the Eastern roads. The gross receipts of the Boston and Lowell road are \$15,800 per mile, and the Boston and Worcester \$11,000; yet the stocks of these roads are only at par, though their receipts are double per mile, of those of any western road. He is equally mistaken in reference to the cost of Western roads. When as well equipped as eastern roads, they will cost nearly as much per mile. The roads that are built, and that were regarded the most profitable roads in the west, never were more clamorous for money than at the present instant. Their wants will not be supplied for five years to come.

The idea that the press of the east sought out any locality for censure is preposterous. There are in New York twice the number of miles of new road upon which work is about being commenced as in Indiana, although we have thrice as many miles in operation. The west is by no means the theatre of new works.

Our western friends must not complain that we tell the truth. If they will persist in coming here for money, it is much better that they should know how they will probably fare, before they have involved themselves in works which at present cannot be carried out, than after.

Memphis and Louisville Railroad.

We learn that a meeting of the Commissioners was held yesterday, at which a preliminary organization of the Company took place, by making W. B. Miller, Esq., President, and A. O. Harris, Esq., Secretary. The proper steps were also taken for an early election of a Board of Directors and President of the road. The information before the Commissioners was of a very satisfactory nature: enough of the stock has now been subscribed to go on and organize, evincing that a speedy, vigorous and practical action upon this great and important enterprise, is now no longer a matter of

speculation. The day has arrived for work to be accomplished and not talk over it as has been done for the past two years.—*Mem. Whig 25th ult*

Journal of Railroad Law. HEAVY DAMAGE FOR NEGLIGENCE.

The *Executors of Casali*, a Greek merchant, residing in England, recently recovered damages against the *Lancashire and Yorkshire Railway Co.*, under the following circumstances:

The deceased was a passenger in the defendant's train upon the occasion of an accident which occurred last spring. The train was running at the rate of 40 miles an hour,—there was a jerk, a sort of jumping motion, two or three crashes, and the train went off the line, bruising and otherwise injuring many of the passengers. After several days lingering at the infirmary the defendant died in consequence of his wounds. On examining the road it was found that some of the sleepers were longitudinal, some of the bolts loose, and raised an inch, that many of the sleepers were decayed, the chairs spiked down on sleepers, which in some instances were split, the spikes sometimes loose, either from motion, or from the rottenness of the sleepers. The spikes were driven in every three or four feet, and were not sufficient as fastenings. The permanent way was unsafe, and the gauge not well maintained. The engine was four wheeled and one of its axles broken, although the engine would go on. Mr. Nasmyth, an engineer, testified that forty miles per hour was under such circumstances too great speed. The engine ran off the line because the gauge was not maintained, and not in consequence of the broken axle, as was abundantly proved from an examination of the axle.

Many rails were loose.

In respect to the amount of damage it was shown that the income of the deceased was from £1,500 to £2,500 per annum. He had a wife and two children, also a father and mother living in Constantinople, whom he supported. By his will he had left his wife £100 per annum, and also to one Anne Brown the gross sum of £400. The defendants offered to pay £3000 as damages, which was accepted. This sum was under the Statutory provision apportioned by the jury, who awarded one shilling to Casali's father and mother, one-fourth of the £3000 to the widow, and the residue to the children.

Five other actions against the same company were at the same time settled by their consenting to verdicts, amounting in all to £7,300.

At the same time the case of Ford against the Midland Co., was settled at £500.

Mr. Sergeant Wilkins, the counsel for the defendants then observed that they greatly regretted the accidents in question, but the Lancashire and Yorkshire road, a few years ago, purchased by defendants, was a poor one, while the traffic over it was immense, and not of a kind which could be suddenly arrested. But the road was undergoing important improvements, and there had been but few accidents upon it, in comparison with those which had occurred elsewhere.

Mr. Justice Erie said that he presumed that the damages to which the companies had been subjected would tend to allay the public excitement on the subject, and that in his opinion civil actions were far more effectual to prevent railway disasters than criminal prosecutions.

Locomotives in Cities.

"At the hearing before the mayor and aldermen yesterday, of the authorities of the Boston and Maine railroad to show cause why their motive power should not be changed from steam to horses in passing through the streets of the city, several witnesses were examined. Mr. Williams, the superintendent of the road, testified that about 1,000,000 passengers annually left and entered the city over that road, and many of the business men of Boston had purchased residences on the line of the road in consequence of the facilities of the depot in Haymarket Square. He thought there would be more danger to the passengers from the horse power, as they would be tempted to get on and off while the cars were in motion. Mr. John Howe testified that since the depot of the road had been established in Haymarket Square, real estate in that vicinity had increased in value 224 per cent. while in other parts of the city the average rate of increase was only 69 per cent.—Mr. Borden also testified that he was on the committee of the Legislature that reported the bill chartering the road, and that there was considerable discussion on the question of compelling them to enter the city with their engines, so confident were a number of the members that it was, all things considered, the safest way."

We clip the above from the Boston Traveller. It is suggestive of many reflections as to the comparative safety of steam or horses as motors for the hauling of heavy trains through large cities. The hearing in the above case was adjourned over one week. We are not without the hope that some further testimony will be elicited throwing new light on the subject. Our observation and experience has led us to decide in favor of the engine, especially if it can be made to answer the purpose without the danger of firing the buildings on its route.

The reasons for this decision are several. The most important one is that the number of perils is decreased by the use of steam about six times, or six hundred per cent. If horses are used, each train is divided into as many trains as it numbers cars, at the point where the horses are attached. The number varies from three to ten cars in a train, if a passenger train, and from ten to thirty if a freight train. These detachments must keep far enough apart to avoid collision, which is just about far enough to tempt pedestrians to cross the track between them. The attempt is made generally in some haste, and the streets having been sprinkled are muddy, and consequently slippery, rendering the liability to fall and be trampled under the horses feet or be crushed by the car wheels exceedingly great; as the heavy train cars are allowed to run at a speed of three or four miles per hour, and cannot be stopped on the instant. Now, suppose the same rate of speed were allowed a locomotive capable of towing the whole train at once, would not the danger be lessened by just as many times as the train contained cars? Nay more would not the engine carry more terror to the minds of reckless boys, and keep them from running over the track just in front of the train? Would it not be more capable of giving timely warning for the track to be cleared? We believe there can be no question about these things. We have never witnessed car after car on the Hudson River trains, dashing round the corner of Canal and Hudson sts., full tilt, without being impressed with the truth of the assertion that steam power would be less dangerous in towing the whole train. And we may say the same of the Harlem and New Haven trains in this city, and of all the other horse-

power trains in all the cities we have ever visited.

Another important consideration in this matter is its economical view. It would be much more economical, if at all practicable, for the companies and a great deal more expeditious for the travelers. Although these questions are both secondary to the public safety, yet, when the latter is once secured, the former are of no light moment. We presume many persons would be inclined to doubt us, if we should assert that the cost to the Hudson River, Harlem and New Haven Companies, of hauling their passengers from the city to the points where they take steam was half as much as that of transporting them the balance of the route, and yet we do not think such an assertion would be very far outside the truth. The time lost now in coupling the train and attaching the engine would then be saved by each passenger, which, in these days of haste, is another valuable consideration.

The steam arrangement would take about 300 horses out of the street, whose labors would be efficiently performed by a few dummy engines, and this, we opine, would be a desirable thing just now, when all sorts of expedients are proposed for relieving our streets of the crowds which make them almost impassible.

If the foregoing remarks are correct, the question resolves itself into one of feasibility. Can an engine be constructed so as to draw trains through our streets without danger of firing our city? This we cannot answer. We believe it can. We know there are many machinists and scientific men who believe the experiment on the Hudson River road some years ago, would have proved successful, had it been persevered in a few days longer. We believe the management of that road was of the same opinion, but it could not afford to go on experimenting without some assurance from the corporation that the engine would be permitted to run in the streets after its utility had been demonstrated; and as this could not be had the experiment was given up. At least this is our understanding of the matter. We are confident however, that a method will soon be found to prevent danger from fire by locomotives.

Erie Railroad.

The Erie Railroad Company accompany their dividend with the following statement of their affairs:—

GENTLEMEN: The Executive Committee present for your consideration, with reference to the discussion of the question of the amount of the dividend which may be declared to the stockholders on the first of October next, the annexed condensed statement of the results of the business operations of the Company, from the 1st of January last:

An elaborate report is now being prepared, which will exhibit in detail the financial condition of the Company; the expenditure which has been incurred for construction; the running expenses and earnings during the current year; a comparison with those of previous years, and upon other roads; an analysis of the business, and its annual increase as forming a basis for estimates of future revenue, together with other subjects of interest.

The report will be furnished for the information of the stockholders as soon after the termination of the present month as the voluminous tables which are prepared to accompany it, can be completed. These tables are now made up to the first of August, and by adding estimates for that and the present month, a close approximation to an accurate statement for the year can be arrived at.

The results of these statements are very gratifying, especially for the last quarter of the year, as they show increased earnings and diminished expenditures, and at the same time that the road and equipment have been kept in better condition, and larger increased facilities than have been afforded at any previous period.

It is proper to remark that in making up the annexed statement, care has been taken to estimate the earnings, for those months for which the statements have not been accurately ascertained, within the amounts which will be actually received, and to make ample provision for the expenses.

The excess of the earnings over the expenses and interest, as shown by this statement, is \$356,714 03, which will be increased to about four hundred and fifty thousand dollars by adding the cost charges for the transportation of Iron, Ties, Stone, Lumber, etc. used in the construction of the second track, which has been included in the running expenses, and also for the use of the construction trains, and of the track for the same purpose.

With these explanations the Executive Committee feel warranted in recommending that a dividend of three and one-half per cent on the capital stock of the Company be made, payable on the 1st of October next.

Respectfully yours, &c.

HOMER RAMSDALL,
NELSON ROBINSON,
GOUVERNEUR MORRIS,
WM. J. McALPINE,

Executive
Committee.

New-York and Erie Railroad Office, New-York,
Sept. 20, 1853.

STATEMENT—Of the Earnings and Expenses of the New-York and Erie Railroad Company from January 1st to September 30th, both inclusive:

The earnings from January 1st to September 30th (those for September being estimated), are....	\$3,235,887 24
The interest on the debt, viz:—On \$18,003,868 90 for nine months: \$1,450,000 for seven months, and on \$720,000 for three months, is.....	\$1,017,010 83
The Rent of the Union Railroad is.....	\$58,500 00
The Transportation Expenses (those for September being estimated), are....	1,803,662 88
	2,879,173 21

Excess of Earnings over Expenses and Interest.....	\$356,714 03
Add the Cost Charges for Transportation of the Materials for second track, and the use of Construction Trains and the Track, estimated at.....	100,000 00
	456,714 03

Deduct Dividend proposed to be paid October 1st, 1853.	350,000 00
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Surplus after payment of Expenses Interest on debt and dividend... \$106,714 03
About one half of the above proposed dividend was earned previous to the 1st of July.

According to the above statement the capital account of the company is as follows:

Stock.....	\$10,000,000
Funded debt.....	18,003,868
Floating, or newly contracted funded debt.....	2,170,000

Total.....	\$30,173,868
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In March last, the capital account, according to Mr. Loder's letter was as follows:

Stock.....	\$9,612,958
Funded debt.....	18,003,868
Floating debt and present liabilities..	3,684,447

	81,801,809
Amount of capital account.....	80,178,868

Decrease.....	\$1,127,989
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So it seems that the capital account has diminished \$1,127,989 since March last. At this rate the new loan will not be wanted. But we presume there is a mistake somewhere. The Erie company never did make two statements that tallied, and the present discrepancy is nothing surprising.

As we are promised an elaborate report in the course of a few weeks, any criticism upon the above statement would be premature. We are glad to hear that we are to have a report, especially after Mr. Loder assumed that those made to the legislature were sufficiently lucid for all practical purposes. A report from Erie would be one of the "curiosities of literature." A full report would be as voluminous as the transactions of an "historical" society, and as interesting. It might however disclose matter, which would reflect no particular credit upon certain actions, nor make us vain of the deeds of our "ancestors." But we can tell better what we shall have, when we get it, if we ever do.

Lafayette and Wabash Railroad.

The work of preparation on the Lafayette & Warsaw road is going on—The subscription books now show the following results:

Keokuk.....	\$150,000
Warsaw & Hancock co.....	100,000
Fulton co.,.....	200,000
Tazewell co.,.....	200,000
Kingston Coal Company,....	25,000
McLean co.,.....	100,000
Lafayette,.....	40,000
	\$815,000

The foregoing are entirely cash subscriptions. The following additions are confidently expected:

Indiana,.....	\$200,000
McLean co.,.....	25,000
Tazewell co.,.....	50,000
Fulton co.,.....	50,000
Kingston,.....	25,000
McDonough co.,.....	30,000
Hancock co.,.....	25,000
Lee co.,.....	50,000
	\$455,000

Mr. Ford has just completed his preliminary survey from Lafayette to Canton and is now engaged making up maps estimates, &c. From Canton to Warsaw the profiles and estimates heretofore made by the State are still extant, which afford sufficient data for approximate results.

The road will start with a better cash subscription than any road out West, commensurate with its commanding position on the map. The policy of the company is fully to establish a sound pecuniary basis and secure rights of way before contracts for construction are proposed. The work will command the attention of the most able contractors. No line in Illinois has so much local agricultural wealth, and there is no terminus on the Mississippi above St. Louis, equal to the month of the Des Moines.—*Lafayette Courier.*

Clinton Air line Railroad.

The work on this road is rapidly progressing. Already the western section between Hudson and the State line has been located, and a large portion let to contractors, who have commenced work in several places with an energy which promises its speedy completion. The inhabitants along the line manifest a spirit hardly equalled in any section of the State. Anticipating the advantages arising from this improvement, the citizens came forward and gave the right of way, nearly or quite the whole distance.

This road, when completed, will open up a country as rich in agricultural resources as any in the West, and make a valuable addition to our already large amount of internal improvements.

Much credit is due to the citizens of Parkman, Geauga county, for the active measures taken by

them in securing the gift of the right of way to the Company. This is done by the citizens of each township signing a bond to be taxed according to their property, for the payment of the landholders. —Cler. True Dem.

Passenger Regulations on the Michigan Central Railroad.

Having lately passed over this road through the politeness of Mr. Brooks, its principal manager, we wish to express the results of our observations of its passenger arrangements, believing them worthy the attention of other companies.

The night cars recently provided are of superior construction, and unsurpassed accommodations. They carry 76 passengers each, and have easy head rests, arm rests, and foot boards. The length of the frames of the seat backs is three feet four inches. There are twelve wheels under each car, combined in two trucks of six wheels each, affording additional security against the failure of a wheel or axle, and with the means of protection also in case of failure. The length of the cars, and the extra number of wheels gives them an easier motion. The cars have windows much larger than usual, and are well ventilated. In the saloon cars there are water closets for gentlemen as well as ladies.

The following notice containing some very good regulations is posted between the windows, throughout the cars:

NOTICE.

Before taking seats in the car passengers should see that their baggage is placed in the baggage car, naming the station to which they are going, and on leaving the train should call at the baggage car at once for it.

Gentlemen are requested not to place their feet upon the cushions, or otherwise deface the cars.

Gentlemen are not allowed in the ladies saloon.

In the saloon cars, ladies, and gentlemen with ladies, are entitled to a preference for seats.

No smoking allowed on the trains or in the station houses.

All trains will stop at Marshall, about half an hour, where tables will be in readiness for the refreshment of passengers.

Passengers are requested to give notice in writing to the superintendent at Detroit, of any want of courtesy on the part of any of the employees of the company.

CAUTION.

Passengers must not stand upon the platforms of the cars, or get on or off the trains while in motion.

Railroad Fined.

At the February term of the Court of Common Pleas for Belknap county, N. H., the Boston, Concord and Montreal Railroad was indicted for causing the death of Owen M. Roberts, of Holderness, at the collision at the Weirs last October. The case came up at the recent term of the Court, and there being no appearance on the part of the road, the Judges decided to enter a default, and a fine of \$1800 and costs was imposed. The case is to the Superior Court, however, on a writ of error.

Railroad Spikes.

THE Subscribers are manufacturing Railroad Spikes with SWETT'S Patent Improved Machines; and are prepared to execute orders for any quantity, on the most favorable terms. These Spikes are made of the best quality of iron, and, for shape and finish, are superior to any others. Railroad companies and others in want, are respectfully solicited to order a sample before purchasing elsewhere. All orders will receive prompt attention. SWETT, ELLIOT & CO.

Pittsburgh, Pa., August 26, 1853.

To Railroad Companies.

COLLINS' PATENT VENTILATORS,

FOR

Ventilating all kinds of PUBLIC AND PRIVATE BUILDINGS Railroad Cars, Depots, etc.



THE Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of, for giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P. R. R., Altoona, Feb. 8, 1853.
This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free the building of smoke. STRICKLAND KNEASS,
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.

Messrs. BAKER & WILLIAMS,
Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly, OLIVER W. BARNES,
3nd40 Principal Assistant Engineer P. R. R. Co.

The Grand Trunk Railway Company of Canada.

ELECTRIC TELEGRAPH.

THE Directors are prepared to receive Tenders for the erection of an Electric Telegraph along the entire length of the Company's Line from Portland to Sarnia, and from Richmond to Quebec and Trois Pistoles. This Telegraph is for the purposes of the company exclusively, and is to be erected in Sections as required.

Sealed Tenders, marked on the outside "Tenders for Telegraph," can be addressed to the undersigned until Wednesday the 5th of October next. Each Tender to specify the price per mile, at which the POSTS and ONEWIRE will be supplied and erected, and the price per INSTRUMENT, at which they will be supplied.

The Directors do not bind themselves to accept the lowest Tender.

By order, C. P. RONEY,
Managing Director.

MONTREAL, 14th Sept.. 1853.

Notice to Contractors.

THE UNDERSIGNED will receive proposals, at the railroad office in Indianapolis, to construct the Evansville, Indianapolis, and Cleveland Straight Line Railroad from Evansville to Indianapolis. The proposals will be for the whole line, 150 miles, more or less, or for either of the three sections of about 50 miles each. First from Evansville to the crossings of the Ohio, and Mississippi railroad in Davis's Co.; second, from that point to Spencer, Owen county; Third, From that point to Indianapolis. The bid will be for the whole work the company finding the iron, chairs, and spikes), up to the rolling machinery, or for the earth and rock-work alone. The proposal will state what part of the pay will be received in real estate, bonds, and stock of the company.

O. H. SMITH, President.
WILLARD CARPENTER, Vice President.
Augt. 13, 1853.

Railroad Car Works.

THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Road Cars, also Baggage Barrows and Freight Trucks. F. HUNGERFORD & CO.

Maysville, Ky., Sept. 20, 1853.

Railroad Mortgage City and County Bonds.

WE offer for SALE, at fair rates, the following SECURITIES of the most undoubted character, viz:

\$200,000 MARIETTA & CINCINNATI RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable January 1, 1868.

\$200,000 COVINGTON & LEXINGTON RAILROAD MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable March 1, 1863.

\$25,000 COVINGTON & LEXINGTON RAILROAD CONVERTIBLE SIX PER CENTS, guaranteed by the city of Covington, redeemable Sept 1, 1873.

\$50,000 MADISON & INDIANAPOLIS RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable May 1, 1869.

\$100,000 PERU & INDIANAPOLIS RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable July 1, 1864.

\$50,000 SCIOTO AND HOCKING VALLEY RAILROAD SEVEN PER CENT. MORTGAGE CONVERTIBLE BONDS, redeemable November 1, 1861.

\$50,000 OHIO & PENNSYLVANIA RAILROAD INCOME CONVERTIBLE SEVEN PER CENT. BONDS, redeemable Oct. 1, 1872.

\$50,000 CLEVELAND, PAINESVILLE AND ASHTABULA RAILROAD SECOND MORTGAGE SEVEN PER CENT BONDS, redeemable in 1873.

\$25,000 BELLEFONTAINE AND INDIANA RAILROAD 1st Mortgage 7 per cent Convertible Bonds, redeemable January, 1866.

\$25,000 INDIANAPOLIS AND BELLEFONTAINE 7 per cent Convertible Mortgage Bonds.

\$25,000 DAYTON AND MICHIGAN 1st Mortgage 7 per cent Convertible Bonds.

\$15,000 COLUMBUS AND SHELBYVILLE 7 per cent 1st Mortgage Convertible Bonds.

\$50,000 BONDS OF THE COUNTY OF ALLEGHENY, in the State of Pennsylvania, bearing 6 per cent interest, guaranteed by the Allegheny Valley Railroad Company—the taxables of this county is \$50,000,000.

\$25,000 BONDS OF THE COUNTY OF WASHINGTON, in the State of Pennsylvania, bearing 6 per cent interest, guaranteed by the Hempfield Railroad Company—the value of taxables is \$18,000,000.

\$25,000 BONDS OF OHIO COUNTY IN THE STATE OF VIRGINIA, (Wheeling is the county seat) guaranteed by the Hempfield Railroad Co. Value of taxables \$16,000,000.

\$50,000 WASHINGTON COUNTY (Ohio) SEVEN PER CENT BONDS, redeemable July 1, 1872.

\$50,000 ATHENS COUNTY, (Ohio) SEVEN PER CENT BONDS redeemable July 1, 1872.

These two last are guaranteed by the Marietta and Cincinnati Railroad Company, and made convertible into stock at the holder's option.

\$30,000 CRAWFORD COUNTY (Ohio) SIX PER CENT BONDS, guaranteed by the Ohio and Indiana Railroad Company, and made convertible into its stock—redeemable January 1, 1868.

\$40,000 FAYETTE COUNTY (Kentucky), SIX PER CENT BONDS, guaranteed by the Maysville and Lexington Railroad Company—redeemable Sept. 10, 1862.

\$50,000 BOURBON COUNTY (Kentucky) SIX PER CENT BONDS, guaranteed by the same, redeemable July 1, 1862.

\$25,000 BOYLE COUNTY, (Kentucky), SIX PER CENT BONDS, guaranteed by the Lexington and Danville Railroad Company, redeemable July 1, 1862.

\$40,000 MASON COUNTY, (Kentucky), SIX PER CENTS, guaranteed by the Lexington and Maysville Railroad Company, convertible into Stock, redeemable July 1, 1862.

\$100,000 BONDS OF THE CITY OF PITTSBURGH, in the State of Pennsylvania, six per

cents, guaranteed by the Allegheny Valley Railroad Company—value of taxable, \$20,000,000.

\$50,000 CINCINNATI SIX PER CENT BONDS Coupons payable Jan. 1 and July 1. Principal redeemable Jan. 1, 1882.

\$25,000 CITY OF MARIETTA (Ohio) SEVEN PER CENT BONDS, guaranteed by the Marietta and Cincinnati Railroad Company, and made convertible into its Stock, redeemable July 1, 1872.

\$25,000 CITY OF MADISON, (Indiana,) SIX PER CENT BONDS, guaranteed by the Columbus and Shelbyville railroad Company, and made convertible into its Stock, redeemable November 1, 1825.

These Bonds are for the sum of \$1,000 each, with Coupons, principal and interest, redeemable in New York, the latter in most cases 1st July and 1st January in each year.

The payment of the railroad Bonds in each case is secured by a Deed of Trust to some responsible citizen of New York, with power of sale in case of default.

The County and City Bonds are issued by virtue of special acts of the Legislature of the proper States, and by authority of the votes of the citizens of each.

The laws under which these Bonds are issued require the proper authorities to make a special levy of taxes, to be set apart exclusively to pay accruing interest, and to create a sinking fund to redeem the principal which can be enforced through the courts of law if necessary.

The debts operate in the nature of a mortgage on all the real and personal estate within the two cities or counties respectively.

The Constitution recently adopted by Ohio and Indiana prohibit absolutely the creation of any farther debt by counties or cities. This will prevent any farther issue of such Bonds.

We deem these securities good, safe and desirable investments. We recommend them to our correspondents.

Printed "Exhibits," giving detailed information in each case, can be had by applying at our office. **WINSLOW, LANIER & Co.,** No. 52 Wall-st. New-York, Sept. 19. 1853.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by **JOHN H. HICKS, 90 Beaver st.**

Henry I. Ibbotson,
MANUFACTURER OF
FILES AND SAWS,
Warranted of superior quality.
Office and Warehouse, 218 Pearl st., New York.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.
DAVID CHILLAS,
60 South 3rd Street.
Philadelphia.
May 1st, 1853.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Watson's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, **HENRY SIZER, Agent,**
Cincinnati Ohio.
Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

N. York and N. Haven R. R.

NOTICE OF SUMMER ARRANGEMENTS,



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.
New Haven, May, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, L. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

New York and Erie R. R.



PASSENGER TRAINS

leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. and E. R. R., and the Buffalo and N. York City R. R., without change of baggage or cars; and also for Dunkirk.

MAIL, at 8 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Susquehanna and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAT, at 3½ p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 7 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't

BRANDS' LIQUID,

FOR DISSOLVING AND PREVENTING INCORUSTATIONS IN STEAM BOILERS.

Is acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel gratis to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents, **Messrs. BOURRY & ROEDER,** Consulting and Mechanical Engineers,
323 Broadway, N. Y.

Aug. 10, 1853.

Railroad Iron.

2809 Tons, T pattern, weighing about 67 lbs. per yard. of Guest & Co's make (GL), shortly expected at this port, for sale by **BOORMAN, JOHNSTON & CO.,** Sept. 7. 90 Broadway, New York.

Railroad Iron.

THE Subscribers are at all times prepared to enter into contracts for Railroad Iron, of Messrs. Guest & Co., or other leading manufacturers' make, delivered free on board vessels in England or in this country.

BOORMAN, JOHNSTON & CO.,
Sept. 7. 90 Broadway, New York.

Stuart, Serrell & Co.,

CIVIL ENGINEERS,

Rooms 22, 24, 26 & 27,
157 Broadway, New York.

CHARLES B. STUART,
DANIEL MARSH,

EDWARD W. SERRELL,
SAMUEL MCLEROY.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMillen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.
Aug. 10, 1853. 3m
Office No. 25 Cliff street, New York.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

SIMEON DRAPER, 46 Pine st., offers for sale a variety of Railroad Bonds and Stocks; also, State, City, Town and Country Bonds, among which are:

State of Pennsylvania 5 per cent. coupon Bonds, \$1,000 each, coupons payable Feb. 1 and Aug. 1, in Philadelphia, mature 1877.

State of Georgia 7 per cent. coupon Bonds, \$500 each, coupons payable Jan. 1 and July 1, in Savannah, mature 1861.

State of Wisconsin 12 per cent. coupon Script, for improvement of Fox and Wisconsin Rivers, whole issue \$75,000, coupon payable Jan. 1, in New York, mature 1862.

State of New York 5 per cent. Canal Certificates, interest payable in New York.

City of Troy, N. Y., 6 per cent. Bonds, whole issue \$500,000, Bonds \$1,000 each, coupons payable Jan. 1 and July 1, in New York, mature 1867 and 1872.

City of Newburg 6 per cent. Bonds, whole issue \$100,000 coupons payable March 1 and Sept. 1, in New York, mature 1873.

City of Racine, Wis., 7 per cent. Bonds, whole issue \$300,000 bonds \$500 and \$1,000 each, guaranteed by the R. J. and Mississippi Railroad, and convertible into its stock, coupons payable Jan 1 and July 1, in New York mature 1872.

First Mortgage Convertible 7 per cent. Bonds of the Buffalo, Corning and New York Railroad, whole issue \$550,000, coupons payable in New York, April 1 and Oct. 1, mature 1867.

First Mortgage Convertible 7 per cent. Bonds the Western Vermont Railroad, whole issue \$400,000. coupons payable in New York Jan 1 and July 1, mature 1861-71.

First Mortgage Convertible 7 per cent. Bonds of the Columbus, Piqua and Indiana Railroad, whole issue of \$600,000, coupons payable in New York Jan. 1 and July 1, mature 1862.

First Mortgage Convertible 7 per cent. Bonds of the Mississippi and Rock River Junction, whole issue \$400,000, coupons payable in New York Jan 1 and July 1, 1863.

First Mortgage Convertible 8 per cent. Bonds of the Milwaukee and Mississippi Railroad, whole issue \$600,000, coupons payable in New York Jan. 1 and July 1, 1802.

First Mortgage 7 per cent. Bonds, Corning and Blossburg Railroad, whole issue \$150,000, coupons payable in New York May 1 and Nov. 1, mature 1873.

First Mortgage 7 per cent. Bonds, Toledo, Nowwalk and Cleveland, whole issue \$525,000 coupons payable in New York Feb. 1 and Aug. 1, mature 1863.

First Mortgage 7 per cent. Bonds, Mansfield and Sandusky, whole issue \$730,000, coupons payable in New York Jan. 1 and July 1, mature 1860.

First Mortgage 7 per cent. Bonds Vermont Valley, whole issue \$386,000, coupons payable in New York April 1, Oct. 1, mature 1861.

First Mortgage 7 per cent. Bonds Troy and Bennington Railroad whole issue \$100,000 coupons payable in Troy, New York Jan. 1 and July 1, mature 1862.

First Mortgage 7 per cent. Bonds New Jersey Central Railroad, whole issue \$1,500,000, coupons payable in New York Feb. 1 and Aug. 1, mature 1860/70.

First Mortgage 7 per cent. Bonds, Brunswick Canal Co., whole issue \$200,000, coupons payable in New York Jan. 1, July 1, mature 1857.

Also, Second Mortgage Bonds of many of the above Companies, and 7 per cent Bonds, Saratoga and Washington Railroad, whole issue \$340,000, coupons payable in New York, mature 1862.

7 per cent Bonds Troy and Boston, whole issue \$300,000 coupons payable in New York April 1 and Oct. 1, mature 1864.

10 per cent. Bonds Mansfield and Sandusky Railroad Co., whole issue \$170,000, coupons payable in New York April 1 and Oct. 1, mature 1855/57.

7 per cent. Mortgage Bonds of the Atlantic Steamship Co., whole issue \$700,000, coupons payable in New York, mature 1855.

8 per cent. Convertible Bonds of the Michigan Central Railroad Co., whole issue \$2,459,500, coupons payable in New York April 1 and Oct. 1, mature 1860.

TYRES.

LOCOMOTIVE AND CAR WHEEL TYRES, from the Manufactory of the celebrated and well known Iron Works of the LOW MOOR CO., in England, are furnished by the subscriber, Agent, by direct importations, ready Welded, Blocked, and Rolled, from only ONE BAR and with only ONE WELD, at a cost much below that of any other stamp.

Importations through the last year of nearly 3000 Single-welded Tyres, which are now found running on the important Railways, have rendered them in almost exclusive use, and their performance of over 20,000 miles each, have elicited the highest recommendations of their superiority.

All work of this Company is warranted to give satisfaction. Sample Tyres may be seen at the Crystal Palace, New York, and at my Warehouse, 9 Liberty Square, Boston.

W. BAILEY LANG,
24 BROADWAY, N. Y.
9 LIBERTY SQUARE, BOSTON.

Notice to Contractors.

PROPOSALS for the Grading, Masonry and Bridging of portions of the Girard and Mobile railroad, will be received at the Railroad Journal Office, New York, on the 1st of October next.

Plans, Profiles and other required information will be furnished at that time. The entire length of the road is 235 miles; commencing at Girard, in Russell County, on the west bank of the Chattahoochee river, opposite Columbus, Ga., and running to Mobile, 52 miles south of Girard, is under contract, 23 miles nearly complete. The amount of subscription up to date is \$2,766,000. The probable cost of the road is \$4,000,000.

That portion of the line between Greenville and Mobile (115 miles) will be placed under contract as soon as the Mobile subscription of \$1,000,600 becomes available.

ROBT. S. HARDAWAY, President.
GEO. S. RUNEY, Chief Engineer.
Girard Railroad Office, 8th July, 1858.



WHITE'S SUSPENSION BRIDGE, OF
WOOD OR IRON.

A Model may be seen at the office of CHARLES T. GILBERT, 80 Broad St. N. Y.

Length of span, anything short of 1,500 feet with perfect safety for every kind of travel. The above cut represents a Wooden Bridge with a roof. The arrangement for the Iron Bridge is such as to avoid all the bad effects of changes of Temperature. For a full description, see pamphlets; for further information, respecting models, rights, &c., apply, by letter or otherwise, to ANNE WHITE, or JOSHUA P. TRAYER, Proprietors, Cambridgeport, Mass.
Office next door to the Athenaeum.

Notice to Contractors.

ALLEGHANY VALLEY RAILROAD LETTING.

SEALED PROPOSALS will be received at the subscribers office, in Kittanning, Armstrong county, Pa., until sunset of Tuesday, Oct. 18, for doing the Grading and Masonry between Kittanning and the mouth of Mahoning, 10 miles, and grading, masonry and tunnelling on all the heavy jobs between the mouth of Mahoning and Brookville, 35 miles. This division embraces all the tunneling on the line.

Proposals will also be received for the delivery of cross ties on the line between Pittsburgh and the mouth of Mahoning, 55 miles. The cross ties to be 9 feet long, 7 by 8 inches, of white oak, red beech, chestnut or other approved lumber.

Proposals may be left at the office of the subscribers, in the city of Pittsburgh, Water street, above Market, until Monday, the 17th of October.

The work on the line will be ready for examination on and after Saturday, Oct. 8, at which time the plans and specifications may be seen at the office in Kittanning. For further information application may be made to Franklin Wright, Principal Assistant Engineer, Kittanning; to W. Milnor Roberts, Chief Engineer; George R. Eichbaum, Associate Engineer, Pittsburgh; Hon. William F. Johnston, president, or to the subscribers, CHAMBERLAINS, LEECH & Co.

Notice to Contractors.

OGDENSBURGH, CLAYTON AND ROME RAILROAD.

THE OGGENSBURGH, CLAYTON & ROME RAIL ROAD COMPANY will receive proposals at their Office in the Village of Rome, until the 24th day of October next, for the construction of their railroad from Rome to Ogdensburgh, to be completed as follows:

The Road between Rome and Boonville by the 1st day of August next. Between Boonville and Denmark by the 1st day of October, 1854. Between Denmark and Philadelphia by the 1st day of May 1855. Between Philadelphia and Ogdensburgh by the 1st of November, 1855.

The proposals will be received for the construction of the whole Road, including Lumber Ties and all other materials, with or without the Rails, in one contract, or in short sections, at the option of contractors, or offers will be received for furnishing the Lumber, Ties, and other materials separately, either for the whole Road or for sections.

The Maps, Profiles and Plans of the Road, together with specifications of the work and materials will be ready for the inspection of Contractors at the office, on or before the 10th day of October and Engineers will then be ready to show the line of the Road to persons desirous to contract.

By Order of the Executive Committee,
HENRY A. FOSTER, President.
R. S. DORR, Secretary.
Sept. 12, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
SECOND QUARTO SERIES, VOL. IX., No. 41.] SATURDAY, OCTOBER 8, 1853. [WHOLE No. 912, VOL. XXVI.

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, October 8, 1853.

Railroad Reports.

"Short reckonings make long friends," is an universally approved maxim. They are like taking one's latitude and longitude often, when at sea, or on an untried journey; or an "account of stock in trade." By making up our reckoning every night we cannot go far out of the way, not so far, but a few steps will bring us back to the right path again. So with railroad companies. The oftener they make a *rest* in their affairs, to see how they stand, and how agrees what they have done, with what they proposed to do, that from the mistakes of the past they may learn how to avoid repeating them, the safer will they go, and the stronger will they grow in the public confidence and support. It is a great misfortune, however, that a policy so useful in its results, and so simple and easy to practice, should be so universally neglected. How little is known of the real condition of the affairs of our railroads and the manner in which they are managed. The public get, perhaps,

an annual statement in *gross*, of the cost and income of our roads; but in most cases, no sufficient details are given to enable the public to judge of the nature and propriety of the expenditures, whether upon wise or unwise objects, or whether economically or lavishly made, or what remains to be done to effect the object proposed. The consequence is that the stocks of many of our roads are as sensitive to every breeze that blows as if affected with the *ague*; are buoyant or depressed just according to the whim or caprice in the street. In *fair weather* they take the hue of the prevailing sunshine; in *foul*, of the gloom. The value of such stocks is a matter of *sentiment*, rather than conviction based upon competent evidence, for the reason that nothing certain is known of their value. There is no well grounded opinion in the premises. The lessons drawn from analogy and experience cannot be applied, for the want of the proper data. The public have only *conjecture* to guide them, and they suffer from all the anxieties and doubts of such a state.

It is the want of knowledge of their affairs, on the part of the public, which is the cause of the violent fluctuations so often witnessed in Railroad stocks. Take the case of the Erie railroad as an illustration. A full and lucid exhibit of its affairs never has been published. The public really know nothing as to what the road has actually cost, nor of its value, (measuring value by the only correct test, the amount of money that has been economically expended in construction,) nor of the condition of the road and its equipment; nor what is still wanting to complete, both. We have the cost of the road estimated at different times at eleven, fourteen, seventeen, twenty, twenty-four, twenty-seven and thirty-one millions of dollars. Each of these estimates was as well calculated to command the confidence of the public as the *succeeding* one, and we now know that the last even is erroneous. Now we cannot help thinking that had the company previous to each estimate, prepared a well-considered and elaborate report of the condition of their affairs, and the means applicable to construction, they would, to a great extent, have avoided the mistakes that have been committed. They would not have published such a statement without carefully preparing it, for the purpose of having it reflect *exactly* the *facts* of the case. Their having

thus committed themselves, they would necessarily assume an implied obligation to make their estimates good. In this way the directors would have put their own personal reputations into the enterprise. Failure under such circumstances would convict them to a certain extent, of a lack of judgment in forming their plans, or competency in carrying them out. After having publicly committed themselves by their declarations, they would naturally strain every nerve to make them good. When, on the other hand directors of roads are silent both as to their plans and their mode of executing them, they have no pledges before the public to be fulfilled, with the penalty of loss of character and position in case of failure, they become comparatively indifferent of the result, because they are not dependent on its consequences. The enterprise is left to take care of itself, or to the care of those who will only use it for their own advantage. The public taking it for granted, that from the respectability of the names of the directors the enterprise is properly conducted, give no thought or concern to the matter, and things go on in the manner we have described, till the blunders and mistakes that have been committed can be no longer concealed, and an explosion perhaps, is the first warning of danger. It is the want of knowledge of the real state of the affairs of a railroad on the part of the public that the stocks and securities of many of our railroads are so sensitive and fluctuate so violently without any real change in their condition.

Now without any intention of censuring the management of Erie in this article, we have in the above one cause of the great unsteadiness of this stock. No means have been taken to place the public in possession of such data, as is necessary to the formation of a correct opinion. The conviction of the public, of its value, is not sufficiently well grounded as to resist the effect of a tight money market, at home, and unfavorable news from abroad. The value placed upon it is measured by the feeling, rather than by the conviction, of the public.

But the Erie is not the only illustration of the necessity of a better system of railroad reports. Take the case of the Panama railroad. Here is a stock which dropped recently from 145 to 88. In the mean time the real merits of the scheme are

unchanged. If the stock was worth 146 in January last, it ought to be worth that now. What is the cause of the decline? The entire ignorance that prevails as to its value. We are not aware that the directors of this concern ever made an intelligible statement, showing the exact condition of their affairs or what remains to be done to finish their road. All we know is that every statement as to the time the different portions of the whole line were to be completed, has proved utterly fallacious. The company now give notice that they are sending all over the world to collect laborers for a work which it was announced was to have been completed two years since. In the mean time, no attempts made to show the nature of the difficulties that have been encountered, nor the present condition of the work, nor the probable amount of labor yet to be performed. The public, kept in a state of complete suspense, anticipate a state of things, much worse perhaps, than really exists. A panic seizes the stock, which unsupported by any knowledge of the state of affairs, or well grounded conviction on the part of the public of its actual value, drops to a low figure, all because the company have either failed to keep the public properly posted up, or because they have committed mistakes which would have been avoided had they made it a habit of frequently presenting to the public full and lucid statements of the condition of their affairs.

The Hudson River road has suffered we have no doubt from the want of proper reports. No one has ever been published at all worthy of this work, which under good management is to become probably the great road of the country. It occupies the most important route of travel and commerce in the United States, the former of which it bids fair to monopolize. Nothing could be more interesting and instructive than a full insight into the working economy of such a road. The public, who are interested in its securities, would like to know why the estimates have been so much exceeded and what are the probabilities of its yielding an income upon its vast cost. All these things, thus far have been a sealed book. From such neglects the property holders in the road have been the chief sufferers. We hope under the present apparently permanent organization all these mistakes in the past history of the road will be corrected.

We make the above remarks not by way of censure of any of the companies named, but for the purpose of showing the injurious consequences arising from the neglect of making a proper exhibit of their affairs. Such exhibits are the only protection against misconduct and mismanagement on the part of the employees of companies. They are particularly necessary in this country, where, if we do not get voluntary statements, we get none at all; or none that throw any sufficient light upon the management and construction of our roads. Legislative reports merely give results. What we want are the processes by which they were reached. These must be given voluntarily, and with a desire to communicate information instead of suppressing it.

There are, we are happy to say, a few exceptions to the general rule. The Baltimore and Ohio company have from the commencement of their road, in 1828, published annually full and detailed statements of their affairs, from which a minute and circumstantial history of the progress of the

road could be made up to the present time. The result has been that this road which is by far the most difficult and expensive work of the kind ever attempted in the United States, has been constructed at a remarkably cheap rate, and much below the average of roads, taking into consideration the difficulties encountered. Had this company imitated the example of the Erie in the above particulars, they would inevitably have broken down. It was not a project that could have survived any considerable amount of bad management. The Pennsylvania company have also commenced with publishing very excellent statements of their affairs, and they are building their road with great economy over a much more difficult route than that occupied by the Erie road, and at much less cost. The Georgia roads give us good reports, and they have been models of good management. In fact we find the rule universal, that where lucid and detailed statements of the condition of a company's affairs are published as often as at least once a year, we find them associated with good management. The neglect to make them may be considered as indicating with almost equal certainty either that bad management has been the cause, or will be the result of such neglect.

The new Process of Manufacturing Iron.

The "ore-welding furnace," invented by Mr. James Renton, of Newark, New Jersey, has been successfully tested in Cincinnati, by William C. Davis & Co.; the result showing the production of bar iron directly from the ore, without the necessity of the pig-metal process. This improvement is to be adopted by the Forest City Iron Works of Cleveland, now commencing operations, and negotiations are pending for its application on a large scale in new works at Detroit. The results attained at an experimental trial made at Cincinnati on the 15th of September were as follows:

Two thousand four hundred and thirty six lbs. of ore was placed in the furnace, and in six hours time one thousand two hundred and forty-nine pounds of bar iron was produced with 1800 lbs. of bituminous coal, which was the only fuel used.

On the 17th of September also, upon another trial, Mr. Renton's furnace made in nine hours and twenty minute, 2,470 lbs. of blooms out of 5,860 lbs. of ore, chiefly of the Ohio and Virginia Limestone ores, 1,566 lbs. of which however, was the Lake Superior ore, mixed with a portion of the Ohio and Virginia, which yielded well and worked very fast, turning out about four hundred pounds per hour, and which made very tough iron.

A piece of an inch round bar, made at the first trial, was bent over cold under a 6500 lb. hammer and so flattened down that the two inside edges came completely together all the way, without showing the least crack or break on the end. This is one of the severest tests, and one that none but very good iron can stand. A portion also rolled very well into wire rods.

This process economises fuel, as by measurement it only takes one and a half tons of mineral coal to make a ton of blooms. The Ohio ores by this mode will yield about 40 per cent, and the Lake Superior ore about 65 per cent. These statistics show this new process to be a very important improvement in the manufacture of wrought iron; a vast saving being made in substituting mineral coal or wood for charcoal, which must bring into requisition vast quantities of lands that lay useless

with the wood swept off for charcoal, although abounding in bituminous coal which could not be used for working the hematite ores. The main features of this improvement consist in reducing a ton of iron from 10 to \$20, improving its quality, saving the cost of the pig-metal process, and consequently a large amount of capital requisite to work the blast furnace, this mode requiring comparatively but a small outlay.

The application of this improvement to the working of the Lake Superior ores must effect a marked change in the business of iron making. It is estimated that iron can be made in Detroit as follows per ton:

Two tons of ore at \$5.....	\$10 00
1½ " coal \$3.....	4 50
Puddling and welding.....	5 00
Hammering.....	1 00
Roasting and Stamping ore.....	1 00
Expenses of steam power.....	50
Expenses of rolling mill.....	6 00
Contingencies.....	1 00

\$29 00

This iron is now selling at from \$120 to \$140 per ton, under which prices it would seem there was an inducement for investing capital in the enterprise. There is no better point for this purpose than Detroit, where capitalists and business men are anxious to commence this business. Chicago is another good point, but we have inquired in vain for information respecting any movement there for this purpose. The people there talk of it, and the press has urged it, but nothing, so far as we can learn, is likely to be done, at present. At Detroit, however, a considerable amount of capital stands ready for application, while the business men are ready to unite with outside means and anxiously solicit such assistance.

Importance of uniformity in equipments of locomotives.

Almost all railroad companies are aware of the convenience in operating a number of engines of the same class and construction. But the importance of the economy derived from working a uniform equipment of engines does not seem to be so much regarded. It is true that in the present circumstances of hurry and competition, under which most of our roads are constructed and equipped, very few can secure a full equipment of engines from one shop, while from the same causes those companies who have given out large contracts find a difference in the construction and character of their engines; those delivered first being generally best, a result which, if any difference ought to exist, should be reversed.

By having however all of the engines, required on a road, of the same general pattern and of corresponding dimensions, a small stock of duplicates are sufficient for the renewal of all the parts which give out under ordinary usage. A part of one engine, when broken, may be replaced by a corresponding part of another engine disabled in a more essential member. The failure of a driving axle box, a spring, a pump plunger or other part will often cause great delay from the fact that the failing member is of a different pattern from that in general use, whereas under other circumstances it could be readily replaced. Everything should be studied that contributes to the efficiency of the motive power of a road.

The tools of a repair shop can be adapted to their office with much less outlay, as the same extra

fittings attached to many of the lathes and planers for executing peculiar portions of the work are adapted for all.

The motive power is more *reliable*, as when it is known what one engine can do the capabilities of all other engines of that class are known. The trains will be more equalized both in capacity and time.

Railroad companies ought therefore to insist upon reasonable care on the part of their agents, entrusted with the selection of their motive power. For where *all* the engines, are to be of one plan it is quite essential that *that* plan should be the *best*. A design in accordance with established principles, discarding uncertain experiments and adapted to the circumstances, as grade of roads, curves, trains, fuel, water and management likely to affect it, should be the aim for every company.

In their efforts to improve the standard of their motive power, companies should also guard against unwarranted interference in the designs of their builders. If the company have one good class of engines there is no harm but much advantage in ordering more, where more are wanted. But many roads have experienced embarrassment and expense with engines built upon their own specifications, where made so as to *limit* their weight or evaporative power. It is a very easy thing to give an order for an engine to do a certain task, and to limit it in weight, steam room, &c., but when the work is completed it is found that established proportions based upon established principles can yield only established results.

Railroad Mania.

"There can be no doubt but in Ohio and Indiana, the mania for railroad building threatens to work loss to the parties engaged, at all events to the stock and bond holders." The above statement which has found a place in the American Railroad Journal, may be calculated to do some mischief to the railroad interest of those states, if permitted to pass in silence, even in the eyes of those who consider their investments in New England, and New York railroad stocks and bonds as entirely safe. The writer does not wish to shake their confidence in their investments, but in self-defence, to show conclusively, that if New England and New York railroad bonds and stocks are safe, those of Ohio and Indiana are much more so. How stands the comparison?

The Area of New England, in square miles, is.....	66,126
Railroads completed, are miles.....	2,566
Cost of roads and equipments.....	\$100,446,698
Average cost per mile.....	\$39,143
Square miles of area, to each mile of railroad..	26
Expended to each square mile of area.....	\$1,519
The area of New York in square miles, is.....	47,000
Railroads completed, are miles.....	2,040
Cost of roads and equipments.....	\$92,766,966
Cost per mile average.....	\$45,477
Square miles of area to each mile of railroad..	23
Expended to each square mile of area.....	\$1,973
The area of Ohio and Indiana in square miles, is.....	73,773
Railroads completed.....	1720
Cost of roads and equipments.....	\$37,167,815
Cost per mile, average.....	\$21,020
Square miles of area to each mile of railroad..	43
Expended to each square mile of area.....	\$503

By the above exhibit, which is believed to be sufficiently correct for comparative purposes, as to roads completed, and not much, if any, out of the way, as to contemplated lines, in the states referred

to, it will be seen that Ohio and Indiana, with 7,647, more square miles of territory than New England, have expended \$63,278,888 less, in railroads, and with 26,773 square miles more than New York, have expended \$56,600,151 less. That New England has expended \$1,519 to the square mile of territory, New York \$1,973, and Ohio and Indiana but \$503. There are other facts in connection worthy of the consideration of capitalists who are looking to safe and profitable investments in railroad stocks and convertible bonds: the great difference between the railroads of New England and New York, and those of Ohio and Indiana, in the first cost, the cost of maintenance, the grades, the wear and tear of heavy engines, the cost of machinery and of operation, to do the same amount of business, the close competition of lines, the length of lines, the productiveness of the soil and the surplus for local transportation. These and other considerations that might be named, must forever enter largely into the rate of dividends, the value of stocks and safety of bonds. It has afforded the writer no special pleasure to institute these comparisons, but he has been impelled to it, by what he considers, unjust attacks upon, the *new* lines of Ohio and Indiana, yet to become the best paying lines of the United States, because they are the *long, straight lines*, located by experienced men, to meet the demands of the country, and passing through the best valley on the globe, yet to be more densely populated than any part of the earth.

INDIANA.

The Chilled Slip Tire.

The merits of this improvement are becoming well understood by railroad managers in all parts of the country; and the reputation of this description of tire may be considered as fully established. It is to be regretted that those companies who delayed their application, and those especially who have failed to secure them in their new engines, should now be compelled to apply them at a greater expense to their wheels in use, as the wheel centers cast especially for these tires are designed to afford the cheapest and most secure attachment. Notwithstanding the increased cost of applying them to the ordinary wheel center, railroad Managers in all quarters are using them, and are provided against such results in future by ordering them in *new* engines.

In addition to the instructions which have been given for the guidance of Master mechanics in applying these tires, we will give some further suggestions which we believe will be of service.

The double plate wheel with hollow tire, which seems to meet general approval, should be fitted up with less taper than for the solid tire. The thickness of the hollow tire reduces the extent of the bearing so much that we believe a taper of 3-16 inch for a 5 feet tire, and $\frac{1}{8}$ inch for a four feet tire, is sufficient, and will be found to give a more secure attachment than where more taper is used.

The wheel should be well and tightly fitted to the axle where either form of tire is used. One great merit of this tire is that it is applied without strain, so it cannot be depended on for "hugging" the wheel to give the least compression of the material of the wheel center upon the axle.

The practice of case hardening the crank pins renders them far more durable and is becoming practised on many roads. By this precaution a

pair of wheel centers fitted with chilled tires are in constant order for a very long time. The saving aimed at in this protection is lost where the whole chilled wheel is used, and this is one reason why a whole wheel is an extravagant and wasteful application of the chilled surface.

Master mechanics in ordering spare sets of drivers should require the improved form of wheel with chilled tire, as the original application to a set of wheels is cheaper than any subsequent application. There will be less need however of spare wheels where this improvement is adopted, as when the crank pins have been hardened the entire wheel is ready for long service. There is no such thing as the bursting of a tire, as the tires are not strained. The centers will not break in the spokes or rim for the same reason.

The Little Miami road (who secured this improvement for their engines long since, and who have Bush & Lobdell tires in good condition after three years use upon the heavy grades upon which their road enters the city of Cincinnati,) have the cheapest plan for securing these tires which we have seen, and although we do not like to recommend it for general adoption, it shows the security of their application. Their four feet tires are held only by four round bolts which are put through holes drilled half in the tire and half in the wheel center. The master mechanic of the road assures us that they never fail, either by bursting where drilled to receive the bolts, or by the breakage of the bolts themselves.

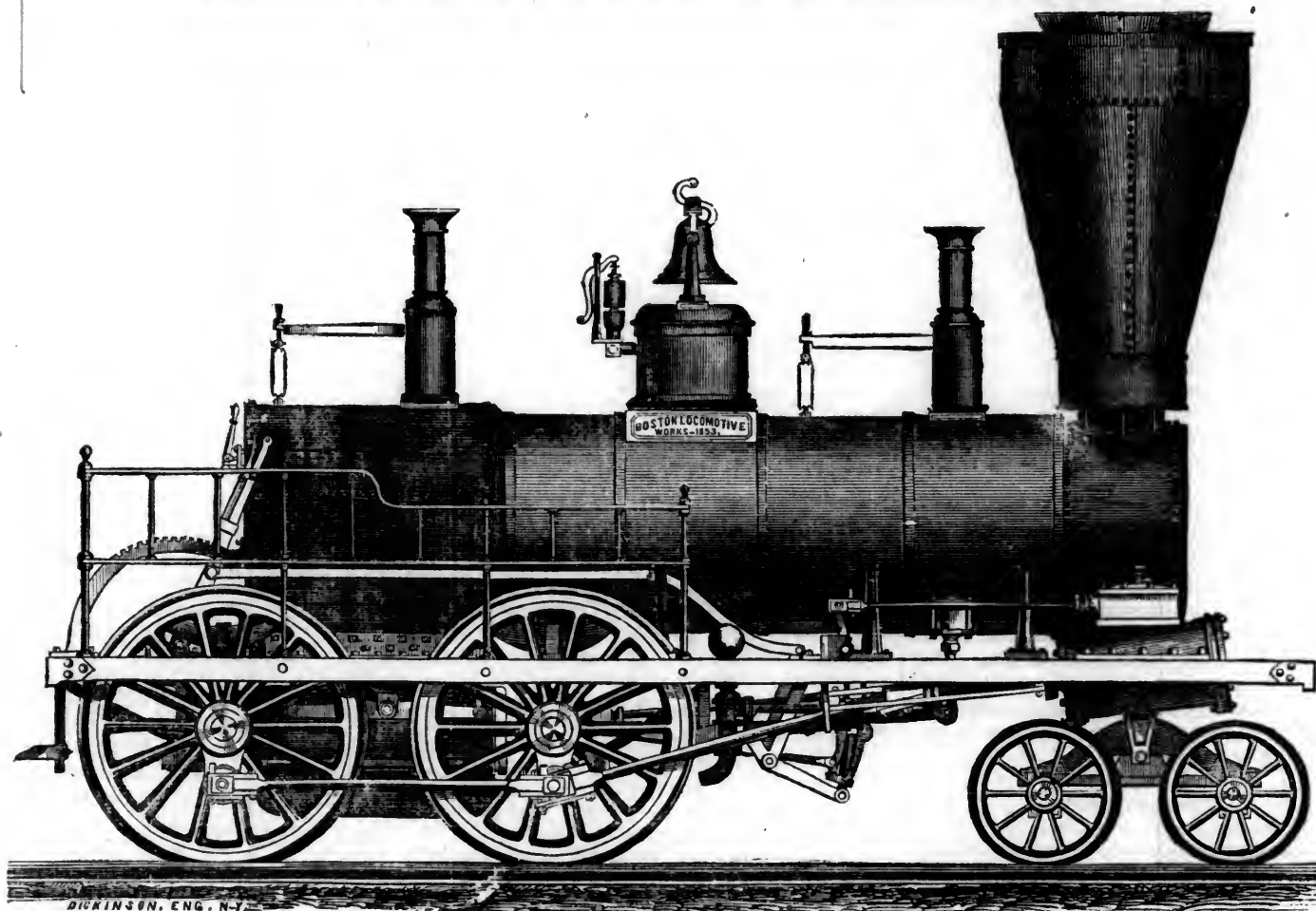
Where objections are urged against the weight of the solid chilled tire it should be remembered that what is allowed in the tire can be taken from the wheel center, by the reason of the center being without strain. The whole thickness of wheel rim and chilled tire on the Baltimore and Ohio road is no more than for the common wheel with wrought tire. Their wheel rims for 5 feet tires are only one inch thick and never break from the fact that the tire is, of itself, stiff, and that the center is not strained by shrinking.

To the few mechanics who, from want of means for observation, are yet a little cautious of "spoiling a set of wheel centers," as they term it, by fitting them for chilled tires, fearing the tires may prove failures, we will say that in the possibility of such an event the centers are in the best condition for the application of *wrought* tires, as there is no reason why the wrought tire should not be applied upon the principle of this improvement as any other. We do not believe in *shrinking* for any tire.

Mad River Railroad.

The earnings of the Lake Erie and Mad River Railroad for June, July and August of the present year were \$174,128 93, against \$142,814 30 in the corresponding period of 1852. The earnings of August alone exceeded those of August 1852, by \$27,389,13, a gain of nearly 70 per cent of the road has earned five per cent. net during the last 6 months. It extends from Sandusky to Dayton, and including the Findlay Branch of 15 miles, it has a track of 172 $\frac{1}{2}$ miles length. Its total cost is \$4,140,148 51. Of this \$1,767,000 is in a funded debt, and the remainder in stock. It now owes a floating debt of \$591,949 58, but has assets on hand \$620,866 17; in addition to a full supply of fuel, oil, and other materials. Its net earnings in the year ending May 31, 1853, were \$265,729 70, against \$236,900 39 in the previous year. A dividend of \$5 a share was paid in August, 1852. The surplus fund June 1, after charging of \$8,081 70 for depreciation, was \$72,870 93.

FREIGHT ENGINE BY THE BOSTON LOCOMOTIVE WORKS.



Above we present our readers with a correct drawing of the freight engines now building at the Boston Locomotive Works. This is properly a sequel to the extended notice given by us, some time since, of this establishment, and could it have been prepared in season, would have appeared in connection with it.

The above engine has the arrangement of machinery, known as the "outside connection." This was the arrangement of all the engines built by the Boston Locomotive Works, previous to 1846. Since that time it has been retained in a large number, of the freight engines coming from this establishment, while in other quarters it is again

becoming popular, and very deservedly, we think, for passenger engines. In the above drawing is also exhibited the application of the "link motion" with which improvement most of the engines now built at the Boston Locomotive Works are supplied.

The proportions of diameter of cylinder, length of stroke, and diameter of driving wheel are as follows: 15 or 16 inch cylinder, 24 inch stroke, and five feet wheel. This is an extension of the stroke, and an enlargement of the wheel over former freight engines from these works, and has been adopted from the increased economy in working and maintenance, afforded by reason of the less-

ened speed of the working parts when in action.

Apart from the difference in the position of the cylinders and working parts, the construction of these engines is similar to the passenger engines described in our former article upon these works. They have the same form of boiler, containing the same number of solid brass tubes, the same style of frames, pedestals, truck-frames, pumps, slides, etc.

In future numbers we shall endeavor to give our readers drawings of engines, by other celebrated makers, and trust our plan will afford profitable instruction touching the history and details of the important business of building locomotives.

DRESDEN, TENNESSEE, Sept. 15, 1853.

MR. EDITOR:

On Monday the 5th day of this month, the Nashville and North Western railroad company was organized in the city of Nashville, by the election of the following gentlemen directors, to wit: Thomas M. Wiley, Benjamin C. Brown, John H. Dunlap, William Fitzgerald, Jeremiah Dumas, Samuel Price, James Etheridge, Wm. M. Gleason, Samuel Peeples, Jephtha Terrell, John A. Gardner, William Wyatt, W. B. Isler, G. H. Carey, and Robert Ury.

John A. Gardner, was elected president of the company, and Wm. R. Ross, appointed Secretary pro tem.

The object of the company is to extend the

Charleston and Nashville road from the latter place, through the counties of Davidson, Dickson, Humphreys, Benton, Henry, Weakley and Obion, to the Mississippi river in the Madrid Bend, a distance of about 175 miles.

It is expected that the road will be extended from New Madrid to the Iron Mountain, in Mo., where it will meet the St. Louis and Iron Mountain road, and then form a continuous line of railway from Savannah and Charleston, on the Southeastern Atlantic seaboard, not only to St. Louis, but by the Pacific road to the north of the Kansas river. It is also in contemplation to connect this road west of the Mississippi River, with the road from Cairo to Fulton, and ultimately with the entire system of railways in Texas.

The Nashville and Northwestern road receives a loan of the bonds of the State of \$8000 per mile for iron and equipments.

Although but little effort has yet been made to procure subscriptions of stock, about half the amount necessary to do the local work has been obtained in the counties on the line of the improvement. No doubt is entertained that the stock will be speedily made up, and as soon as the services of a competent engineer can be secured, and the route of the road located, it will be placed under contract.

The company expect to be able to commence the work sometime next spring.

Very Respectfully,

W. R. Ross,

Sec. of the N. & N. W. Railroad Co.

Journal of Railroad Law.

LIABILITY OF RAILROAD COMPANIES.

At the present term of the Oyer and Terminer for this county, Judge Barculo called the attention of the grand jury to the frequent collisions and loss of life upon our railroads, and laid down the following legal propositions in regard to the criminal liability of the various agents.

1. That the engineers, conductors, and other persons, through whose negligence or want of care a human life is destroyed, are *individually* liable to indictment and punishment under the revised statutes, which declare that "every killing of a human being by the act, procurement or culpable negligence of another, when such killing is not justifiable or excusable," is manslaughter or murder. They may also be indicted under the act passed Dec. 13, 1837, as amended April 7, 1849, which provides that "every agent, engineer, conductor, or other persons in the employ of such company, or persons through whose wrongful act, neglect, or default, the death of a person shall have been caused as aforesaid, shall be liable to be indicted therefore, and upon conviction thereof may be sentenced to a State Prison, not exceeding five years, or in a county jail not exceeding one year, or to pay a fine not exceeding two hundred and fifty dollars, or both such fine and imprisonment."

2. That the law contemplates and experience indicates the necessity and propriety of rigidly enforcing the principal of *personal* responsibility, against the individuals who, actually and directly, cause the shocking catastrophes which have become so alarmingly frequent.

3. That in cases of collisions occurring by reason of one train or engine running out of time, or in the time of another train, the engineer being the person who actually sets the train in motion, is primarily liable.

4. That the conductor may also become liable in such cases, by co-operating with the engineer, or ordering him to proceed improperly; but the orders of the conductor or of any other will not justify the engineer or protect him from the legal consequence of running his engine improperly.

5. That in matters where human life is involved there are no such things as principals or agents; but every individual must watch over his own conduct, and see that it is prudent and careful, and he cannot be permitted to fall back upon any authority as a justification or excuse for causing the death of a human being.

6. That the time-table furnished by the superintendent must govern all the inferior officers and agents, who must strictly conform thereto in all respects, in running the trains, and whenever, by deviating therefrom, an accident occurs, it is occasioned by the "wrongful act, neglect or default" of all who participate in causing such deviation.

7. That the engineers and conductors are bound to make themselves well acquainted with the "time-table," and to adhere to its arrangements until they have authentic information that it has been altered or suspended.

8. That when an engineer is required to run an engine only from one part of the road to another, it is his duty so to do it as to avoid all the regular trains; and, in case that he finds it is impossible to reach the next station before a train is due there, he should switch his engine off from the track, and wait until the expected train has passed.

9. That in the case of the recent collision on the Hudson River Railroad, the engineer who came up from New Hamburg so as to reach Poughkeepsie a few minutes after four o'clock, knowing that a regular train left Poughkeepsie at that hour, was guilty of negligence in thus running upon the track, and in the time of the Poughkeepsie train, unless he had received reliable information from those in authority at the Poughkeepsie station, that the Poughkeepsie train would wait for him: in which case the responsibility of the collision will fall on those who gave such information.

10. That, considering the great responsibility of

their positions, and the awful consequences of a departure from a safe course, the law must exact from those who have the control and management of passenger trains, the utmost skill, care and diligence.

The foregoing well considered summary of the legal principles applying to Railway disasters suggests a few considerations which will not, we trust, be deemed inappropriate.

However important the principle of *individual* liability may be in relation to accidents like those in question, Judge Barculo did not intend, and would probably be the last man to question the serious obligations belonging to boards of directors, and to corporate bodies in their *associated* character. It is no less important that the liabilities of railway companies should be well understood in this than in any other respect, especially as the public attention is so searchingly directed at present to the law appertaining to the subject, which has until recently been only a dead letter.

The *Common Law* doctrine in regard to the criminal liabilities of corporations, and this law controls the matter in nearly all our States, except where it has been partially modified by statute, is we believe substantially as follows:

It is undisputed that when a corporation has *neglected* to do what they were imperatively bound to do, or in legal phraseology, when a corporation has been guilty of a *nonfeasance*, it is indictable in consequence.

An indictment was sustained in England in the case of the Queen vs. the Birmingham and G. railway company—9 C. & P. R. 469,—for *disobeying* an order of Justices for constructing a bridge over a road, which was regarded by the court as coming within the general rule of the liability of corporations to indictment for neglect of duty. The Manchester and Leeds railway company were empowered to obstruct public or private roads for the purpose of their undertaking, doing no unnecessary damage. But before any road should be cut through, they were bound to make a new one equally convenient with the one obstructed. And having in one instance neglected so to do, they were held to be indictable for a nuisance on the old highway. The Queen vs. Scott, 3 Adol. & Ell. R. 543. So is a corporation indictable for not repairing their road, although the Statute may have subjected them also to a pecuniary penalty for the same omission of duty. *Susquehanna & B. Turn. Co. vs. the People*, 15 Wend. 267.

A corporation has no soul, and in a certain sense no body. How then can it be arrested so as to be compelled to answer as it should in person, on indictment? In New Hampshire a court lately entered the default of an indicted railway company for non-appearance in court, and imposed upon them a statutory penalty for an act of negligence in the management of their road. But this case is appealed. The *Common Law* prescribes a mode of coercing the appearance in court of an indicted corporation by attaching their property or by what is technically called *distress infinite*, which, if enforced, would not probably prove to be much of a misnomer.

Thus far there is but little uncertainty as to the criminal liability of a corporation.

But can a corporation be indicted at *Common Law* for a positively wrongful act, or what is termed a *misfeasance*?

In regard to this matter the law seems not to be perfectly free from doubt. In an indictment in the Supreme Court of Maine charging a Mill and Manufacturing corporation with a nuisance, in erecting a dam across a river, it was urged that an indictment could not be maintained in such a case, although it was admitted that the individuals composing towns and parishes might be indicted for *neglect* of duty as for not removing nuisances; and this view was sustained by the court, which considered that a corporation was incapable of committing a crime or misdemeanor by any positive act, but that such as took part in the offensive measure should be prosecuted as *individuals*, either as principals or as abettors. But why a corporation should be criminally amenable for *neglect*, and not for a *wrongful act* is, to say the least, not easily understood. Chief Justice Denman of the English Queen's Bench, utterly repudiates the distinction which is assumed by the Supreme court of Maine between *neglect* and *wrongful acts*. That able jurist observed in substance, in the *Queen vs. Great North of England Railway Company*, Adolph & Ell. R. (N. S.) 314, that very often the most acute persons could not clearly define the cause of a disaster as originating in neglect to provide safeguards, or as originating in an act which was only rendered improper by the want of safeguards. If a Co. is authorised to make a bridge with parapets, but makes it without them, does the offence consist in the construction of the unsecured bridge, or in the *neglect* to secure it? There is no reason for the distinction,—it is startlingly incongruous.

We will speak of the *Statutory* liabilities of railway companies hereafter.

Commercial contests—railroads against rivers.

When the commerce of the world was waterborne from the point of production to that of consumption, it was compelled to wind along the sinuosities of the river, and creep along the indentation of the coast. When a barrier impassable to a direct inland communication separated the lake shores and the Ohio Valley from the Atlantic ports, and the corn or coal of Western Pennsylvania or Virginia pursued the Monongahela, the Mississippi, and the favoring currents of the Gulf, to their ultimate markets, then Pittsburgh was separated from Philadelphia by a water route almost double the length, and more than quadruple the time of a transatlantic voyage. In those days the port of New Orleans was as indispensable to the interior commerce as the Dardanelles to the Danube. The right of deportation has been deemed cause of war—the distinctness of sectional interests had been almost the means of disunion. Then New-Orleans was a commercial city, rather to be maintained at any cost of men and capital, and that cost was to be levied upon the commerce of the interior. It was then that New Orleans was the Calcutta of the Union, gallant and energetic young men left the sterile States to take an early grave or a shattered constitution against a rapid fortune and a safe return. But all this has been changed by American enterprise.

Let us regard the States which lie between the Mississippi Valley and the Atlantic as a long and comparative peninsula, the southern extreme of which is the Cape of Florida. All interior Commerce was once compelled to wander around this natural and once impassable obstacle, upon the obvious axiom that the markets of the world are the magnetic poles to which production tends by the shortest, cheapest, and safest lines. American enterprise has established new means of promoting the connections between these elementary and ultimate processes of human industry. First lines of

canals crossed the peninsular States; then steam, that boldest and most benevolent of radicals—employed the Railroad, and now these iron rivers without the obstacles of snags, currents, ice, or sand-bars, take their rise upon the basins of the Mississippi and the Lakes, and from their trade currents directly into the harbors of the Atlantic. Hence the contest between those cities which like New Orleans and Mobile rely upon their positions upon the natural streams, and those which like Boston, New York, Philadelphia, Baltimore, Charleston and Savannah, rely entirely upon the artificial lines by which the are connected with the productive interior.

It is a fair competition between an untaxed transit upon the river and the ocean and the artificial facilities devised by the skill of man. In this contest the artificial system with its accessory advantages promises to prevail. All the provision trade of the Northwest destined for Eastern or European consumption, is adopting the lines of direct communication. They have the advantage of immediate participation in the market prices. They have thus the command of banking and other facilities, based upon the immediate convertibility of agricultural products into money; they have the advantage of a transit through a more temperate latitude. The artificial system possesses the additional advantage of unity in the administrations which conduct it. A railroad unites the proprietorship of the road with the exclusive transportation upon it. It may thus discriminate in favor of or against any specific interest necessary to sustain its trade. Thus, if a railroad wished to take trade or travel from a river, it would reduce its charges upon articles of competition, and assess them upon those which could best sustain them. But the artificial system possesses another powerful advantage. Each of the Atlantic cities will be proprietor of a complete system of public roads. If the competition of the water routes rendered it necessary, these roads would be worked at a loss and that loss charged to account of city expenses, for it would be better to pay interest on a railroad to some extent unproductive, than to lose a trade indispensable to a city. Just as New Orleans keeps up a superior levee, which although entirely unproductive, is indispensable to her trade. Such are the powers, such the necessities of the artificial system, that the very growth of the cities will compel the maintenance of existing or improved lines, since the cities must shrink and relapse with the withdrawal of the trade which has stimulated their more recent growth.

There is still another element of advantage in the artificial system, the Atlantic cities are competing with each other for the interior trade. Lines are made straight, grades are reduced, the roads are made shorter, cheaper, safer. We have recently had a specimen of the competition between these cities, in the arrangement of the Baltimore and Ohio railroad to reduce freights and fares upon the Philadelphia business passing over their line. Indeed, the history of all these routes, is but a narration of competition.

Now, unfortunately for those cities which depend, like New Orleans and Mobile, upon the natural current of trade. The competition amongst the several Atlantic cities is a joint competition against the former, and these as *crecasses* in the river trade become bolder and more decided, they will divert more and more of the great aggregate which has heretofore sought an outlet through the river cities and the Gulf of Mexico.

In addition to the reason given why this diversion of the current of trade is inevitable, we may add that the disadvantages of the Mississippi and coastwise navigation are irremediable. The loss by fires, wrecks and climate, must continue to be represented by a positive charge upon commerce, and even the expense and risk of living in the river cities. The annual interruption of business by a climatic mortality, must affect the cost of factorage, and the facilities of business.

We therefore conclude that the greater portion of the inferior trade which has heretofore sought an outlet through the Gulf of Mexico, will, upon

the completion of the system of artificial improvement, be exported direct through the various Atlantic seaport cities from Boston to Savannah, each taking that proportion of this trade to which its enterprise, its facilities, and its position shall entitle it. There will be enough for all, and in all their attributes, our own city will compare favorably with others.

But although we regard this result as inevitable, we by no means consider that the depopulation, or decline of New Orleans, and other river cities, will follow. It would be unfeeling to doom them to destruction, and coldly parcel out their commerce as an inheritance amongst ourselves. The immense and rapid development of the Southern States, the trade of Mexico, and the West India Islands, that of Central and of South America, with the demand which must always exist for the products of the Mississippi valley—the liberal system of interior communication, that the cities of New Orleans and Mobile have projected will ensure to them a valuable trade, and as the progress of American enterprise shall extend beyond its present influence, they will stand in the same relation to those sections South of their position that the Atlantic cities now do to their Northern customers. They will be upon the most direct line of communication between the South and Southwest, and the Eastern States and Europe. They will thus open not only markets for the factories of Southern staples, but will conduct their exchange for the merchandise and manufacture of more temperate climes. In a word with that leading characteristic of the American people to adapt their energies to any emergency, we expect to see New Orleans enjoy a trade, changed it may be true in its character, but enlarged in its extent and more valuable in its nature.

Northern Pacific Railroad route.

The following letter from *James Doty Esq.*, a civil engineer, accompanying the expedition, of Gov. Stevens over the northern route to the Pacific, addressed to his father Hon J. D. Doty of Wisconsin presents some very interesting facts in reference to this route. The letter is dated at *Fort Union* at the mouth of the Yellow Stone.

We reached this point on the afternoon of the 1st August: our train, consisting of 80 men, 12 wagons, 200 mules and horses, and 16 yoke of cattle, being in first-rate condition after performing a journey of 725 miles from Sauk Rapids, in 46 days. In the last 9 days we made 180 miles.

The country between here and Sauk Rapids, in which point I date our departure June 16th, is entirely a prairie country. For 250 miles the country is very beautiful, having an abundance of wood water and grass, and is a good farming country; soil, sandy loam. After crossing the Cheyenne, the country is destitute of wood for 80 miles, but there is plenty of water and grass. We then came to a belt of timber on the upper crossing of the Cheyenne; up to this point it has been rolling prairie, with occasional table lands; here we cross a broken country for 20 miles, then strike a plateau extending to the vicinity of the Moose River; it is interrupted by "coulees," deep ravines, with small streams in the valley. In most of these are found wood, oak, ash black and white; elm, bass wood, cotton-wood and hickory. Passing these in about ten miles, we kept the Moose river in sight to our right, and travelling over a magnificent plateau, perfectly level, we made our course to the Yellowstone; north 80 degrees west—west—then due south.

Approaching the Missouri, we leave the plateau, and entering a broken country, travel down successive valleys until we reach the Missouri at this point; I have no hesitation in pronouncing the route from St. Paul to this point, the best emigrant road for the same distance towards Oregon, of any road now travelled.

We came through with 12 four-horse mule wagons, not one of which was broken, nor were we compelled to detach the mules in descending any hill, or employ extra teams in ascending one. It is a first-rate route for a railroad; granite and li-

mestone are to be found in sufficient quantities, and inexhaustible supplies of the best gravel. There are, no doubt, coal mines of good coal upon the route; specimens of several pound weight were found in many of the ravines near the Moose river, and also upon the Cheyenne. The summit level between the Missouri and Mississippi is only 1200 feet.

The country from Sauk Rapids to the lower crossing of Cheyenne river is generally very beautiful; it is a prairie country dotted over with a great number of beautiful little lakes, and crossed by many small streams; around many of the larger lakes are splendid groves of burr-oaks, and all a long the river bottoms, belts of heavy timber; and at all these points is an abundance of good grass. These lakes and rivers abound in fish of large size, of the various species common to our waters, (*i. e.*, Wisconsin.) Here are also found millions of ducks, geese, swans, pelicans, sand hill cranes, curlews, grouse, and all the varieties of plover; one species seen in great numbers was very beautiful; it is larger than a pigeon, body snow white, neck and headlight red, wings jet black, bill and legs very long, feet semi webbed. Many elk were seen, and our hunters killed two; they are as large as one of our mules, and weigh from 400 to 1000 pounds.—Saw many signs of Buffalo, but met with none until we reached the Cheyenne river; here our hunters killed a solitary bull, left behind by the herd. The second day after this we came among the buffalo; and our hunters killed eleven; then I tasted for the first time what I regard as the most delicious of all meat, fat buffalo cow, ribs, hump, tenderloin and tongue, not forgetting the marrow bones. Two days after this we came to an elevated table land, crowned by lofty Buttes; mounting to the summit of the highest, the scene that burst upon our view was enchanting, wonderful.

Beneath us lay a vast plain stretching far away in the south and west to lofty hills, and bounded on the north by the blue hills marking the course of the Red River, 80 miles distant. And this plain was literally covered with buffalo. As far as the eye could reach, it was one black mass of buffalo. Hundreds of thousands cannot express their numbers. It was a sight well worth the distance to behold. The train halted, while a party went forward to clear the way. Finally we attempted the passage, and paid dearly for it. When we had advanced some two miles, a herd of five hundred buffalo charged directly upon our right flank. A hundred guns were fired at them, we charged them in front but made no impression—they continued their course and passed directly through our pack train; four led mules and two horses broke away and joined the buffalo. Fleet horses were despatched after them, but it was impossible to disengage them from their new friends and so we lost them.

I am writing to you now from our camp, half a mile above Fort Union, on the north side of the Missouri River. There are two forts or trading posts here, situated upon a beautiful meadow skirting the river, which is here a mile wide and filled with islands. The Yellowstone comes in from the south, one mile below here, cutting its way through high bluffs of yellow clay, which bound the south side of the Missouri for a great distance below here.

I forgot to mention that from Pike Lake, 100 miles from Sauk Rapids, there were two parties—one under command of Lieut. Grover, which went south of us, striking the Missouri 200 miles below here. They found a route nearly as favorable as ours, and arrived here six days before us.

JAMES DOTY.

The Sauk Rapids are in the Mississippi River, at 50 miles about the falls of St. Anthony. The Cheyenne, and Moose, Rivers, run into the Red River on the north.

The route taken by Gov Stevens is about in the latitude of Lake Superior. The letter shows what a magnificent expanse of territory is still open to our people for settlement, on this side of the

Rocky Mountains. The mouth of the Yellow Stone must be some 500 miles from the mountains. The country traversed by the expedition possess an exceedingly salubrious climate with a very fertile soil, much of which is underlaid with coal measures, a most important fact in a country, but poorly supplied with timber.

It will be seen that no obstacles to the easy construction of a road are met with.

Railroads in Maine.

ATLANTIC & ST. LAWRENCE RAILROAD.

Comparative Receipts in 1852 and 1853.

	1852.	1853.
June.....	\$16,884 13	\$27,042 10
July.....	18,791 54	27,896 40
August.....	20,937 57	33,029 40

\$56,613 24 \$87,968 00

Increase 1853, for three months. \$31,344 84, or more than 55 per cent over the corresponding months in 1852.

The August receipts were at the rate of \$1,170 for each working day. This more than pays expenses and interest on all the company's debt. As soon as the receipts are up to \$1,500 for a working day, the road will pay 6 per cent on its cost. This result will be realized at a comparatively early day.

KENNEBEC & PORTLAND RAILROAD.

Comparative Receipts in 1852 and 1853.

	1852.	1853.
June.....	\$9,862 93	\$11,956 00
July.....	11,978 93	18,221 50
August.....	12,805 90	16,300 00

\$34,647 76 \$46,477 60

Increase \$11,829 87—for 3 months, in 1853, or 34 per cent over the corresponding months in 1852.

The increased receipts on this road for the year ending September, 1853, exceed 40 per ct. those of 1852. The receipts in March last were as follows:

	1852.	1853.
March.....	\$11,851 13	\$17,102 68

Increase \$5,251 55, or 45 per cent.

That of July 1853 was 52 per cent over the corresponding month of 1852.

The receipts for the K. & P. for the year ending Sept. 1853, exceed \$165,000.

A similar increase next year will make the stock of this road a 6 per cent stock.

The cost of this road is.....	\$2,400,000
Interest on this.....	\$144,000
Annual working expenses.....	60,000

Income required.....\$204,000

Actual income in 1843.....165,000

Add 40 per cent for increase coming year, and the stock is a 6 per cent stock.....41,000

\$206,000

The result so far surpasses our expectations.

ANDROSCOGGIN & KENNEBEC RAILROAD CO.—Receipts for the quarter ending Aug. 31, 1853, and Aug. 31, 1852:

	Amount.	1853.
June.....	\$10,742 16	\$11,438 87
July.....	11,456 67	14,194 91
August.....	12,704 62	16,983 81

\$34,903 45 \$42,617 59

\$34,903 45

Increase.....\$6,664 14

The increase in the number of passengers was 2,511, or 20 4-10 per cent on freight 9 per cent. and on the receipts generally 19 4-10 per cent. over the corresponding quarter of last year.—*State of Maine.*

State Debt of California.

By a statement furnished by the State Treasurer of California, it appears that the total amount of indebtedness of the State on the 20th of August, was as follows:

Civil Debt.....	\$2,375,645 83
War Debt.....	934,586 96

Total.....\$3,310,232 79

STATE INDEBTEDNESS, AUG. 20, 1853—CIVIL.

Bonds issued under

Act of April 29, 1851 \$458,500

Redeemed.....72,500

\$386,000 00

Bonds issued under Act of May 1,

1852, and Supplementary Act,

Due School Fund for land sold,

320 1/4 sections, at \$1,280.....

409,920 00

Amount bearing 7 per cent interest.....\$2,194,420 00

Controller's Warrants outstanding.. 131,315 45

Temporary State Loan Bonds bearing

3 per cent per month interest outstanding.....\$15,775 00

Average interest due,

120 per cent.....18,930 00

34,705 00

Interest on sales of School Lands

due School Fund:

Due July 1, 1852.....\$ 351 34

Due January 1, 1853.....5,062 83

Due July 1, 1853.....9,791 23

15,205 40

Total.....\$2,375,645 85

WAR.

12 p ct. Bonds issued under

Act. Feb. 15, 1851.....\$200,000

Average interest due, (esti-

mated 27 per cent.).....54,000

\$254,000 00

7 per cent. Bonds issued

under Act May 3 1852,

April 16, 1853, May 3

and 18, 1853.....576,450

Average interest due, (esti-

mated 6 per cent.).....34,587

611,037 00

Warrants outstanding fund-

able in 7 per cent. Bonds.....

23,918 12

Amount of audited War

Debt.....\$891,955 12

Amount authorised to be

issued under Acts of

May 3, 1852, April 16,

May 3 and 18, 1853.....

616,000 00

Amount audited.....

603,368 16

Balance yet to be issued.....

\$42,631 81

Route for the Pacific Railroad.

The Houston, Texas, Telegraph states that recent surveys have revealed the astounding fact, that a belt of country varying from ten to one hundred miles broad, extends quite across the continent, from the Atlantic to the Pacific, which is so level that a railroad may be extended the whole distance without traversing a single mountain range. The Pacific Railroad may extend in an air line from Sacramento to San Diego, on this route, with a little difficulty as upon an open plain. This singular feature in the surface of the continent seems to have been intended by nature for a great national thoroughfare. The great back-bone of the North American Continent seems to have been broken down on this line to let the Pacific Railroad pass gently over it. The great chains of the Alleghenies on the east, and those of the Sierra Nevada on the West sink down on this line to mere insulated hills, and the country slopes so gradually from the Summit lands, East and West of the Mississippi, that the rivers along this line run in nearly easterly or westerly directions. On the western side of the continent the Gila river runs almost due west, a distance of five hundred miles, and

table lands South of its slope with gradual elevation of ten or twenty feet to the mile, to the highlands, at its source west of the Rio Grande. From this point the country slopes by a gradual descent almost imperceptibly through the Mesilla valley to the plains around El Paso, and west of the river these plains gradually slope upwards to the table lands between the Pecos and this river, and those lands slope with an equally gradual descent to the valley of the Pecos. This valley is so elevated that it is but one or two hundred feet below the general level of the table lands extending from it to the sources of the Colorado, and from the sources of that river to the Mississippi, opposite Vicksburg; from this point to Savannah, railroads have already been surveyed and completed on nearly half the route, and what is worthy of remark, these roads extend in a line almost due east from the Mississippi to the Atlantic ocean, without penetrating an elevated range of hills or mountains. Mr. Benton, Gen. Davis, and all the statesmen in the Union may search for a better route for the Pacific railroad: but in vain. Nature has designated the route on the line of 33 degrees as the route preferable to all others; and before five years have elapsed, the iron horse may be seen coursing throughout its whole extent.

Stonington Railroad.

The Annual Report of the Stonington Railroad has been made, and furnishes the annexed statistics. The receipts of the Company for the year ending Aug. 31, 1853, have been as follows, viz:

Passengers.....	\$144,140 87
Freight.....	84,423 50
Mail Service and Rents.....	5,305 75
Interest.....	6,701 86

Total.....\$240,571 98

Damages and right of way paid by

the Hartford, Providence and Fish-

kill Railroad Co.22,500 00

Balance on hand August 31, 1852.....

31,822 79

Total.....\$294,894 77

The expenditures have been.....95,810 92

Interest.....33,869 50

Extension Road Bonds paid during

the year.....11,000 00

Six pCt. Mortgage Bonds purchased

by the Company.....57,574 87

Dividends, November and May.....75,240 80

Dividends unclaimed last year.....2 50

Balance on hand.....21,396 18

Total.....\$294,894 77

Since the last annual statement, the debt of the Company has been reduced \$40,800.

The entire indebtedness of the Company on the

31st August, 1853, was as follows:

Six pCt. mortgage bonds outstanding...\$361,700

Purchased and now held by the

Company, viz.

Against Extension Road Bonds

unpaid.....\$41,000

As Surplus Fund.....65,000

\$106,000

Total.....\$467,700

During the past year the trains have run over 131,963 miles, have carried 218,722 passengers, and have transported 94,321,769 lbs. of freight. Nearly one half of the large excess of receipts the past year arises from the local business. The returns of the four weeks which have elapsed since the closing of the annual accounts show a continued increase in our receipts from passengers and freight, the amount being \$27,602 22, against \$20,342 16 during the corresponding period of last year. Notwithstanding the extremely low rates of fare and freight which continued for five months, viz. from the middle of October to the middle of March, the income for the year exceeded that of the previous year \$30,752 19. The Directors say:

"We have no reason to look for any reduction

of prices for the coming year; and an examination of the returns now submitted will show that we are fully justified in expressing our belief that you will receive regular dividends of at least six p. ct. per annum hereafter."

American Railroad Journal.

Saturday, October 8, 1853.

New Car Axle.

We were shown some time since, the model of a car axle, invented by Mr. Josiah Copley, of Kittinging, Pa., intended to avoid the friction produced by wheels held to the ordinary axle, and running upon curves. We did not allude to it at the time, as we were aware that many plans have been proposed for a similar purpose, and that all have failed of realizing practically useful results. Mr. Copley has since however, fitted up a car with his axles, and run it over the Cleveland and Pittsburgh road. The results indicated by the test exhibited with the ordinary axles a difference of 22 per cent. in the power required to haul the car through a certain curve on the road, and upon the straight line, while with the new axles but 1 per cent. of difference was shown in going through the same points.

This result, if correctly ascertained, shows a great merit in the construction of the new axles, and it only becomes a question of economy to know if this saving will pay the extra cost of making them. The axle consists of a straight solid spindle, running the whole length of a stout tube, and turning freely in it; one wheel being secured to each portion. A pin in the side of the tube enters a groove turned around the solid spindle, and prevents lateral motion. Further experience will determine the durability and safety of these axles.

Michigan.

Two important railroads have just been placed under contract in this state: the Oakland and Ottawa, and the Port Huron and Lake Michigan. The former extends from Pontiac, the terminus of the Pontiac road, to Grand Haven, a distance of about 184 miles. The latter from Port Huron, opposite Port Sarnia, to the same place, a distance of 200 miles. The former is to cost \$25,000 per mile. The latter \$40,000. The contractors for the latter are C. S. Gzowski and A. T. Galt, of Canada. This road is the direct continuation west of the Grand Trunk line of Canada. Grand Haven on Lake Michigan, is directly opposite Milwaukee.

Increased Charges on Railroads.

The Hudson River and Harlem railroad companies now charge \$2 to Albany. The Erie are about to add 50 cents to their through fare, and put up local fares to 3 cents per mile.

Share and Money Market.

There has been no improvement in the money market since our last. It has been tight for the whole week, with an increasing stringency toward its close. On call, money has been tolerably plenty, but the disinclination to enter into long contracts is almost universal, and loans and paper can be negotiated only at high rates. The present stringency must in time cure itself, as it must tend to check all operations. The price of stocks has been considerably affected by the scarcity of money, but not so much as might have been expected.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	85
Androscoggin and Kennebec.. "	55	809,878	1,016,500	2,064,458	140,561	80,053	none	86
Kennebec and Portland..... "	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	98½
York and Cumberland,..... "	20	285,747	341,100	713,605	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	107½
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47½
Northern	82	3,016,634	.....	.....	328,782	163,075	5	54½
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell..... "	15	600,000	none.	661,214	132,545	51,513	8	94½
Portsmouth and Concord.... "	47	.....	1,400,000	.....	.....	.....	none	.....
Sullivan	26	.....	673,500	.....	.....	.....	none	16
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	38
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	13½
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	99
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	94½
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	103½
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	85½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch..... "	28	421,295	171,800	633,966	60,743	30,056	2½	40
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern..... "	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92½
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	106½
Fitchburg..... "	66	3,540,000	112,305	3,623,073	574,574	232,787	6	95
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	92½
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	58
Western..... "	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	98
Stonington..... R. I.	50	.....	.....	.....	.....	.....	.....	63½
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven..... "	62	3,000,000	472,000	.....	600,408	332,223	none	122
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	103
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	52
Buffalo and New York City... N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	65
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	85
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	77½
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	70½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	56½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	30½
New York Central	504	22,858,600	2,111,821	.....	.....	.....	.....	111½
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	29½
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston..... "	39	480,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	100
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	150
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,399	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,951	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	80½
Philad., Wilmington and Balt. "	98	3,850,000	2,403,276	6,818,839	667,785	383,501	5	77½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	98
Philadelphia and Trenton....	"	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	"	47	.....	.....	.....	.....	.....	.....	108
Baltimore and Ohio.....	Md.	381	9,188,300	9,827,123	19,542,307	1,825,563	615,384	7	61½
Washington branch.....	"	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna..	"	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange.....	Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	"	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	"	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville.....	"	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg....	"	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac....	"	76	1,000,000	503,006	1,531,238	254,376	113,256	7	105
South Side.....	"	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central.....	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee.....	"	66	3,000,000	1,500,000	In prog.	.....	.....	none	.....
Winchester and Potomac....	"	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina.	S. C.	110	.....	.....	In prog.	.....	.....	.....	.....
Greenville and Columbia....	"	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina.....	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester..	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	"	211	4,000,000	1,214	.....	934,424	456,468	7½	.....
Macon and Western.....	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee.....	"	71	.....	.....	In prog.	.....	.....	.....	.....
South Western.....	"	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River	Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	"	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	"	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point..	"	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern.....	Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia..	Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga..	"	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky.	38	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.....	"	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	"	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh.....	Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, Painesv. and Ash..	"	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.....	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	125
Columbus, Piqua and Indiana..	"	46	.....	.....	2,000,000	.....	.....	.....	98
Columbus and Lake Erie.....	"	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton	"	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	103
Cincinnati and Marietta.....	"	.....	.....	.....	In prog.	.....	.....	.....	72½
Dayton and Western.....	"	40	310,000	550,000	925,000	.....	.....	.....	80
Dayton and Michigan.....	"	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton.....	"	36	.....	.....	.....	.....	.....	.....	70
Greenville and Miami.....	"	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro.....	"	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami.....	"	84	2,370,784	.....	2,634,157	526,746	314,670	10	119½
Mansfield and Sandusky.....	"	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie....	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central.....	"	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi.....	"	.....	.....	.....	.....	.....	.....	.....	97
Ohio and Pennsylvania.....	"	187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley....	"	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd	"	87	552,000	800,000	1,317,140	.....	.....	.....	.....
Xenia and Columbus.....	"	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois.....	Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central.....	"	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern.....	"	131	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine	"	83	.....	.....	.....	.....	.....	.....	105
Lawrenceburg and Ind.....	"	.....	.....	.....	In prog.	.....	.....	.....	82
Lafayette and Indianapolis....	"	62	.....	.....	.....	.....	.....	.....	78
Madison and Indianapolis.....	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Peru and Indianapolis.....	"	40	.....	.....	In prog.	.....	.....	.....	70
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	"	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.....	"	113	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central.....	Ill.	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago.....	"	92	1,932,361	500,000	In prog.	473,548	286,152	.....	124
Michigan Southern.....	Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	122½
Michigan Central.....	"	282	4,000,000	4,067,396	8,614,193	.....	.....	8	110½
Pacific.....	Mo.	38	1,000,000	none	In prog.	.....	.....	.....	.....

ed. The extraordinary efforts to sustain a few leading stocks has had an effect upon the whole market. Should these be discontinued, a fall is very probable. First class bonds and stocks are not materially affected. The receipts of our railroads show a very large increase over a similar period for the past year. Business of all kinds is very active and prosperous. For a more detailed notice of the stock and money market, we refer to our review for the week.

The following is the company bank statement for the week ending Oct. 1st.

	Sept. 24.	Oct. 1.	Increase.
Loans.....	\$90,079,877	\$90,095,497	\$15,602
Specie.....	11,346,486	11,232,112	*114,374
Circulation.....	9,478,694	9,521,485	42,791
Deposits.....	58,339,400	57,968,607	*370,793

* Decrease.

Thursday.—The stock market opened this morning with great buoyancy. Erie advanced 4 per cent. selling at 80¾. Hudson River was one-half per cent. and Harlem three-fourth better. There was generally a very active market, at improved prices. Late in the day, however, the news by the Washington became known in the street, and prices fell off very rapidly. The greatest decline was in Erie, which again went to 78½. The foreign news was regarded as unfavorable. The English stock and money market was reported in a feverish state, almost approaching a panic, and it was expected that the Bank of England would increase the rates of interest from four to five per cent, the high rates already established not having had the desired effect, to prevent the exportation of gold. The increased prospect of an European war has a tendency to produce a pause in all kinds of business, so that certainty in either direction will undoubtedly exert a favorable influence.

Friday.—The stock market opened dull to day. Erie was heavy at 78, but improved at the second Board. Hudson River sold at 71, Reading at 88½, Harlem at 58½. Coal shares were heavy. Money was easy on call, but difficult to be had on long time.

The North Carolina loan, of \$500,000, sold to-day, was taken by F. S. Lyon, agent for the state of Alabama, at 103. There were numerous other bids, at about the same figure. They were purchased for the purpose of investing the funds of the Bank of Alabama, held in trust for the redemption of the state debt, due in 1863.

Saturday.—The sales at the Stock Exchange differed little from yesterday. The tendency of prices was generally downward. Erie fell to 77¾; Hudson River sold at 70; Harlem at 58; Reading at 82½; other fancies were generally heavy. Crystal Palace sold at 80; New York Central sold at 112½. A sale of \$50,000 6 per cent bonds of this company was made at 93 and 93½. The market for exchange was steady at 9 to 9¾. The decline in the Central stock is attributed to the failure of A. J. Jerome, who has been a large operator in it.

Monday.—The Stock market showed a very decided improvement this morning. Erie went to 80¾ an improvement of nearly 3 per cent, Hudson River advanced ½ per cent; Harlem ½; Reading ½; nearly all the best of fancies improved. They all appear to take their cue from Erie. The fluctuations of this stock are very great, and its

market prices seem to have no relation and real value. The parties who have it in charge appear to have their own way and put it up, or let it drop, to suit their schemes. It is evidently the strongest combination ever formed for the purpose of *bulling* the road and evidently controls the *cash* stock. They have the *inside* track in the management of the company. One object in taking so large quantity of the stock at the present time appears to be, to control the choice of directors at the coming annual election. It is doubtless very agreeable to the public to have the stock carried to a high figure, but we question very much the propriety of speculations in it, carried on by the leading officers and directors of the company. It is for their interest to manage the affairs of the company *well*, but they may think it for their interest to do things quite *adverse* to those of the stockholders. Officers of railroad companies ought not to place themselves in a position where they may have any temptation to do wrong. Every body now censures the *past* by the praises so lavishly bestowed on the *present* management of the company for the numerous *reforms* which are claimed to, and we have no doubt have been, effected. Many of these abuses, undoubtedly, arose from a collision of *private* interests and those of the stockholders. No one now believes that the early dividends paid by the company were earned. These were made to bolster up the stock. We do not suggest that such is the motive of the present dividend, but we do say, that the present managers have precisely the same inducements to declare an excessive dividend, as their predecessors. Where there is this bias, the public will very naturally distrust the statements put forth, even should there be no real ground for suspicion. The presumption is, that there is such ground. The Erie always has been a *nest* for speculators, and so long as the principal financial agents of the company head a movement either for putting the stock *up* or *down*, they must expect to see the statements put forth under their sanction received with many grains of allowance. There is good reason for such distrust, although the result may show it to have been without foundation. Such statements are tainted by the known interest of the party making them, and in the case of this very company it is now seen, that ones similar to those now put forth were entirely erroneous.—Whether the discrepancy between the statement and the fact, was accidental or designed, the public must judge for themselves. It is the great misfortune of this company that its management is not entirely committed to parties who are in no way concerned in operations in the stock.

Tuesday.—The market opened dull this morning for *fancies*. Erie declined $\frac{1}{2}$ Hudson river improved about 1 per cent. Coal stocks were heavy. Money was more in demand at high rates. The general tone of the market was very flat.

Wednesday.—The market continued downward to-day. Erie was dull at $78\frac{1}{4}$. Most of the stocks fell off. Hudson River a half; Harlem a half; Reading sold at 82. In exchange a large business was done at from 9 to 10, with few sales over $9\frac{3}{4}$. There was an active demand for money. First class paper cannot be quoted at less than 12 per cent. There are urgent demands for railroad purposes, which with the dull market for bonds, increases the stringency. The steamer of to-day took out \$796,760 in specie.

The Imports at New York, as made up at the Custom-House for the month of September were:

Dutiable Goods.....	\$14,791,034
Dutiable Goods, warehoused.....	1,577,358
Free.....	628,290

Total for September.....	\$16,996,682
Total for Sept. 1852.....	12,553,000

Increase..... \$4,443,682
For the nine months of the year, the comparison stands thus:

IMPORTS OF FOREIGN GOODS AT NEW YORK.

	1853.	1852.
January.....	\$13,408,000	\$10,907,000
February.....	17,358,000	9,189,000
March.....	19,166,000	12,063,000
April.....	11,326,000	10,639,000
May.....	14,332,000	7,339,000
June.....	17,346,000	9,330,000
July.....	20,078,000	12,892,000
August.....	19,682,000	15,252,000
September.....	16,997,000	12,553,000

Total, 9 months.....	\$152,693,000	\$100,114,000
Increase.....		52,579,000

There was entered for the month of September in Foreign Specie, \$290,026.

The Exports of Domestic Produce from this port for the month of September, were..... \$5,579,088
September, 1852..... 3,289,000

Increase..... \$2,290,088

For the nine months of the year the comparison stands thus:

EXPORTS DOMESTIC PRODUCE FROM NEW YORK.

	1853.	1852.
January.....	\$2,995,000	\$2,419,000
February.....	3,325,000	3,353,000
March.....	4,705,000	4,313,000
April.....	4,224,000	4,244,000
May.....	4,166,000	4,250,000
June.....	5,057,000	3,566,000
July.....	4,883,000	2,966,000
August.....	4,540,000	2,341,000
September.....	5,579,000	3,289,000

Total.....	\$39,474,000	\$30,741,000
Increase 9 months this year.....		8,733,000

Total..... \$39,474,000
There was re-exported in September, in Foreign Goods, the value of \$590,128.

The following table will show the Coinage for the first nine months of 1853:

	First eight months, September.	Total.
Double Eagles \$20,053,780	\$3,301,940	\$23,576,700
Eagles..... 1,385,760	276,140	1,661,900
Half Eagles.. 1,140,120	176,825	1,316,945
Quarter Eagles 2,598,325	151,845	2,750,170
Dollars..... 2,601,338	294,848	2,896,186

Total Gold..	\$27,779,333	\$4,221,598	\$32,000,601
Dollars.....	39,000		39,000
Half Dollars..	995,004	249,000	1,244,004
Quarter Dollars 1,757,555	376,000	2,633,555	
Dimes..... 313,501	90,000	403,501	
Half Dimes... 161,251	35,000	196,251	
Three Cents.. 338,550		338,550	

Total Silver	\$3,604,861	\$1,250,000	\$4,854,861
Copper.....	32,718	3,100	35,818

Gold, Silver & Copper.....	\$31,416,882	\$5,474,698	\$36,891,580
Gold Bars Cast	3,444,119		3,444,119

Total.....	\$39,851,001	\$5,474,698	\$45,325,699
In 1852.....	22,771,378	4,879,760	27,651,138

Incr. this year \$7,139,622 \$594,937 \$5,784,560

The number of pieces coined in September, 1853, was 649,666, of which 584,662 were gold; 5,602,000 were silver, and, 310,000 copper.

The gold deposits for the first 9 months of 1851, 1852, and 1853, were:

	1851.	1852.	1853.
January.....	\$3,071,669	\$4,161,688	\$4,962,097
February.....	3,004,970	3,010,222	3,548,523
March.....	2,880,271	3,892,166	7,533,762
April.....	2,878,353	3,091,037	4,766,000
May.....	3,269,491	4,337,578	4,365,638
June.....	3,637,560	6,689,474	4,545,179
July.....	3,127,517	4,193,880	3,505,431
August.....	4,135,312	2,671,563	4,512,000
September..	4,046,797	4,253,687	3,025,000

Tot. in 9 mos. \$32,051,942 \$34,299,285 \$40,763,620

The amount of gold deposits at the Philadelphia Mint for the month of September is \$3,025,000, against \$4,254,000 same month last year. There was also deposited, for recoinage, \$320,500 in silver. The coinage of the month was as follows:

GOLD.

Double eagles.....	166,097	\$3,321,940
Eagles.....	27,614	276,140
Half Eagles.....	25,365	176,825
Quarter Eagles.....	60,738	151,845
Dollars.....	294,848	294,848

Total..... 574,662 \$4,271,598

SILVER.

Half Dollars ps.....	198,000	\$249,000
Quarter Dollars.....	3,504,000	876,000
Dimes.....	900,000	90,000
Half Dimes.....	700,000	35,000

Total..... 5,602,000 \$1,250,000

COPPER COINAGE.

Cents, ps.....	310,000	\$3,100 00
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The operations of the sub-treasury at this port for the month of Sept. were:

Receipts for customs.....	\$4,255,170
Miscellaneous.....	490,180

Add balance Sept. 1..... \$4,775,350
9,031,797

Payments of the month..... \$13,810,147
4,171,046

Regular balance Sept. 30..... \$9,638 101
Balance to credit interest fund..... 89,570
Balance to credit special accounts..... 204,635

The receipts for customs at this port for the quarter:

July 1, to Sept. 30, 1853.....	\$13,816,787
Same quarter, 1852.....	10,466,718

Excess in 1853..... \$3,350,069

The September earnings of the Little Miami railroad show about \$40,000 excess over the same month last year. The receipts of the last 5 months have been:

	1852.	1853.
May.....	\$44,317 19	\$50,722 67
June.....	43,945 58	54,213 63
July.....	45,680 60	51,567 45
August.....	50,054 69	62,781 10
Sept.....	55,487 83	65,285 04

Total.....	\$239,515 98	\$281,569 52
Increase 19 per ct.....		45,053 44

The Milwaukee and Mississippi railroad receipts for Sept. were:

Freight.....	\$25,334 86
Passengers.....	10,090 58

Total..... \$35,424 44

Last August the receipts were about \$18,000.

This is upon only 70 miles of road.

The Erie railroad receipts for Sept. were:

From passengers and mail.....\$244,232 73
From freight.....268,402 08

Total.....512,634 81
Receipts in Sept. 1852.....375,176 54

Increase.....\$137,458 27
The receipts of the Hudson River railroad for Sept. 1853 were.....\$134,189 10
Same month 1852.....99,454 97

Increase equal to 35 per ct.....\$34,624 13

The receipts of the New York and New Haven road for August was as follows:

Passengers.....\$80,636 11
Freights.....9,000 00

Total.....89,636 11
Paid Harlem Road.....5,493 43

Total.....\$84,142 68
Sept. 1852.....72,009 40

Increase.....\$12,133 28
Sept. 1851.....62,381 38

Chicago and St. Louis Railroad.

The Chicago Advertiser in describing the country through which the Illinois Central and Mississippi River Railroad conducts the traveler says:

This road, running through the most fertile and beautiful country in the world, and touching at the towns and villages which have sprung up, even without these commercial advantages, to be the most flourishing in the state, and its termini at the two most important cities with render it one of the most productive roads in the Union.—It will be the most direct route from St. Louis to New-York or Boston; and as the navigation of the Mississippi is seldom or never obstructed to Alton, it will be one of the greatest thoroughfares in the Western States, from New Orleans and other points on the Mississippi, via the lakes, to our northern Atlantic cities. On this road and tributary to it, are Springfield, the State Capital, Jacksonville and Monticello, the head quarters of learning of the State, and the location of our noble asylums for the deaf and dumb, the blind and the insane, and male and female seminaries and colleges; and, indeed, the most beautiful and desirable inland towns in the State, all surrounded by the most productive farms in a high state of cultivation. It also passes through the beautiful city of Joliet, the home of Governor Matteson, in which is already the most extensive woolen manufactory in the State, with unlimited elements for motive power, both water and fuel; the most beautiful and substantial building material on the spot, and accessible by both river and canal, as well as other railroads; as well as one in progress directly east to Laporte, to connect with the greatest thoroughfare, there, in the Union, except perhaps it may between New York and Boston, though our own observation in traveling over them all for several years, and statistics, do not justify even this exception.

The country through which this road passes has been called by all geographers and journalists who traveled over it, the garden spot of the State, and of the West; and will support a more dense population than any equal amount of territory, which will command greater way travel and freight upon this road than any other in the west, which is to all railroads the most profitable business. The easy grade, the direct course, and the character of the foundation on which it is laid, will require much less power and expense, and repairs to operate it, than almost any other road in the country; and the great literary and social privileges already established on a firm foundation, with its unsurpassed agricultural, manufacturing and mineral advantages, and the salubrity of the climate, so soon as they are seen and known, will invite a flood of immigration of the best character to improve every acre of land convenient to it; and we venture the prediction that it will by one of the very best pay-

ing roads in the country, as well as furnish the most desirable residences, for intelligent, scientific and enterprising settlers.

NEW YORK, Oct. 1, 1853.

ED. R. R. JOURNAL.

Sir:—You make an error in fixing the amount of the capital account of the Erie railroad (in your issue of this date) at \$30,173,868. It should be \$32,303,868.90, as per statement enclosed.

You will observe that in the place marked with a star on the statement, there is to be added \$1,150,000, and \$720,000, to the old funded debt of \$18,003,869.90, the two amounts being the amount of the last issue of bonds. The 7 and 3 months interest mentioned, is the interest on the same from March 1, or the date of their issue, making the funded debt \$20,173,868.90. As you say you wish to make fair statements you should correct this error in your next issue.

A READER OF THE R. R. JOURNAL.

The error complained of was the conclusion naturally drawn from the published statement of the company. We supposed that the whole debt of the company bore interest, and consequently that the amount upon which the interest was paid, was the measure of the indebtedness.

As the statement previously published, did not present in full the financial condition of the company, we give it again in this connection.

Earnings from Jan. 1, to Sept 30...\$3,235,887 24
Interest on the debt,
viz: on \$18,003,868 90 for nine months; on \$1,450,000 for seven months; and on \$720,000 for three months.....\$1,017,010 83
Rent of the Union railroad.....58,500 00
Transportation expenses.....1,803,662 38—\$2,879,173 21

Excess of earnings over expenses and interest.....365,714 03
Add the cost of charges for transportation of materials for second track, and the use of construction trains, and the track estimated at.....100,000 00

Dividend.....456,714 03
Paid Oct. 1st, 1853.....350,000 00

Surplus after payment of expenses, interest on debt and div...\$106,714 03

CAPITAL ACCOUNT.

Amount of capital stock issued.....\$10,000,000 00
Amount of funded debt (bonds and certificates).....20,173,868 90
Amount of floating debt.....\$2,900,000 00
Deduct cash and cash assets.....770,000 00 2,130,000 00
\$32,303,868 90
Add value of property on hand.....770,000 00

Total cost of road.....\$33,070,868 90

Mr. Loder in his letter of March 10th states the capital account as follows:

Stock.....\$9,612,918
Funded debt.....16,003,858
Floating debt and liabilities.....8,684,447

Total.....\$31,301 809
Total Sept. 30.....\$33,070,868 90
Increase in 7 months.....\$1,767,059 90
Reported cost of the road Sept. 30, 1852.....\$27,557,205 00
Increased cost for the year.....\$5,519,463 90

We still see no reason why the interest on the floating debt was not deducted before paying dividends. Supposing the amount of this debt to be uniform for the year, it is easy to see that the dividend declared was not earned. It is probable, too, that the interest on the floating debt, at the rate at which it was carried was quite equal to the balance left after paying the interest on the funded debt. It so appears to us from the evidence thus far.

English Railway Travelling.

According to a late Parliamentary report it appears that the number of passengers conveyed on the Railways of the United Kingdom during the six months ending on the 31st of December last, was 49,886,123; of which 5,859,215 were of the 1st class, 17,524,651 of the second class, 26,484,866 of the third, and Parliamentary classes, and 17,991 were holders of season tickets.

The aggregate of receipts from this number of passengers was £4,360 168. The receipts in the same period from the transport of goods, cattle, parcels and mails, amounted to £4,490,105; and the total income derived from the two branches of traffic amounted to £8,850,273. This was an increase in the total income over that of the preceding year, of £602,336; but it is remarkable that with so large an increase in the aggregate, there was a diminution in the receipts from passengers of £220,659. This comparative falling off of this branch of revenue is attributed to the effect of the great exhibition of 1851, in having not only augmented the receipts of that year, but reduced in some degree those of the year following, from the large number of merely occasional visitors to the capital, who had availed themselves of the period when it presented an unusual attraction.

It will be observed from the foregoing statement, that the income from the freight department was greater than that from passengers. This is a result which probably few persons had anticipated. It is demonstrative of the immense effect of railroad transportation in promoting the trade and population of the large cities, by the augmented facilities for the transport of the means of subsistence, as well as of the materials for manufacture, and the manufactured articles. The same effect is produced by the railways of this country, as is demonstrable by our own railroad statistics.

Another striking difference between the passenger returns, of the last half of the two years, 1851 and 1852, and produced doubtless by the same cause, is, that although the receipts of the former year were greater than those of the latter, by the amount above stated, the number of passengers was less, by 2,376,731; showing that the visitors to the capital of that year came from more distant parts of the country.

The whole number of miles of railway open at the close of the year 1852, was 7,386, it being an increase of 446 miles in the course of the last year.—The aggregate number of passenger trains, in England and Wales, during the last half of the year 1852, was 453,610; and the number of passengers in the railways of that part of the Kingdom, 40,652,704.—This shows an average number of 89 passengers to each train—not the average conveyed the whole distance, as is shown on our railroads by a computation based on our returns, but the average of the entire number who get into the cars.

The aggregate of miles travelled by passenger trains in England and Wales, in the same six months, was 14,269,365. This number, divided

by the number of trains, shows the average length of trains (meaning probably the trips of each locomotive) to be $31\frac{1}{2}$ miles. The number of goods trains during the above period was 201,518, and the distance traversed by them was 10,937,133 miles.

Cattawissa, Williamsport and Erie R. R.

The opening of this road took place on the 26th ult., so that there is now a direct line of railroad from Phila. to Cattawissa, when the whole line to the lakes, of which this is a part, shall be completed the following will be the route.

Leaving Philadelphia by the Reading Road to Port Clinton, 78 miles; thence to Tamacqua by the Little Schuylkill Railroad, 20 miles, (finished and in daily operation,) thence to Cattawissa by the line of the Cattawissa, Williamsport and Erie Road, 42 miles, thence by a continuation of the same road by way of Danville and Milton to Williamsport on the West Branch of the Susquehanna, 50 miles, thence by the Williamsport and Elmira Road to Elmira, 75 miles, making the entire distance from Philadelphia to Elmira 265 miles. At this point the chain of roads intersect the New York and Erie Railroad, and connects with roads leading north to Rochester, Buffalo, Niagara Falls, Canada. It will be seen by the above statement, says the Phila. Argus, that the distance from Philadelphia to Elmira, by these lines, is 265 miles, while the distance from New York to Elmira by the New York and Erie Railroad is 272 miles,—thus bringing Philadelphia nearer Western New York than the City of New York itself, by several miles, to say nothing of the saving in time by reason of the alignment and curvature being greatly in favor of the lines from this city. The rails are being laid down on these roads and by the next travelling season passengers will be able to leave Philadelphia after an early breakfast and take tea at Niagara Falls, whence a choice of routes offers either to the Great West or the Canadas, as their pleasure or business may demand.

Fox River Valley Railroad Company.

The stockholders of the above Company, at their annual meeting, held at Elgin on the 22d elected the following Board of Directors, viz,

B. W. Raymond, J. B. Turner, Jerome Beecher, Chicago; J. Van Nortwick, Batavia; M. C. Town, Joseph, Teft, Elgin; A. Edwards, Dundee. J. A. Carpenter, Carpenterville; Geo. Gage, H. N. Owen, W. A. McConnell, McHenry Co; A. C. Fuller, Belvidere. J. P. Yelverton, New York City;

OFFICERS OF THE COMPANY.

B. W. Raymond, President. M. C. Town, Treasurer. A. J. Waldron, Secretary. Milo Smith, Chief Engineer.

The Fox River Valley road connects with the Wisconsin Central railroad, at the State line.

Oakland and Ottawa Railroad.

Election of Officers. At a meeting of the Directors of the Oakland and Ottawa Railroad Company, held at their office on the 20th inst., A. P. Baldwin, Esq., was unanimously elected Director, in place of Hon. Z. Chandler, declined. Mr. Baldwin having accepted, H. N. Walker, Esq., was then unanimously elected President, and Charles C. Trowbridge, Esq. was unanimously elected Treasurer.

The selection of Mr. WALKER is a worthy compliment to his zeal and energy in pushing forward the project of the Oakland and Ottawa Road to its present promising position. The name of Mr. C. C. TROWBRIDGE, Treasurer elect, one of the most honourable gentlemen in the State, and a man of the strictest integrity, is a sufficient guaranty that the funds of the Company are in safe hands. We regret that Mr. CHANDLER has withdrawn from the Board, for he possessed tact, industry, and perseverance, which makes him valuable in the direction of any public enterprise. The selection of Mr. BALDWIN, however, in his place, is one of the very best that could have been made; and, with such men as now comprise the Direction and Officers

of that Road—and they could scarcely have been bettered in Michigan—there is no good reason why the Oakland and Ottawa Railroad should not be one of the best, and best managed Roads in the country.

Three hundred men are now at work on the road beyond Pontiac, and more are to be added as fast as they can be obtained.—*Detroit Free Presse.*

Michigan Central Railroad.

We learn from the Advertiser, (says the Detroit Tribune,) that J. W. Brooks, Esq., who has so long and so ably superintended this road, has been elected Vice President of the company, and that Edwin Noyes, Esq., from Maine, has been elected to fill his place. All admit that the Central railroad has been managed with consummate skill by Mr. Brooks, and if Mr. Noyes shall sustain for the road its present high character in that respect as we are assured he will as nearly as it is possible to be done, he will prove himself no ordinary man. Mr. N. will have the general superintendence over the whole line of the company's road, with all its various connections, its boats and its general management. R. W. Rice, Esq., has been promoted to the office of local superintendent having charge of the whole details of the road along the entire line, a position for the efficient charge of which he has shown himself abundantly competent. He has won the respect and good will of every man having any connection with the road by his accommodating spirit and gentlemanly conduct.

Southern Railroad to the Pacific.

Mr. Haupt, consulting engineer of the Southern Railroad, the Philadelphia American says, has effected arrangements with an influential and responsible company to dispose of bonds to the extent of one million one hundred thousand dollars, and to grade, finish, equip, and put in operation the whole line of the Southern Railroad across the State of Mississippi in two years. The contract was finally executed on the 20th inst. This arrangement also secures the early completion of the link across the State of Alabama, between Montgomery and the Mississippi State line, a part of which is now under contract. East of Montgomery the chain is complete, and in operation to Charleston Savannah, and the Northern cities. West of Vicksburgh the extension of the road has been provided for by appropriations made by the Louisiana Legislature and by private and municipal subscriptions as far as the Texas line. Through Texas to the Rocky mountains a grant of land has been given sufficient to build a road, and only 600 miles remain to be provided for to complete a continuous railroad to the Pacific ocean.

Finances of Pennsylvania.

The Cashier of the Treasury of Pennsylvania has just published a statement, which shows the State finances to be in a most prosperous condition. According to his statement, the State debt on the 1st of December, 1851, was \$40,332,543. Of this sum about \$36,750,000 bore interest at the rate of 5 per cent. Some \$2,250,000 at the rate of 6 per cent. and less than \$200,000 at 4½ per cent. Those items, with \$650,152 of "Relief" issues, and about \$500,000 of floating debt, form the aggregate mentioned. Since the 1st of Dec., 1851, the debt has been increased by amount of the appropriation to the North Branch Canal, \$850,000; and lessened by the operations of the sinking fund, payment of outstanding certificates, damages, balances of contracts &c., 918,910, reducing the State debt at present to \$40,263,633. The payments on the debt made since the 1st of December, 1851, exceed the

amount of the North Branch loan the sum of \$68,910 52. In addition to the \$184,000 received in premiums by the cancellation of the six per cent. bonds, there will be annual saving in the rate of interest of a fraction over \$20,000, or a sum equal to the interest on \$400,000, or a sum equal to the interest on \$400,000 of the public debt. The annexed statement is given as the precise amount paid for new work under the Appropriation Bill of 1852:

For relaying the Columbia Railroad..	\$200,000 00
For new road to avoid the planes on the Alleghany mountains.....	386,031 90
For the Western Reservoir.....	52,380 41
For the North Branch.....	650,000 00
For the Double locks on the Delaware Division.....	60,000 00
Total.....	\$1,348,415 31

London and Port Stanley Railway.

The first annual meeting of the stockholders in this company was held in the Town Hall on Friday last, to elect directors for the ensuing year. L. Lawrason, Esq., was called to the chair, and E. J. Parke, Esq., was appointed secretary. The following gentlemen were then appointed:

L. Lawrason, E. Leonard, S. S. Pomroy, S. Morrill, M. Anderson, and W. Barker, Esqrs., of London; E. Paul, Esq., of St. Thomas; and W. D. Hale, and S. Price, Esqrs., of Port Stanley.

The directors afterwards met and elected L. Lawrason, Esq., president, and E. Adams, Esq., vice-president; and appointed R. G. Benedict, Esq., chief engineer, and E. J. Parke, Esq., permanent solicitor, and secretary pro tem.

Scrutineers, John Brown and John W. Kerr, Esqrs.—*London Prototype.*

Buffalo and New York Railroad.

A. D. Patchin, Esq., of Buffalo, formerly the treasurer of this company, has recently been chosen its president, and his former place is filled by Charles N. Fearing, Esq., of this city, whose office is at No. 12 Wall street, New York. This road now forms a part of the Erie line to Buffalo. The receipts of this road for August and September were as follows:

	Passengers.	Mail.	Freight.	Total.
In Sept.	\$23,130 39	\$325	\$12,316 45	\$36,272 34
Aug....	21,876 02	325	3,204 62	30,105 64

Increase
in Sept.. \$1,554 84 \$4,611 83 \$6,166 70

Albany and Schenectady Railroad.

A final meeting of the Board of Directors of the Albany and Schenectady Railroad, was held at Albany yesterday at which a dividend of two per cent. out of the surplus assets of the Company was declared, payable on the 12th October proximo at the banking office of Winslow, Lanier & Co. in this city. *The Albany Journal* says:

It is understood that a further and final dividend of about one per cent. will be made early in the year 1855—it being necessary to reserve the remaining fund, applicable to this purpose, until that time in order to meet any claims or contingencies that may arise, which probably will be very small, if any thing.

Highly complimentary resolutions were passed, coupled with a suitable testimonial, expressive of the sentiments of the Board and the Stockholders toward their President, Ezekiel C. McIntosh, Esq. of this city, to whose untiring zeal, industry and skill they have been so much indebted. To their worthy Vice President, the Hon. Gerrit Y. Lansing, the Board unanimously voted a highly commendatory and flattering resolution; and to Mr. E. Foster, Jr., so long their Secretary and Superintendent, similar testimonies were awarded.

Thus has been closed, most satisfactorily and profitably, the Old Mohawk Company—the first road chartered and opened in this State, whose

history has been remarkable, and especially so in furnishing an extraordinary instance of what can be accomplished in the midst of difficulties, and after almost ruinous mismanagement in its early history, by well directed, energetic and honest effort.

The Northern Railroad.

The N. O. Crescent of the 21st says:—Some anxiety has been felt amongst our citizens in relation to the failure of Messrs. Robb and Slidell to effect a sale of the bonds of this road, and apprehensions are entertained that this may have a disastrous influence on the future prospects of the Company; but these fears result from a misapprehension of the facts which we have been at some pains to ascertain, and we will now give some details concerning the position of the Company. From these it will appear that the only result from the failure to obtain a loan will be to delay the completion of the road beyond Canton, which is about twenty miles north of Jackson, Mississippi, but in no manner to interfere with the finishing of that part of the road which connects us with Mississippi.

The distance from New Orleans to the State line is 87 miles. The whole of this distance is already graded, except about 13 miles of what is called crib-work in the swamp at Pass Manchac, and these thirteen will be finished in about four months. The iron has already been purchased for one hundred miles of road—forty miles have already been received, and the remainder will be here as soon as the crib-work is finished. The contractors are now laying the iron on the track, commencing at Pass Manchac, and running North, although of course the work cannot progress rapidly while the sickness now prevalent makes it impossible to obtain laborers in sufficient numbers. Three locomotives and a number of freight and dirt-cars are already here and one locomotive, with dirt or gravel cars are already on the road.

The means of the company are ample for carrying the work to Canton. The road between Jackson and Canton is already graded, and ready to receive the iron, which will be sent there as soon it arrives—in December or January. The location of the road from the State line to Jackson is made, depots have been provided for at the several necessary points; and, in fact, everything promises a regular railroad communication with Canton by the close of the coming year, a distance of two hundred miles. If a loan cannot be obtained on the faith of a road in full operation, of such length and importance, the Company must, of course rely on further subscriptions to continue its progress to the Tennessee river; this being the only link required

in the chain which will connect us with the North and East; but any doubt on that score is idle, and although the work may not be finished as soon, as it could have been if a loan had been obtained, we repeat, its ultimate success is already placed beyond doubt or question.

Fort Wayne and Chicago Railroad.

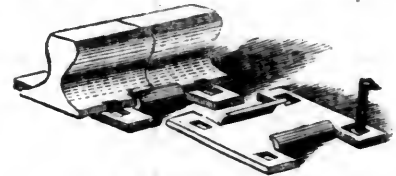
On Wednesday last, the following were elected Directors for the ensuing year; George H. Hart of Philadelphia; J. Evans and W. S. Gurnee of Chicago; S. J. Anthony of Valparaiso, Ind.; Wm. Williams of Warsaw; A. Wheeler of Plymouth; H. Twibart of Columbia; and P. Hoagland and S. Aannah of Fort Wayne. S. Hannah was re-elected President; J. R. Straughan Chief Engineer; and A. McJunkin Secretary and Treasurer.

The prospects of this road, we are happy to learn, are of the most encouraging description both financially and as regards the progress of the work. The stock subscription now amounts to a million and a quarter of dollars, and is rapidly increasing. Favorable financial arrangements have been made, and the company have now on hand funds sufficient to enable them to prosecute the work with energy, and push it forward to an early completion. A large force of hands are now at work; some sections are expected to be done this fall; and from the favorable nature of the work allowing it to be prosecuted during the winter months, it is expected that a large portion of the line will be ready for the iron as soon as navigation opens in the spring. But little doubt now exists that the whole will be finished, and cars running from Fort Wayne to Chicago by the fall of next year.

This company has been fortunate in its selection of officers. It is scarcely a year since the first meeting was held to organize the company, and in one year more the whole line of 145 miles will be in operation. For this unparalleled success they are in great measure indebted to the prudent and indefatigable exertions of the President Judge Hanna, and the skill, judgment, and energy of their Chief Engineer, J. R. Straughan, Esq., who though comparatively but a young man, has few superiors in the requisites necessary for a successful engineer, and has achieved an enviable reputation in his profession. Under the guidance of such men there can be no wonder at the progress this road has made and its present flattering prospects; nor can there be any doubt of its early and successful completion. Mr. Straughan has from the first stated his determination to finish the road by the fall of 1854, and the progress already made is proof that he did not over estimate his means, and that he will redeem his promise.

The road sustains a high reputation abroad as one that must do an immense business, and prove a highly profitable and paying route.—When the road from Fremont shall be completed, we expect to see most of the travel from Cleveland and Sandusky to Chicago pass over this route, as it will be shorter and far better than the route via Toledo and the Mich. Southern Railroad; which added to the trade it must command from the Ohio & Indiana, and the other roads it will connect with here, gives it a prominence in the eyes of capitalists that few roads of such recent commencement can boast.

RAILROAD SPIKES.



WROUGHT IRON Chairs and Fastenings.

THE Subscribers continue to manufacture with increased facilities, **HOOK AND FLAT HEAD RAILROAD SPIKES** and **WROUGHT IRON CHAIRS** of any pattern, either punched or plain. The best quality of Iron is used, and the articles are guaranteed to give satisfaction in every respect. We are prepared to fill orders for any quantity with dispatch, and at the lowest market prices.

Also, Boat Spikes, Bolts and Boiler Rivets, of superior quality. All communications addressed to us will meet with prompt attention.

41st

SMITH & TYSON,
No. 25 South Charles st., BALTIMORE.

BRANDS' LIQUID, FOR DISSOLVING AND PREVENTING INCORUSTATIONS IN STEAM BOILERS,

IS acknowledged by all who have used it, to be the best preventive ever introduced to the notice of the public. It is not injurious to the Boilers, even if used in large quantities, and is now in general use in a great part of Europe, on Railroads and Steamboats, and for Stationary Boilers.

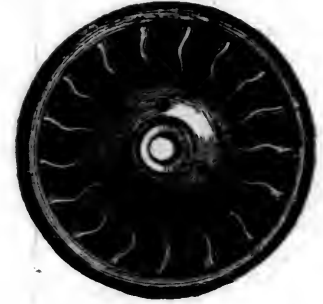
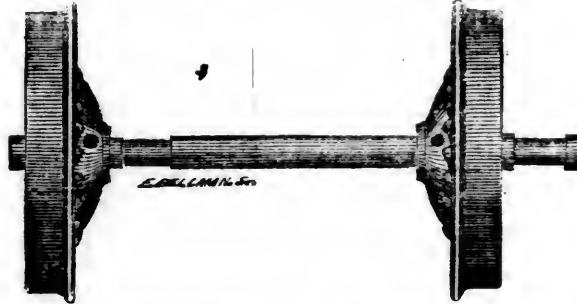
By the use of this liquid, old incrustated boilers, and principally tubular boilers, which from their construction are in general very difficult and in some cases impossible to be cleaned, may be freed from incrustation in a few days, and by the continued use of it kept entirely free from any future accumulation, thereby increasing the generation of steam, reducing the consumption of fuel and diminishing the danger of explosions.

The proprietors of Brands' Liquid are so confident of the merits of this invention, that they offer one barrel *gratis* to parties willing to make a trial, and to be paid for only in case of success.

Directions for the use of Brands' Liquid, with testimonials, together with full particulars, may be obtained from the Agents, Messrs. BOURRY & ROEDER, Consulting and Mechanical Engineers,

Aug. 10, 1853.

333 Broadway, N. Y.



WASHBURN, POND & CO., MANUFACTURERS OF

WASHBURN'S PATENT CAR WHEELS, FOUNDRY, NORTH THIRD ST., TROY, N. Y.

FROGS, CHAIRS, AND OTHER CASTINGS FOR RAILROADS.

Wheels Manufactured from the best of Salisbury and Sterling Iron (mixed), under the direction of Mr. Washburn, and warranted

To Railroad Companies.**COLLINS' PATENT
VENTILATORS,**

FOR

Ventilating all kinds of
PUBLIC AND PRIVATE BUILDINGS
Railroad Cars, Depots, etc.

THE Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of, for giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P. R. R., Altoona, Feb. 8, 1853.

This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free the building of smoke.

STRICKLAND KNEASS,
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.

Messrs. BAKER & WILLIAMS,
Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,
OLIVER W. BARNES,
Sm40 Principal Assistant Engineer P. R. R. Co.

**SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX
AND A HALF HOURS TO CHICAGO.**

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western C. & S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. Wilson, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. FREATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

Railroad Spikes.

THE Subscribers are manufacturing Railroad Spikes with SWETT'S Patent Improved Machines; and are prepared to execute orders for any quantity, on the most favorable terms. These Spikes are made of the best quality of iron, and, for shape and finish, are superior to any others. Railroad companies and others in want, are respectfully solicited to order a sample before purchasing elsewhere. All orders will receive prompt attention.

SWETT, ELLIOT & CO.
Pittsburgh, Pa., August 25, 1853.

New York and Erie R. R.**PASSENGER TRAINS**

leave Pier foot of Duane street,
as follows, viz:—

DAY EXPRESS, at 6 a. m. for Dunkirk and Buffalo.

MAIL, at 8½ a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Bughauton and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAT, at 3½ p. m. for Delaware and all intermediate stations.

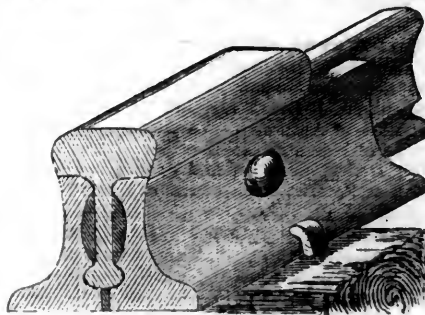
NIGHT EXPRESS, at 5 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 6 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 5 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.

B. H. LATROBE'S**PATENT****THREE-PART RAIL.**

THIS form of Compound-Rail has been tested by five years' use on the Baltimore and Ohio Railroad, with a cost for maintenance less than half that of the average of the rest of the road. That Company have begun to use it in replacing their worn out iron.

Address the Patentee,
October, 1853.

BALTIMORE, Md.

Notice to Contractors.**NORTHERN CROSS RAIL ROAD,**

STATE OF ILLINOIS.

MAPS, profiles and estimates for the work necessary to the complete construction of the NORTHERN CROSS RAILROAD, will be exhibited at the office of the company in Quincy, on and after the 13th November and proposals for the work are requested from contractors.

Meanwhile, as the preliminary lines have been traced on the ground which do not vary materially from the probable location, and as the work will be let by quantities with equitable provision for changes, it is entirely practicable by visiting the ground to obtain all the most important information necessary to regulate the bids.

The route extends from Quincy on the Mississippi river, in a direction east and north to the dividing ridge between the Mississippi and Illinois rivers, thence about midway between those rivers to Galesburg, in Knox county, a distance of about 100 miles. At Galesburg it connects with other roads leading to Chicago. The country through which it passes is well settled, healthy and fertile, unsurpassed in these latter particulars on this continent, and, as it is contemplated to build a road of the first class common in the United States, the work will be of sufficient magnitude to make the execution desirable including at many place good work for the winter.

The line will be divided into sections, and proposals will be received for the construction of one or more up to the whole road, the propositions being made for the grading and masonry—bridges, ties and sills—and complete construction, (excepting depots,) all in a single contract or separately for each item.

Contracts will not be closed before the 25th November, nor sooner thereafter than to afford sufficient time to decide on the most satisfactory offer.

Specifications for the mode of construction, with maps and profiles of the preliminary lines, may always be seen at the office in Quincy.

Quincy, Illinois, September 26th, 1853.

N. BUSHNELL, President.

W. H. SIDELL, Chief Engineer.

NOTE. From the point where the line to Galesburg leaves its easterly direction to turn northerly, an extension is projected to the Illinois river. This will be about 30 miles long, terminating opposite Meredosia, where it connects with the main line of The Great Western Road, which extends from thence east through the capitals of Illinois, Indiana, Ohio, &c. The construction of this part of the line was begun as a State work about fifteen years ago, and abandoned after a large sum had been expended in the graduation. The company will be ready to negotiate for its construction as a separate work.

**Railroad Mortgage City and
County Bonds.**

WE offer for SALE, at fair rates, the following SECURITIES of the most undoubted character, viz:

\$200,000 MARIETTA & CINCINNATI RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable January 1, 1868.

\$200,000 COVINGTON & LEXINGTON RAILROAD MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable March 1, 1883.

\$25,000 COVINGTON & LEXINGTON RAILROAD CONVERTIBLE SIX PER CENTS, guaranteed by the city of Covington, redeemable Sept 1, 1873.

\$50,000 MADISON & INDIANAPOLIS RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable May 1, 1869.

\$100,000 PERU & INDIANAPOLIS RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS, redeemable July 1, 1864.

\$50,000 SCIOTO AND HOCKING VALLEY RAILROAD SEVEN PER CENT. MORTGAGE CONVERTIBLE BONDS, redeemable November 1, 1861.

\$50,000 OHIO & PENNSYLVANIA RAILROAD INCOME CONVERTIBLE SEVEN PER CENT. BONDS, redeemable Oct. 1, 1872.

\$50,000 CLEVELAND, PAINESVILLE AND ASHTABULA RAILROAD SECOND MORTGAGE SEVEN PER CENT BONDS, redeemable in 1873.

\$25,000 BELLEFONTAINE AND INDIANA RAILROAD 1st Mortgage 7 per cent Convertible Bonds, redeemable January, 1866.

\$25,000 INDIANAPOLIS AND BELLEFONTAINE 7 per cent Convertible Mortgage Bonds.

\$25,000 DAYTON AND MICHIGAN 1st Mortgage 7 per cent Convertible Bonds.

\$15,000 COLUMBUS AND SHELBYVILLE 7 per cent 1st Mortgage Convertible Bonds.

\$50,000 BONDS OF THE COUNTY OF ALLEGHENY, in the State of Pennsylvania, bearing 6 per cent interest, guaranteed by the Allegheny Valley Railroad Company—the taxables of this county is \$50,000,000.

\$25,000 BONDS OF THE COUNTY OF WASHINGTON, in the State of Pennsylvania, bearing 6 per cent interest, guaranteed by the Hempfield Railroad Company—the value of taxables is \$18,000,000.

\$25,000 BONDS OF OHIO COUNTY IN THE STATE OF VIRGINIA, (Wheeling is the county seat) guaranteed by the Hempfield Railroad Co. Value of taxables \$16,000,000.

\$50,000 WASHINGTON COUNTY (Ohio) SEVEN PER CENT BONDS, redeemable July 1, 1872.

\$50,000 ATHENS COUNTY, (Ohio) SEVEN PER CENT BONDS redeemable July 1, 1872.

These two last are guaranteed by the Marietta and Cincinnati Railroad Company, and made convertible into stock at the holder's option.

\$30,000 CRAWFORD COUNTY (Ohio) SIX PER CENT BONDS, guaranteed by the Ohio and Indiana Railroad Company, and made convertible into its stock—redeemable January 1, 1868.

\$40,000 FAYETTE COUNTY (Kentucky), SIX PER CENT BONDS, guaranteed by the Maysville and Lexington Railroad Company—redeemable Sept. 10, 1862.

\$50,000 BOURBON COUNTY (Kentucky) SIX PER CENT BONDS, guaranteed by the same, redeemable July 1, 1882.

\$25,000 BOYLE COUNTY, (Kentucky), SIX PER CENT BONDS, guaranteed by the Lexington and Danville Railroad Company, redeemable July 1, 1882.

\$40,000 MASON COUNTY, (Kentucky), SIX PER CENTS, guaranteed by the Lexington and Maysville Railroad Company, convertible into stock, redeemable July 1, 1882.

\$100,000 BONDS OF THE CITY OF PITTSBURGH, in the State of Pennsylvania, six per

cents, guaranteed by the Allegheny Valley Railroad Company—value of taxable, \$20,000,000.

\$50,000 CINCINNATI SIX PER CENT BONDS Coupons payable Jan. 1 and July 1. Principal redeemable Jan. 1, 1882.

\$25,000 CITY OF MARIETTA (Ohio) SEVEN PER CENT BONDS, guaranteed by the Marietta and Cincinnati Railroad Company, and made convertible into its Stock, redeemable July 1, 1872.

\$25,000 CITY OF MADISON, (Indiana,) SIX PER CENT BONDS, guaranteed by the Columbus and Shelbyville railroad Company, and made convertible into its Stock, redeemable November 1, 1825.

These Bonds are for the sum of \$1,000 each, with Coupons, principal and interest, redeemable in New York, the latter in most cases 1st July and 1st January in each year.

The payment of the railroad Bonds in each case is secured by a Deed of Trust to some responsible citizen of New York, with power of sale in case of default.

The County and City Bonds are issued by virtue of special acts of the Legislature of the proper States, and by authority of the votes of the citizens of each.

The laws under which these Bonds are issued require the proper authorities to make a special levy of taxes, to be set apart exclusively to pay accruing interest, and to create a sinking fund to redeem the principal which can be enforced through the courts of law if necessary.

The debts operate in the nature of a mortgage on all the real and personal estate within the two cities or counties respectively.

The Constitution recently adopted by Ohio and Indiana prohibit absolutely the creation of any farther debt by counties or cities. This will prevent any farther issue of such Bonds.

We deem these securities good, safe and desirable investments. We recommend them to our correspondents.

Printed "Exhibits," giving detailed information in each case, can be had by applying at our office.

WINSLOW, LANIER & Co., No. 52 Wall-st.
New-York, Sept. 19. 1853.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 55 lbs. to the yard, already shipped, and expected here soon—for sale by
387 JOHN H. HICKS, 90 Beaver st.

Railroad Car Works.

THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Road Cars, also Baggage Barrows and Freight Trucks.

F. HUNGERFORD & CO.

Maysville, Ky., Sept. 20, 1853.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
60 South 3rd Street,
Philadelphia.

May 1st, 1853.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Wason's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, **HENRY SIZER, Agent,**
Cincinnati Ohio.

Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

N. York and N. Haven R. R. NOTICE OF SUMMER ARRANGEMENTS,



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	6.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Supt.
New Haven, May, 1853.

STATE OF NEW YORK—SECRETARY'S Office, Albany, August 18, 1853.—To the Sheriff of the County of New York.—Sir. Notice is hereby given, that at the General Election to be held in this State on the Tuesday succeeding the first Monday of November next, the following officers are to be elected, to wit:

A Secretary of State, in the place of Henry S. Randall;
A Controller, in the place of John C. Wright,
An Attorney-General, in the place of Levi S. Chatfield;

A State Engineer and Surveyor, in the place of William J. McAlpine;

A State Treasurer, in the place of Benjamin Welch, Junior;

A Canal Commissioner, in the place of John C. Mather;

A State Prison inspector, in the place of William P. Angel;

Two Judges of the Court of Appeals—one in the place of Charles H. Ruggles, and one in the place of Hiram Denio, appointed to fill the vacancy occasioned by the resignation of Freeborn G. Jewett;

A Clerk of the Court of Appeals, in the place of Charles S. Benton;

All whose terms of service will expire on the last day of December next, except that of Freeborn G. Jewett, which will expire on the last day of December 1857.

Also, a justice of the Supreme Court for the First judicial District, in the place of John W. Edmunds, whose term of office will expire on the last day of December next;

Also, four Senators for the Third, Fourth, Fifth and Sixth Senate Districts, in the places of William McMurray, Obediah Newcomb, James W. Beekman, and Edwin D. Morgan, whose terms of office will expire on the last day of December next.

COUNTY OFFICERS ALSO TO BE ELECTED FOR SAID COUNTY,

Sixteen members of Assembly;

Two Justices of the Superior Court, in the place of John Duer and Robert Emmet;

A Judge of the Court of Common Pleas, in the place of Charles P. Daly;

A District Attorney in the place of N. Bowditch Blunt.

Two Governors of the Almshouse, in the places of Richard S. Williams and Isaac Townsend;

All whose terms of office will expire on the last day of December next.

Yours, respectfully,

HENRY S. RANDALL,
Secretary of State.

The above is published pursuant to the notice of the Secretary of State and the requirements of the statute in such case made and provided.

JOHN ORSER,
Sheriff of the City and County of New York

Stuart, Serrell & Co., CIVIL ENGINEERS,

Rooms 21, 24, 26 & 27,
157 Broadway, New York.

CHARLES A. STUART,
DANIEL MARSH,

EDWARD W. SERRELL,
SAMUEL McELROY.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed the new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMillen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required. Office No. 25 Cliff street,
Aug. 10, 1853. 3m New York.

Henry I. Ibbotson,

MANUFACTURER OF

FILES AND SAWS,

Warranted of superior quality.

Office and Warehouse, 218 Pearl-st., New York.

Machinists' Tools.

A SUPERIOR CLASS.

DESIGNED particularly for Railroad work, manufactured by L. B. TING & CO., (late ALDRICH, TING & CO.)
October 7, 1853. LOWELL, Mass.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Lignaceous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

SIMEON DRAPER, 46 Pine st., offers for sale a variety of Railroad Bonds and Stocks; also, State, City, Town and Country Bonds, among which are:

State of Pennsylvania 5 per cent. coupon Bonds, \$1,000 each, coupons payable Feb. 1 and Aug. 1, in Philadelphia, mature 1877.

State of Georgia 7 per cent. coupon Bonds, \$500 each, coupons payable Jan. 1 and July 1, in Savannah, mature 1861.

State of Wisconsin 12 per cent. coupon Script, for improvement of Fox and Wisconsin Rivers, whole issue \$75,000, coupon payable Jan. 1, in New York, mature 1862.

State of New York 5 per cent. Canal Certificates, interest payable in New York.

City of Troy, N. Y., 6 per cent. Bonds, whole issue \$500,000, Bonds \$1,000 each, coupons payable Jan. 1 and July 1, in New York, mature 1867 and 1872.

City of Newburg 6 per cent. Bonds, whole issue \$100,000 coupons payable March 1 and Sept. 1, in New York, mature 1878.

City of Racine, Wis., 7 per cent. Bonds, whole issue \$300,000 bonds. \$500 and \$1,000 each, guaranteed by the R. J. and Mississippi Railroad, and convertible into its stock, coupons payable Jan 1 and July 1, in New York mature 1872.

First Mortgage Convertible 7 per cent. Bonds of the Buffalo, Corning and New York Railroad, whole issue \$550,000, coupons payable in New York, April 1 and Oct. 1, mature 1867.

First Mortgage Convertible 7 per cent. Bonds the Western Vermont Railroad, whole issue \$400,000. coupons payable in New York Jan 1 and July 1, mature 1861-71.

First Mortgage Convertible 7 per cent. Bonds of the Columbus, Piqua and Indiana Railroad, whole issue of \$600,000, coupons payable in New York Jan. 1 and July 1, mature 1862.

First Mortgage Convertible 7 per cent. Bonds of the Mississippi and Rock River Junction, whole issue \$400,000, coupons payable in New York Jan 1 and July 1, 1863.

First Mortgage Convertible 8 per cent. Bonds of the Milwaukee and Mississippi Railroad, whole issue \$600,000, coupons payable in New York Jan. 1 and July 1, 1802.

First Mortgage 7 per cent. Bonds, Corning and Blossburg Railroad, whole issue \$150,000, coupons payable in New York May 1 and Nov. 1, mature 1873.

First Mortgage 7 per cent. Bonds, Toledo, Nowwalk and Cleveland, whole issue \$525,000 coupons payable in New York Feb. 1 and Aug. 1, mature 1863.

First Mortgage 7 per cent. Bonds, Mansfield and Sandusky, whole issue \$730,000, coupons payable in New York Jan. 1 and July 1, mature 1860.

First Mortgage 7 per cent. Bonds Vermont Valley, whole issue \$386,000, coupons payable in New York April 1, Oct. 1, mature 1861.

First Mortgage 7 per cent. Bonds Troy and Bennington Railroad whole issue \$100,000 coupons payable in Troy, New York Jan. 1 and July 1, mature 1862.

First Mortgage 7 per cent. Bonds New Jersey Central Railroad, whole issue \$1,500,000, coupons payable in New York Feb. 1 and Aug. 1, mature 1860/70.

First Mortgage 7 per cent. Bonds, Brunswick Canal Co., whole issue \$200,000, coupons payable in New York Jan. 1, July 1, mature 1857.

Also, Second Mortgage Bonds of many of the above Companies, and 7 per cent Bonds, Saratoga and Washington Railroad, whole issue \$340,000, coupons payable in New York, mature 1862.

7 per cent Bonds Troy and Boston, whole issue \$300,000 coupons payable in New York April 1 and Oct. 1, mature 1864.

10 per cent. Bonds Mansfield and Sandusky Railroad Co., whole issue \$170,000, coupons payable in New York April 1 and Oct. 1, mature 1855/57.

7 per cent. Mortgage Bonds of the Atlantic Steamship Co., whole issue \$700,000, coupons payable in New York, mature 1855.

8 per cent. Convertible Bonds of the Michigan Central Railroad Co., whole issue \$2,459,500, coupons payable in New York April 1 and Oct. 1, mature 1860.

TYRES.

LOCOMOTIVE AND CAR WHEEL TYRES, from the Manufactory of the celebrated and well known Iron Works of the **LOW MOOR CO.**, in England, are furnished by the subscriber, Agent, by direct importations, ready Welded, Blocked, and Rolled, from only ONE BAR and with only ONE WELD, at a cost much below that of any other stamp.

Importations through the last year of nearly 3000 Single-welded Tyres, which are now found running on the important Railways, have rendered them in almost exclusive use, and their performance of over 20,000 miles each, have elicited the highest recommendations of their superiority.

All work of this Company is warranted to give satisfaction. Sample Tyres may be seen at the Crystal Palace, New York, and at my Warehouse, 9 Liberty Square, Boston.

W. BAILEY LANG,
24 BROADWAY, N. Y.
9 LIBERTY SQUARE, BOSTON.

The Grand Trunk Railway Company of Canada.



ELECTRIC TELEGRAPH.

THE Directors are prepared to receive Tenders for the erection of an Electric Telegraph along the entire length of the Company's Line from Portland to Sarnia, and from Richmond to Quebec and Trois Pistoles. This Telegraph is for the purposes of the company exclusively, and is to be erected in Sections as required.

Sealed Tenders, marked on the outside "Tenders for Telegraph," can be addressed to the undersigned until Wednesday the 5th of October next. Each Tender to specify the price per mile, at which the POSTS and ONEWIRE will be supplied and erected, and the price per INSTRUMENT, at which they will be supplied.

The Directors do not bind themselves to accept the lowest Tender.

By order, C. P. RONEY,
Managing Director.

MONTREAL, 14th Sept., 1853.



WHITE'S SUSPENSION BRIDGE, OF
WOOD OR IRON.

A Model may be seen at the office of CHARLES T. GILBERT, 80 Broad St. N. Y.

Length of span, anything short of 1,500 feet with perfect safety for every kind of travel. The above cut represents a Wooden Bridge with a roof. The arrangement for the Iron Bridge is such as to avoid all the bad effects of changes of Temperature. For a full description, see pamphlets; for further information, respecting models, rights, &c., apply, by letter or otherwise, to AMEN WHITE, or JOSEPH F. TRAYER, Proprietors, Cambridgeport, Mass.
Office next door to the Athenaeum.

Notice to Contractors.



ALLEGHANY VALLEY RAILROAD LETTING.

SEALED PROPOSALS will be received at the subscribers office, in Kittanning, Armstrong county, Pa., until sunset of Tuesday, Oct. 18, for doing the Grading and Masonry between Kittanning and the mouth of Mahoning, 10 miles, and grading, masonry and tunnelling on all the heavy jobs between the mouth of Mahoning and Brookville, 35 miles. This division embraces all the tunnelling on the line.

Proposals will also be received for the delivery of cross ties on the line between Pittsburgh and the mouth of Mahoning, 55 miles. The cross ties to be 9 feet long, 7 by 8 inches, of white oak, red beech, chestnut or other approved lumber.

Proposals may be left at the office of the subscribers, in the city of Pittsburgh, Water street, above Market, until Monday, the 17th of October.

The work on the line will be ready for examination on and after Saturday, Oct. 8, at which time the plans and specifications may be seen at the office in Kittanning. For further information application may be made to Franklin Wright, Principal Assistant Engineer, Kittanning; to W. Milnor Roberts, Chief Engineer; George R. Eichbaum, Associate Engineer, Pittsburgh; Hon. William F. Johnston, President, or to the subscribers, CHAMBERLAINS, LEECH & Co.

Notice to Contractors.



OGDENSBURGH, CLAYTON AND ROME RAILROAD.

THE OGDENSBURGH, CLAYTON & ROME RAIL ROAD COMPANY will receive proposals at their Office in the Village of Rome, until the 24th day of October next, for the construction of their railroad from Rome to Ogdensburgh, to be completed as follows:

The Road between Rome and Boonville by the 1st day of August next. Between Boonville and Denmark by the 1st day of October, 1854. Between Denmark and Philadelphia by the 1st day of May 1855. Between Philadelphia and Ogdensburgh by the 1st of November, 1855.

The proposals will be received for the construction of the whole Road, including Lumber Ties and all other materials, with or without the Rails, in one contract, or in short sections, at the option of contractors, or offers will be received for furnishing the Lumber, Ties, and other materials separately, either for the whole Road or for sections.

The Maps, Profiles and Plans of the Road, together with specifications of the work and materials will be ready for the inspection of Contractors at the office, on or before the 10th day of October and Engineers will then be ready to show the line of the Road to persons desirous to contract.

By Order of the Executive Committee,

HENRY A. FOSTER, President.

R. S. DOTY, Secretary.

Sept. 12, 1853.

Book and Job Printing.

The undersigned have added to the **PRINTING ESTABLISHMENT** of the "RAILROAD JOURNAL," an extensive **OFFICE** for **BOOK AND JOB PRINTING**, which they are now prepared to execute in the **BEST** manner, and with **DISPATCH**. They respectfully solicit from **RAILROAD COMPANIES**, orders for the **PRINTING** of Exhibits, Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
SECOND QUARTO SERIES, VOL. IX., No. 42.] SATURDAY, OCTOBER 15, 1853. [WHOLE No. 913, VOL. XXVI.

The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, October 15, 1853.

"The Times".

The present stringency in monetary affairs contrasts so strikingly with the ease which prevailed a year since, that a few remarks as to the cause of the change, the probable continuance of a tight market, and the effect it is likely to have upon our Railway projects, may not be inappropriate to the occasion.

The main cause of the present stringency is the almost entire falling off of supplies of capital from Europe, caused chiefly by an apprehension of a war between Russia and Turkey, and of the results that would be likely to follow. For several years past, we have been in the receipt from abroad of large, and constantly increasing sums for investment in our railroads, equal, probably, for two or three years to \$50,000,000 annually, and which created a constant and steady demand for all the obligations of our Railroad companies, and of municipal corporations, the safety of which was unquestioned. For such, for two or three years back, the demand has exceeded the supply. To this steady supply of foreign capital, are our people in a great measure indebted for the wonderful progress they have made in all their industrial pursuits, particularly in the construction of railroads. It enabled them to devote a large portion

of their own means to the development of resources made available by our roads, so that their progress in all other enterprises, has very nearly kept pace with the progress of our highways. In the mean time, the immense expenditure upon railroads stimulated every kind of business, created an active demand for labor, and for all kinds of food, at the highest rates of compensation. Every person in the community shared in the general prosperity. The money that went into railroads, returned again to the cities in the ordinary course of business, and gave an unusual impulse to the trade, so that for a year or two past our people have seemed to enjoy a commercial millennium.

Under the state of things we have described, it is natural that the operations of our people should be somewhat extended. They are accustomed to have their hands full, whatever they may undertake. Their pursuits, however, have been in a right direction, and exercised upon legitimate objects. They have not as in 1837 been occupied in building up paper cities, and in similar speculations, which absorbed their energies and means, without the least useful results. All are now as they have been, employed in adding as far as in their power, to the aggregate wealth; one by an improved cultivation of his farm; another by opening a coal or iron mine; a third by the erection of a manufacturing establishment; another by building ships upon an improved model; each at work in his own way for the general good, and all having engagements on hand, fully up to his ability to meet.

So employed, the present pinch in the money market seizes us. We find that a portion of capital that has been so steadily and freely dealt out to us, is suddenly, and unexpectedly withheld. The effect is pretty much the same in business matters, as would be a half supply of fuel to a steam engine, which must either reduce its speed, or throw off part of its load. One or the other is inevitable, so long as motive power is wanting. With a continuance of the present condition of the market, our people cannot expect to move along with the same speed that has characterized them. For the future they must regulate this speed by the means they have for creating it. But without any aid from abroad, there is no doubt we can continue the construction of railroads at a very rapid

rate. The annual accumulation of a nation of over 25,000,000 of people, with greater resources than are possessed by any other, skillful and prosperous to an extraordinary degree, must be very great. But it must be remembered that while we have probably greater aggregate wealth than an equal number of people in any part of the world, that this wealth is so subdivided, and is made to conduce so generally to the comfort and luxury of the mass, that a comparatively small portion only remains for investment. In Europe, the profits of labor go into the hands of a small number, and the immense accumulations in few hands give the appearance of great wealth, while in fact the nation may be much poorer than ourselves, though they may have more of active capital seeking investment. What in the latter case is surplus, has been eaten, drank, and worn out by our people. Vast sums in few hands necessarily implies the poverty of the many. In this country, too, the greater opportunities for the employment of capital will not suffer its accumulation: so that "ready means" are scarce, and money commands a high rate, while the greatest abundance, and material good, are enjoyed by our people.

If for the future we shall be compelled to rely upon our own means, we have only to proceed in the path we have been pursuing, at a slower rate. But we do not believe this as likely to be the case. We do not believe in an European war. We have no doubt that the apprehensions of it will soon be removed, and that as far as our railroads are concerned, the future will repeat and improve upon the past. Luckily our railroads have made that progress, and have reached a point which will enable them to withstand any pressure to which they will be likely to be subject. No financial crisis can involve these works in embarrassment and ruin, as did that of 1837. Then, the schemes were only commenced. Now, they are completed, and in successful operation. There was then nothing to sustain or support public confidence. Now, the success of our railroads are vindicating all that was claimed for them, and their immense earnings inspire a confidence in their success, that no reverse can shake. There is no doubt whatever, that the entire investments in railroads in the United States is paying at least seven per cent., and will continue to do so for years. The earnings of our

roads are increasing in an extraordinary degree, not only to keep pace with the great progress of the country, but from the rapid fusion of the hitherto isolated lines, into one grand system. Every road (except it be a *rial* line, and we have few such,) helps the business of all others with which it connects. Already are the traffics of the trunk lines swelled to an extraordinary extent, as are the waters of a mighty river by the constant contribution of tributary streams. In proof of this, we have only to look to the earnings of our roads in New York. The increase on the *Central, Erie & Hudson River Roads*, is extraordinary, and we see no reason why this should not go on for years, in the same ratio as they have for the present. As we go west, we find, in fact, a still greater increase. The progress of new works are seen as distinctly in the increased business of the other roads as in any other way. Look for instance at the wonderful increase on the Michigan Southern railroad. At the rate for September, this road would earn for the present year \$2,400,000, or nearly 40 per cent upon its present cost. This road is probably doing no better than the Cleveland & Toledo. The great receipts of these roads, arising mainly to the rapid development of railroads westward from Chicago. The roads terminating at this city are meeting with remarkable success, and are among our most profitable lines, although they traverse what only about ten years since was continued waste, without inhabitants or cultivation.

In Ohio, the Cleveland & Columbus, Little Miami, Mad River, and Cincinnati, Hamilton and Dayton, roads are now reaping a double harvest from the opening of connecting lines. What is true of the roads cited, is equally so of our railroads throughout the United States. All are enjoying an unusual season of prosperity. As a system, they are too firmly grounded to succumb, or to have their usefulness and revenues injuriously affected under a financial crisis. There can be no doubt that the future will fully sustain the confidence now felt in our railroads, and that the intrinsic value of these works, which yield so large an income upon their cost, will be a great safeguard against any commercial crisis.

In what we have said we have taken the least encouraging view of the case. Our safety consists in not only having invested wisely the money that has gone into our public works, but in the wealth which they themselves create. We so often elaborated this idea, that we deem it useless to repeat what must be so familiar to all. In a very few years the whole aggregate cost of our roads is returned to our people, by the saving effected in transportation, which gives real, commercial, value to what previously were merely elements of wealth. Our roads therefore instead of yielding 7 per cent. are directly and indirectly producing 25 per cent. annually. Of this no one can doubt who has paid any attention to the subject. We repeat therefore that as far as our railroads are concerned the condition of the country was never so sound, and that a commercial crisis bearing any resemblance to that of 1837 is impossible. The property invested in railroads in the United States was never so valuable as at the present instant, and never making so large earnings upon its cost; and there was never a time, where they were better entitled to command the public confidence and support.

Adaptation of Locomotives.

Among the excellent varieties of Locomotives now produced by the builders of this country our railroads can generally make a selection which shall fulfill all the conditions of the service required. The most effective proportions of locomotives appear to be well established, as well as the best arrangements of their parts and processes of their construction. All lines, therefore can supply themselves with motive power of a first class quality. But beyond the product of the hands of the skillful and successful builder there is a profitable field for the adaptation of particular arrangements and proportions to particular lines and particular descriptions of service. We believe many lines fail in securing the best engines suited to their road from adopting too readily the "standard pattern" of the builder. Builders are generally competent to perceive the propriety of special modifications and to carry them out, but their own interests are best subserved by having one plan for all their engines and at the same time they are not generally fully informed of all the conditions under which their engines must work. We believe that the efficiency and reliability of the motive power of a road cannot to better secured than by being regulated in extent and character by the exact service it is called upon to perform and this for different roads, is infinitely varied. We will show, in brief the considerations which should determine the construction of locomotives generally to adapt them to the different service imposed by different lines.

The business and its extent must determine the distinctive classes of engines ordered. Almost all roads require at least distinctive freight and passenger engines, but the difference as generally made as we have before stated is a difference of six inches or a foot in the diameter of the driving wheels with a difference of one eighth inch in the lead of the valves. On roads doing a moderate business and those especially running mixed trains this extent of difference is perhaps sufficient, but for important lines having a heavy business in each department of transportation it is not enough. A heavy through freight requires an engine which has been before described and is already adopted on some of the oldest and most important lines. It may be briefly stated in this place as the outside connected, ten wheel engine with center bearing truck, link motion, chilled tires and adapted, generally in the middle states, for burning coal. For a lighter traffic an eight wheel engine of reduced weight is of course adapted.

A heavy, express passenger travel requires a heavy class of engine, with the weight freely bestowed in the boiler, carrying as little dead weight as possible, and having generally larger drivers than what are commonly allowed in passenger engines. We are convinced by our own observations and by the growing preference for the outside connection that it is the arrangement peculiarly suited for any engine for a narrow gauge road. We have frequently tested the motion of these engines and with the usual plan of balancing adopted by most builders could detect no more unsteadiness than upon the best running inside connections, while in all other respects they are admitted as every way superior. Only a week since we rode out upon the Cincinnati, Hamilton & Dayton railway in company with Mr. Daniel McLearn, the master of machinery, and stepped upon one of Rogers, Ketchum

& Grosvenor's first class, outside connected engines. With a heavy train moving fifty miles per hour on the level parts of the road, and 40 miles per hour, on grades of 1-176th ascent, or thirty ft. per mile, the forward end of the engine ranged constantly in a true line with the rails, while there was not the least perceptible fore-and aft motion at the coupling bar between the engine and tender. This is but one instance out of a number which have come under our own observation while large numbers of the same class of engines are doing equally as well in other parts of the country. There is sometimes an impression entertained that the great passenger lines of the country are stocked with inside connected engines whereas the reverse is really the case. The heaviest and fastest engines, (comprising a large proportion of the equipment) of the Hudson River, New York Central, New Jersey, Pennsylvania, New York and New Haven, Cleveland, Columbus and Cincinnati, and others of the great passenger lines of the country, are outside connections.

We will not continue our remarks upon the construction of engines any farther than so far as relates to their adaptation to special service. Passenger engines should differ from freight engines in the distribution of their weight, valve adjustments, and proportions of driving wheels; the latter being of much larger dimensions. In passenger engines the boiler room and steam passages require also to be of more ample dimensions than for any other class. And in passenger engines especially should "dead weight", or an undue weight of the running parts, be carefully avoided.

Ballast engines should also possess distinctive features. A boiler made to carry water well above the tubes, pumps of large capacity, valves adjusted generally to admit steam through a large part of the stroke, the absence of a truck, a short wheel base, chilled tires, simplicity and strength of parts and plain finish are all appropriate to engines of this class. Chilled tires are especially applicable to such engines, not only from their economy and safety, but from their far greater duration when run backwards much of the time, and also in running forward where there is no truck. An engine used only upon the construction of new track should have more allowance for motion in the pedestals and for the rise and fall of the boxes and springs than for ordinary engines. A long, heavy spring is generally found best.

In the freight and the ballast engine it should be an established principle that the weight of the engine should determine its own distribution. The certainty which the chilled tire affords, in the case of three or more pairs of connected drivers, of preserving a uniform diameter, is one inducement towards the use of coupled drivers, and in the case of heavy freight, or of ballast engines without trucks, becomes of especial value.

We believe also that few roads need fear to adopt flanges, on all the wheels of their engines. By observation upon the wearing of tires, where two or three pairs of flanged tires are used together on roads having moderately sharp curves, it is found that the forward flanged tires are no more worn than the others, while all the flanges are kept whole for a much longer time. The comparatively short driving-wheel-base of most freight engines is one reason for this, while the wear otherwise borne by one flange is shared by two or

three. The engine runs steadier, the tires keep their equality of size much better, and in the case of wrought tires under heavy engines, are less likely to stretch and become loose. There is also probably more adhesion to a flanged than to a plain tire.

In addition to the extent of the business of a road, the grades will also of course determine the capacity of the engine. The resistances to freight engines are doubled upon grades of 25 feet per mile and trebled upon grades of 50 feet per mile. Roads having a considerable number and extent of 75 feet or 80 feet grades require engines of the heaviest class allowed by the gauge of the road.

The curves upon a road determine the length of wheel base, allowance for lateral motion of tires and disposition of weight upon trucks whether on side or centre bearing (the trucks for short curves having always centre bearings.)

The condition of the track will determine the strength and stiffness of springs and the allowances for vertical play of boxes, &c. This consideration is of the most consequence in the selection of ballast engines for construction.

The character of the fuel should influence the proportions of the boiler. For a fuel of seasoned pine a smaller furnace will suffice than for green, hard wood. Green wood, especially if hard, requires a greater depth of furnace below the tubes to hold a body sufficient to supply a constant flame. For coal important modifications of the furnace are necessary. These consist chiefly in an extension of the grate surface combined with a moderate depth of furnace. The grates also require means for moving them occasionally to clear the fire of clinkers.

The quality of the water used should influence the length of the tubes, width of water spaces around furnace, depth of water spaces below grate, number of blow off cocks, and allowance of steam room. The use of impure water is attended with more difficulty in a boiler having long tubes, as these are most apt to leak. The water spaces require to be wide, and should extend a few inches below the grate, to hold deposits of sediments.—Two blow-off cocks, one on each side of the fire box, are better than one in clearing a foul boiler. Boilers intended for using poor water should not be limited in steam room. Many are inclined to the opinion that the quality of the water should determine the material of the tubes and tube-sheets, but no definite rules can be given to guide this choice. The experience which prefers copper or brass tubes in particular instances has not been found to be generally applicable.

The character of the attendance likely to be bestowed upon an engine and the nature of the business under which it is used, should determine the extent and character of the finish.

All these modifications are found to exist in the engines of different builders. Each is advocated by some, but the value of all depends upon the applications which are made of them.

Many of the old and important lines of the country have done much to fix a standard of motive power for themselves. The Baltimore and Ohio road have fixed a pattern of freight engines, every way adapted for their business, and applicable to many other roads of similar character. The Hudson River company have established a general style of passenger engine which is every way

adapted to the nature of their travel and the character of their road.

The adaptation of their own engines is the proper province of each company, and is as profitable in its results as efforts for improving the locomotive. The locomotive is already nearer perfected than any other member of the railway system, and all roads, however much they economise in the cost of their lines generally aim to secure first class motive power. The competition of railroads more than of locomotive builders has been the cause of most modern improvements of locomotives, and this result has assimilated the styles of engines throughout the country much nearer to a general pattern than formerly. The distinctive characteristics of engines by different builders, have become modified and blended so that the locomotive of 1853 represents a general style, whereas eight years since the engines of different builders were widely different.

The relations which the improvements upon locomotives bear to those of railroads may be said to be that those upon locomotives have required much study, and at the same time have cheapened the engine, while those upon railroads suggest themselves, and generally involve increased expense. It requires but little observation and reflection to comprehend the essentials of good roads, but the difference in the quality of roads may be generally measured by the difference in their cost. The complicated workmanship of the locomotive of five years since, has however, given place to simpler, cheaper and more effective arrangements.

Journal of Railroad Law.

The following decisions contained in the recently issued 13th volume of Barbour's Reports of the Supreme Court of New York will be found worthy of observation.

WHEN CAN A JUDGE DISMISS A CASE WITHOUT SUBMITTING IT TO THE JURY?

This proceeding has been sanctioned by the Supreme court in the following case. An action was commenced against a railway company to recover damages in consequence of an injury sustained from being run against by the locomotives of defendants while crossing the railroad track in a sleigh. It appeared from the plaintiff's testimony which was clear, explicit and undisputed that the negligence and imprudence of the person injured contributed to the injury. The Judge (Barculo) observed that "a man who rushes headlong against a locomotive engine, without using the ordinary means of discovering his danger, cannot be said to exercise ordinary care; and the rule is well settled that where the carelessness of the person injured contributed to the injury, an action for damages cannot be sustained. * * * If there had been conflicting evidence, or if the proofs had left the matter in doubt, the case should have been submitted to the jury. But when upon the plaintiff's own showing he has no cause of action, or has defeated his claim by his own misconduct there can be no propriety in requiring the jury to pass upon the evidence. For if the jury should find a verdict against law, the court would set it aside. In most cases the result would be the same; for juries usually find according to the directions of the judge, where there is a strong preponderance of testimony. But there are cases in which this conformity of opinion may not exist. * * * Compassion will sometimes exercise over

the decision of a jury an influence which however honorable to them as philanthropists, is wholly inconsistent with the ends of justice. There is therefore, a manifest propriety in withdrawing from the consideration of the jury, cases in which the plaintiff fails to show a right of recovery." *Haring vs. New York and Erie railroad Co.*

RULES IN CASE OF APPRAISALS OF LAND TAKEN FOR RAILROADS, AND THE REVIEW OF REPORTS OF COMMISSIONERS.

Any technical departure from established rules in the admission or rejection of evidence will not be allowed to affect the appraisal, unless it appears that such error has injured the party appealing.—If the Court is satisfied that the commissioners have not erred in the principles upon which they have made their appraisal, no other error will be sufficient to send the case back for review. In making appraisals of the damage sustained by a person whose property is taken for the purposes of a railroad, the true rule is to determine what will be the effect of the proposed change upon the market value of the property remaining. The proper inquiry is, what is the entire property now fairly worth in the market, and what will that part not taken be worth after the improvement is made.

The Troy and Boston Railroad Company, vs. Lee.

CATTLE GUARDS NOT REQUIRED FOR STREETS.

The provision in the Statute of 1848, requiring railroad companies to construct and maintain cattle guards at all road crossings, sufficient and suitable to prevent cattle and animals from getting on the railroad does not apply to streets in cities and villages. Accordingly a railroad track being laid through a street in Waterford, at the end of the street entering on a bridge across the Mohawk, it was held that a railroad company were not bound to erect a cattle guard at the entrance upon the bridge, and that they were not liable for the value of an animal destroyed by the locomotive in crossing over the bridge; there being no charge of negligence. Cattle-guards would be a nuisance in the streets of a village or city. *Vandecker vs. Rens. & Sar. R. R. Co.*

LIABILITY FOR KILLING CATTLE.

If a plaintiff's cattle were wrongfully on the track of the railroad, the company are not liable for negligently running an engine upon and killing the same.

Where the cattle of a stranger are upon the lands of another adjoining a railroad, and from those lands they pass on to the railroad through a gate left open by the proprietor of such lands, and are killed by the engine, their owner cannot recover their value, although the railroad company has not complied with the law in respect to fences.

Brooks, vs. N. Y. & Erie R. R. Co.

A railroad company need not maintain cattle-guards at farm crossings, but only at road crossings.—*Id.*

DISTURBING THE LOCATION OF A ROAD.

Where by the terms of the charter of a railroad company, much is left to the discretion of its officers, in respect to the location and route of the road, their selection should not be disturbed unless they have clearly erred.

The want of any serious resistance to the location of the road at first; the acquiescence in it by the public for a period of 14 years; the acceptance of a mortgage on the road by the plaintiff and

others for moneys advanced by them to pay for its construction; and the approval of it at a public meeting of the citizens called for the purpose, are strong proofs of the propriety of the original location.

And no person can object to the location whose title or possession does not extend back to the time when the land was taken by the company.

When a party whose land has been taken by a railroad company forbears to assert his rights until after the road is completed and in operation, an injunction will not ordinarily be granted until all ordinary means for obtaining an indemnity have failed. *Hents vs. the Long Island railroad company.*

The Judge also held that a railroad passing through a populous city or village is not *per se* a nuisance, and observed in substance that "private rights should be effectually guarded, but the court cannot extend the protection of the interest of any one as far as to restrict the lawful pursuits of another. The maxim *'so use thine own as not to injure another's,'* is true when correctly construed. It extends to all damages for which the law gives redress, but no further. If it should be applied literally it would deprive us to a great extent of the use of our property, and impair, if not destroy its value. He who sets up a new hotel near an old one, or who makes a new machine to supersede an old one, or the like, inflicts an injury for which the law gives no redress. Some useful employments which endanger the lives of human beings ought not be prohibited, such as omnibus driving, steamboating, etc. The question in such cases is, is the business complained of lawful, and the danger inevitable? If so, the law furnishes no remedy by way of indemnity or protection."

Statement of the Affairs of the Penobscot Railroad.

This road commences at the City of Bangor, in the State of Maine, and extends up the Valley of the Penobscot to Oldtown and Milford, a distance of about 14 miles.

Although a short road, there is scarcely one in New England which occupies a more important position, as regards its connections, business, and prospective advantages. From Bangor westward to Portland and Boston, there are two independent lines, either completed or in progress, both necessarily uniting at Bangor, should the two be extended the whole distance to that place.

From Bangor eastward there are also two lines which have been commenced; but these, unlike those west of that City, will not come in competition with each other, as one leaves the Valley of the Penobscot at Milford, and pursues a nearly direct easterly course to the City of St. John, and the Gulf of St. Lawrence, while the other follows up the Penobscot Valley in a northerly course to Lincoln, and thence will eventually be extended to the Valley of the St. John.

These roads are known as the Oldtown and Lincoln, and the European and North American roads. For the construction of both a considerable amount of stock has been subscribed, and the Companies duly organized. The work for 33 miles of the former is advertised for letting, and a contract is made for the whole of that portion of the latter which lies in New Brunswick, upon which the work is commenced, and definite arrangements are in progress which promise to provide the means for this work at an early day.

These Eastern lines, as before stated, have their diverging point at Milford; while, on the other hand, all lines west of the Penobscot will diverge from Bangor.

The distance from Bangor to Milford is 14 miles, and this intermediate distance is covered by the

Penobscot Road, which occupies the only feasible route by which the great lines east of the Penobscot are to be connected with those west of that river.

The City of Bangor, with a population of 20,000 inhabitants, stands at the head of navigation on the Penobscot, and owing to the conformation of the valley above this place, the Penobscot Road must be regarded as the key to entrance of the city from the east, and to a connection with western roads, both for the Lincoln, and the European and North American.

Thus favorably situated, the Penobscot Road must command the whole trade and travel of the north eastern portion of the State of Maine, and the upper St. John, through the Lincoln Road; while, on the other hand, its position is equally favorable to secure and receive the whole benefit of the business thrown upon it by the European Road, which is to extend through New Brunswick and Nova Scotia to the Gulf of St. Lawrence, and to the Harbor of Halifax, embracing an extent of road of 400 miles. The latter road is to be connected with a line of steamers crossing the Atlantic to the nearest English port, by means of which the length of the passage will be reduced one third, and the time from London to New York to seven or eight days.

Measures are in progress by which these, and the Penobscot Road, will be operated in connection, and virtually as one line. The beneficial results arising therefrom will be realized to their fullest extent in the increased economy and greater facilities of doing the business.

In addition to these advantages there is an immense local business along the line of the Penobscot Road, which alone is sufficient, it is believed, to pay 8 per cent. on its cost, and which is well known to be the most secure and reliable source of revenue upon all roads.

The City of Bangor lies at the head of tide water on the Penobscot, and is accessible for the largest class ships. At the City commences a series of rapids extending to Milford, a distance of about 14 miles. The whole fall between the termini of the above road is about 100 feet. This fall is divided into seven different levels, at each of which, it is extensively used for various branches of manufacture, but particularly of lumber. The power created by the rapids is probably twelve times greater than the whole water power of Lowell. At each of the levels, the line of the road will be immediately contiguous to the mills, and nearly on a level with the main floors, so as to be most conveniently used for receiving and discharging freight. The names of the villages at which the water power on this river is used are Corporation Mills, Basin Mills, Stillwater, Great Works, Oldtown, and Milford.

The following Extracts from the Report of A. C. Morton, Esq., the Engineer who surveyed the line in 1850, and collected the statistics of business with great care, will show briefly the amount of machinery, manufactures, trade, and travel along the line of the road.

"Proceeding up the river, the first point reached where lumber is manufactured, is the Corporation Mills, a distance of 4½ miles from Bangor.

These Mills contain 8 gangs of saws, and 22 single saws, equal in capacity to 31 single saws. There are also 1 stove, 1 door and sash, and 2 lath machines. These mills are capable of manufacturing annually 28 millions of feet of lumber, 7 millions of laths, 1½ millions of staves, and 100,000 feet of door stuff. This village contains four stores, and about 800 inhabitants.

The Basin Mills, are 6 miles from Bangor. There are at this place 2 gangs of saws, and 16 single saws, equal to 22 single saws, 3 lath, 1 clapboard, and 2 shingle machines. The capacity of these mills is about 20 millions of feet of lumber, 2 millions of shingles, 6 millions of laths, and 800,000 clapboards.

The next important point is Orono, 7 miles from Bangor. The Stillwater Mills are situated here, and operate 7 gangs of saws, and 52 single saws, equal in capacity to 73 single saws. There are

also 22 lath, 1 clapboard, and 2 heading machines; 1 oar, 4 barrel manufactories, 1 sash, blind and door-stuff factory, 1 grist mill, 2 machine shops, and 1 stove factory.

The capacity of these mills and machines is 62 millions of feet of lumber, 19 millions of lath, 2,200,000 clapboards, 2 millions of shingles, 600,000 pickets, 20,000 barrels, 60,000 oars, and 40,000 staves. The village of Orono contains 14 stores, 3 public houses, and several furniture, carriage makers', and smiths' shops. The population is about 2,200.

At East and West Great Works there are 3 gangs of saws, and 30 single saws, equal to 39 single saws, 9 lath, 2 shingle, 3 clapboard machines, and 1 barrel factory. These mills manufacture annually 32 millions of feet of lumber, 12 millions of laths, 3 millions of shingles, 3 millions of clapboards, 300,000 pickets, and 10,000 barrels. There are here 3 stores, and 800 inhabitants.

At Oldtown there are 17 single saws, 2 lath, 3 shingle, 3 clapboard, and 1 turning machine, 2 machine shops, and 1 grist mill. These mills are capable of producing 17 millions of feet of lumber, 3 millions of laths, 4 millions of clapboards, and 5 millions of shingles, annually.

Oldtown village contains 18 stores, 3 public houses, and the usual number of shops, &c., and about 2,300 inhabitants.

At Milford there are 17 single saws, 3 lath, 2 clapboard, and 2 shingle machines, and 1 grist mill. There are manufactured here 17 millions of feet of lumber, 3 millions of laths, 4 millions of clapboards, and 5 millions of shingles. There are here 7 stores, and 500 inhabitants.

The above comprises all the mills along the line of your road, for the manufacture of lumber, and other products of the forest. It will be observed that these mills can manufacture an aggregate of 176,000,000 of feet of lumber, 14,000,000 of clapboards, 1,540,000 of staves, 50,000,000 of laths, 17,000,000 of shingles, 800,000 pickets, 30,000 barrels, and 60,000 oars."

Since the above was published there has been a very great increase in the amount of lumber and other articles manufactured at these mills.

Last year the amount of lumber which reached Bangor was 200 millions of feet, and it is confidently believed that it will reach 225 millions of feet the present year. The increase in the amount of other articles manufactured, and the increase in the tonnage of merchandise and number of passengers since 1850 has been ascertained to be as follows:

Shingles, increase.....	20 per cent.
Clapboards, ".....	15 " "
Laths, ".....	100 " "
Ship knees, ".....	25 " "
Sleepers and Fence post, increase.....	50 " "
Tonnage of merchandize, increase.....	10 " "
Passengers, increase.....	25 " "

The present mode of transporting this lumber is by rafting it down the river. This is a difficult and expensive process, on account of the broken navigation of the river. Much of it is destroyed or damaged by passing over dams, and from being dashed upon rocks and reefs. The loss from these causes, and the injury it receives from the water is estimated by intelligent dealers from one to two dollars per thousand feet.

The tonnage of lumber annually transported from Milford, and the intermediate points to Bangor, is equal to 225,000 tons. The total tonnage cannot be less than 275,000 tons. For fully one half of the year, the river cannot be used at all, on account of frosts and droughts. At all seasons, the road will be much the most convenient and cheapest route for the conveyance of lumber, (the saving effected being taken into consideration). It may be safely affirmed that there is not a route in New England of equal length, that can command so large a business as this.

All the best, and a large portion of the inferior qualities of lumber, and all the small lumber, will,

beyond question, pass over the road, when completed.

As the Road passes immediately by the mills, the expense of loading on cars will be no greater than putting it into rafts; and the Road will afford the advantage of transporting almost any quantity, in a given time; and much of it can be transferred directly from cars to the vessels, or other points, as required.

As evidence of the success of a Road designed especially for the transportation of lumber, reference is made to the Calais and Baring Road which is 6 miles in length and constructed along the banks of the St. Croix river. It is substantially built with a heavy T rail, and has been in successful operation for one year only, and its net earnings are 9 per cent on its cost.

When it is remembered that the amount of lumber and other articles manufactured along the line of this Road does not exceed one quarter of those manufactured on the Penobscot, and that its transportation of merchandize and passengers is comparatively small, some idea may be formed of the superiority of the Penobscot Road, on which a very large amount of merchandize and supplies for the lumbering districts and country above Bangor, is annually forwarded by the ordinary conveyances of the country.

It is estimated by intelligent persons connected with lumbering operations, that there are employed 3000 horses and oxen and 4,500 men in this branch of business on the Penobscot. To the business thus created by these operations, must be added that growing out of the intercourse, and supplies required for the inhabitants on the line of the road, and those in the several towns above Milford in Penobscot county, and also for portions of Washington, Hancock, Piscataquis, together with all Aroostook county; amounting to not less than 40,000 souls.

It is stated by dealers in produce that there are annually sent up the Penobscot Valley, 50,000 barrels of flour, 250,000 bushels of corn and 6000 barrels of pork. In addition to these supplies, there are other descriptions of provisions required, such as beans, butter, cheese, lard, fish, &c.; also heavy articles of freight, such as large castings, cranks, wheels, stoves, hollow and hard ware, oil, molasses, tea, coffee, sugar, tobacco, salt, &c., &c.

Merchandize of every description required by more than 100 stores for the supply of the surrounding country, passes up the Penobscot valley. With the extension of the Road up the Penobscot valley a large amount of heavy freight may be expected from the Katahdin Iron Works, and from the Brownville Slate Quarries.

In reference to the passenger business that may be anticipated, it will readily be seen that from the large amount of manufacturing on the line of the Road, and the dense population in its immediate vicinity the amount of travel will be very great.

The population on and near the line of the Road, including the city of Bangor and the towns of Orono, Bradley, Oldtown, Milford, Brewer and Edington, is nearly or quite 30,000, to which add that of the country above Milford, and we have a total of nearly 60,000 inhabitants whose business relations are with Bangor, and who from the nature of their pursuits and habits of intercourse, will contribute to the passenger business of the Road, in a far greater proportion than is usual for an equal population engaged in other pursuits.

From the city of Bangor to Corporation Mills there are stages running twice daily, seven months in the year. From Bangor to Orono, Stages run twice daily, for the same portion of the year. Also to Upper Stillwater for seven months in the year, one half of this time, twice daily, for the remainder, once daily.

There is annually a daily stage to Oldtown, and also a daily line from Bangor to Mattawamkeag. In addition to the passengers conveyed by these stages over the route of the road, there are a much greater number daily passing up and down by private conveyances. The constant intercourse between the numerous mills and the city, and the

great number of persons connected with the lumber trade, and other branches of business in the interior, who are constantly passing and repassing, are facts which warrant the conclusion, that very soon after the opening of the Road, the number of passengers transported will reach 100,000 annually.

After reaching Milford, the rapids in the river subside, and a long extent of navigable water is reached, upon which a number of Steamboats are actively and profitably employed. These steamers can run to Mattawamkeag Point, a distance of 60 miles from Bangor, and 46 from Milford. They have the carriage both of freight and passengers up and down the river, during the season of navigation. They are heavily loaded with freight, and bring immense quantities of lumber to Milford; nearly all of which would be forwarded to Bangor over the above Road. These steamers will be very valuable auxiliaries to the Penobscot Road, and the lucrative support they receive is good evidence of the vast amount of travel and transportation up and down the river. From Milford to Bangor, the navigation is entirely impracticable on account of the numerous falls.

ESTIMATED INCOME.

70,000,000	feet lumber, including boxes, heading &c. at 15 cts per M.....	\$38,500
50,000,000	shingles at 12 cts per M.,...	6,250
17,500,000	clapboards, pickets and staves at 55 cts per M.,.....	9,625
50,000,000	laths at 10 cts per M.,.....	5,000
30,000	barrels at 3 cts each,.....	900
8,000	ship knees at 25 cts each,...	2,000
100,000	railroad sleepers at 3 cts each,...	3,000
50,000	fence posts; at 2 cts each,...	1,000
20,000	tons of other freight at 1.15 cts per ton,.....	23,000
80,000	passengers, at 35 cts each,...	28,000
	mails,.....	725
		\$118,000
	Deduct for expenses 60 per cent.,.....	71,000

Net revenue..... \$47,000

or equal to over 9 per cent. on the cost of the Road.

It is therefore seen that this Road has sources of revenue equal to the generality of roads, independent of the great business for which it is principally designed—the transportation of lumber—and when this great and unfailing source is superadded, no one can doubt that the Penobscot Road will be one of the best dividend paying roads in the country.

It is being constructed in a permanent and substantial manner, and with a view to its forming a part of the grand trunk line to the Provinces.

The whole line is under contract, and the grading at the present time is more than half completed, and from Bangor to Orono, a distance of 7 miles, the work is far advanced towards completion.

The route of the Road is a somewhat difficult and expensive one. A very excellent line has, however, been obtained, with the gradients in direction of the heavy traffic. The right of way, (most of which has been secured and paid for,) has also proved an expensive item—the road traversing for the whole distance, a constant succession of villages. The total cost of the Road, with depots, very extensive valuable grounds at Bangor for the accommodations of freight, equipment, etc., etc., is estimated at \$500,000.

The amount of stock subscriptions obtained are \$200,000. There has been expended upon the line up to the present time \$145,000, the greater part of which has been received from stock subscriptions.

To provide such balance as is necessary for the completion of the road, it is proposed to borrow \$300,000, upon an issue of bonds to that amount, secured by a first mortgage upon the Road, lands and equipment of the Company, and payable in 15 years, with 6 per cent interest in the city of New York. The bonds will be made convertible into stock. To secure the payment of these bonds, a mortgage of the road has been made to the Hon. A. C. Flagg, of New York, as Trustee, with the usual power in such cases. They are now offered to the

public under the full conviction that no similar security is better worthy the attention of capitalists. September 1853. G. Major, President.

Portland and Montreal Railway.

We have already noticed the fact, of the passage of an act by the Legislature at its recent session, authorizing the Atlantic & St. Lawrence Railroad Company to issue stock in sterling currency, its dividends payable in London. This authority was obtained at the suggestion of parties in England, who had in view the investing of money in the guaranteed stock of this Company.

We have a copy of the act before us, which is very simple in its terms, but containing the fullest authority to make this conversion in the manner proposed, on its acceptance by the Directors and stockholders of the Company.

The question of making this conversion is one of interest to the public as well as to the stockholders themselves, who are soon to act in the matter, and we think the whole business community will be more or less affected by the result.

The stock of the Atlantic Railroad will, as we believe, be raised in value 10 per cent. at least as soon as this conversion takes place. It will at once create a market for it abroad which it does not now possess, and when its value becomes known in England it must command a high premium,—as high, as the best of American securities.

The United States stock, payable in 1868, having 12 years to run, now sells at \$122 for the \$100. At this price they realize to the holder only an interest of from 4 1-4 to 4 1-2 per cent. per annum. If these stocks of the U. S. government were to run 50 or 100 years, they would command to-day a much higher price than their present market value. The reason of this is quite obvious. At the end of 15 years a holder of this scrip will get but \$100 for what he pays \$122. If this same stock could be made to pay 6 per cent. per annum continuously for 100 years the price would be very largely enhanced. And one who is curious in these matters can calculate the same at their climax, assuming the rate of interest at 4 1-4 to 4 1-2 per cent., which is the rate afforded to money lenders on what are regarded as first class securities.

The reason why English 3 per cent. consols command par, or very nearly that figure, is because they are considered as a permanent security, that is, one that shall continue to pay dividends, without being liable to redemption. If the U. States stocks were to run 50 years instead of 15, they would probably sell in the English market to-day, at rates very nearly if not quite as favorable to the sellers as the public funds of Great Britain.

Keeping this fact in view our readers will see, that the stock of the Atlantic & St. Lawrence Railroad should command a premium. It will do so as we believe, as soon as the proposed conversion takes place. It is inherently worth as much to-day as it will be after the conversion. It will only have a larger market in which to find purchasers.

The English market has not been tried, nor has any effort been made to sell it elsewhere, from a knowledge of the fact, that the conversion has been in contemplation. Until this takes place, the stock cannot in our estimation, materially improve. This is apparent at a glance.

Our market is too limited for any considerable movement in the stock or in money matters, and very many desire to realize its value, for their ordinary business purposes. It is now all held here, waiting for the conversion to take place. Many took stock to aid the enterprise, rather than as an investment, and there are more sellers than buyers. No one can doubt that it will advance at once on its being taken up abroad, whatever may be the aspect of business matters.

A market will be created as soon as the sterling stock is issued, because it has the character of permanency beyond any stock within our knowledge, on this side the Atlantic.

In the first place there are already \$17,050,000 pledged for the payment of the interest on the 5 1-2 millions, that make up the cost of our road as follows, viz:

Atlantic & St. L. R. R. cost	\$5,385,000
St. Lawrence & At. R. R.	5,000,000
Quebec & Richmond R. R. has expended	3,000,000
Grand Trunk has expended or holds in cash paid in.	3,700,000

Making in round numbers..... \$17,085,000 of money now pledged to its payment.

The lease of our road to these parties is of no great value, except as a method of adjusting the mode of working it. All this additional capital of \$12,000,000 is invested in lines that run into our road, whose business must pass over it. The value of this vast capital is entirely dependent upon its holding this outlet to the sea. The capital already expended between Portland and Montreal, and between Quebec and Richmond is fully adequate as the receipts so far show, under every condition of money matters, to insure a net income sufficient to pay 6 per cent, on our \$5,385,000. These connecting lines cannot avoid this result if they would.

But this is not all. To the \$3,700,000 paid into the Grand Trunk Railway, which is in part expended in the extension of the same lines, there is a subscribed capital exceeding \$30,000,000 more, yet to be paid in, making a capital exceeding \$57,000,000, dependent, mainly upon this short line of 150 miles from Portland to the Canada line.

Besides this the government of Canada have a deep stake in the result, and will see these lines all carried through, even though the Grand Trunk Railway should not again be thought of.

In addition to all this, there are some hundreds of miles of connecting roads, on the same gauge in Canada, that are, for all practical purposes, just as valuable to our road as if they were embraced in the same company. Looking beyond the western limits of Canada the same line is to extend on the same gauge, to the shore of Lake Michigan at Grand Haven 1009 miles from Portland, west, while at the east a branch will extend to Quebec and Trois Pistoles—the gauge of our road securing it from being tapped on the south, so that passengers and freight seeking the Atlantic sea-board, or Europe, will naturally continue upon the line from its western terminus to Portland.

This is the view of the case that indifferent parties take of it. A system of railroads occupying an independent position, by the difference of gauge, from all the narrow gauge railways south of it.

Our line, though apparently an insignificant portion of this system, holds, in fact, the key of the whole.

Any one can see therefore, at a glance, that without this link, the system would be imperfect. With it, it is the greatest railway of the world.

To give to this vast system its highest value and its greatest capacity, requires only an union of interests. This being secured, all the results that can be expected to flow from it, are made certain.

This union has now been perfected. The seven different companies who formerly held an independent existence in Canada, are merged into one, and this one company has agreed to absorb our line, from the Canada frontier to Portland, in the simplest mode of reaching such a result—by a perpetual lease of the road at 6 per cent. per annum.

In the absence of authority on the part of the Grand Trunk Railway Company to take a lease of a railway in a foreign State, the Atlantic & St. L. R. R. was placed in the hands of Trustees, with authority to transfer the lease to the Grand Trunk Company on their obtaining from the Parliament of Canada the necessary authority to receive it. The Canadian Parliament meets in February next, and those who know anything of Canadian matters know that there is not the slightest opposition to this lease from any quarter whatever in Canada.

Independently of the lease then, we are well enough, as a matter of security. But the actual and practical value of the lease, as a means of avoiding rivalships and competition, and of drawing to our own harbor the accumulated business of this long line of road on the one hand, and of attracting to our port the trade that shall seek

this line as the easiest and cheapest route to the west, on the other,—cannot be measured by any known rules of calculation. It must work out its own result.

That there are some, who even now, fail to see the evidence of the soundness of the views above expressed, we do not doubt. They have from the first entertained similar fears. They even feared that the road itself could not be built. They would not be convinced of it though one should rise from the dead to tell it to them.

Portland is at the outlet of the greatest railway of the world. This "River of Commerce" will bring to us as much of trade as there is room in which to receive it. No city of the Atlantic seaboard has seen anything equal to what has been accomplished with us, under similar circumstances, and there is no place in New England that at this moment holds out so many assurances of a rapid growth in population and business.—[*State of Maine.*]

Columbus, Piqua and Indiana Railroad.

Below we have the recent statement of this company, showing its affairs to be in a satisfactory and prosperous condition.

The Columbus, Piqua and Indiana Railroad is rapidly approaching its termination and final completion. The eastern division, extending from Columbus to Urbana, a distance of over forty-six miles, is now finished, and was formally opened for business on the 17th ult. Four regular trains pass over it daily, connecting at Columbus with the trains over the Columbus, Cleveland and Cincinnati, and of the Central Ohio roads; and at Urbana with those of the Mad River and Lake Erie road, forming a connection with Cincinnati via Dayton, and also with Sandusky, by this new route.

The business on this division, being a fraction less than one half of the entire line, for the first six days amounted to \$1,200, and will doubtless be very greatly increased as soon as the connections are well understood by the travelling public. The work on the remaining fifty-six miles of the line, extending from Urbana to Union City, is progressing well—the masonry and bridges are all finished, and with the present force, the grade will be ready for the iron in less than ninety days. The rails for this part of the line are now being delivered, and it is confidently believed will be ready before the close of navigation, so as to be laid down during the fall and early part of the coming year. This road when finished, will constitute a link of 102 miles in length of one of the trunk lines of railroad, extending from the Atlantic cities to the Great West, and will form the only direct connection between Columbus and Indianapolis, a distance of 185 miles, by a uniform gauge. The recent attempt made by the Indianapolis and Bellefontaine Company to set aside an existing contract between them and the Columbus, Piqua and Indiana Company, providing for a through line between the Capitals of the two States, of a uniform gauge, having been overruled by a late decision of Judge McLean, of the U. S. District Court, it is believed that the question of gauge is fully settled. It is also proper for me to state, for the information of the friends of this road, that during the last year three Companies have been organized and consolidated, under the law of Indiana, to construct a railroad from Union City, the Western Terminus of the Columbus, Piqua and Indiana Railroad, to Laport, Ia., via Marion and Peru. With this line, at Marion, the Logansport and Marion Road is, by a contract now entered into, to be connected; and with all these lines the Columbus, Piqua and Indiana Company have a contract for a perpetual running connection, with other privileges of very great importance to her interests. By the Logansport line, a connection is formed with the Peoria and Burlington line, which terminates at Logansport.

Fifty miles of this new line, from Union to Marion, is now under contract, with ample basis to secure its completion, and on thirty sections of the line a good force is now at work. At Colum-

bus the eastern terminus of this road, in addition to the advantages already obtained by connecting with the Cleveland and Wheeling lines, the Steubenville and Indiana road, which brings us in connection with Pittsburgh, is to be extended immediately, from Newark to Columbus; this and the Hocking Valley road must add largely to the business of this road.

The important position occupied by the Columbus, Piqua and Indiana Railroad must make it a paying road as soon as it is completed.

October 8, 1853. M. G. MITCHELL, President.

Lawrenceburgh and Indianapolis Railroad.

The Lawrenceburgh and Upper Mississippi Railroad Company at the recent session of the Directors at Greensburg determined on a change of the name of the Company, under the general law of the State, for the purpose of distinctly designating the objects of the Company.—From and after the first day of January next, the title of the Company will be "The Indianapolis and Cincinnati Railroad Company."

It was also ordered by the Board, that Dividends shall be declared on the Stock of the Company after the first day of January next, from which date interest will cease to run on the Stock.

We learn that regular trains now run between this city and Shelbyville as advertised, and that from next Monday that Company will run the regular Jeffersonville trains, express and accommodation, over that part of their Road. In three weeks the entire line, with its steamboat connection to Cincinnati will be in operation.

The additional safety and speed secured by a straight line of forty five miles on this road from this city, with gentle grades, will give a high reputation to this road; and we are pleased to learn that the Directors are arranging for its best possible management.—*State Journal Oct. 7th.*

Peoria and Oquawka Railroad, Eastern Extension.

We cannot but think that this great work possesses sufficient interest for our citizens to warrant us in devoting a certain portion of our columns to chronicle its progress, and its approach toward completion; and when all or nearly all are so favorably disposed towards the road, it must be gratifying to them to know that the work is most rapidly progressing, and that portion from Peoria to Walnut Grove, (20 miles) is being most energetically urged toward completion. There are now about 600 men employed, and that number is being daily increased. Three thousand tons of iron are now in New Orleans for this portion of the road, waiting for the yellow fever to subside before being shipped for this point. The heavy trestle work opposite Peoria is already more than half framed, and the contractors will commence raising it this week. The whole timber for this trestle work, and for all the bridges and culverts along the route have long since been contracted for, and are in process of delivery and construction. Two 17 ton locomotives from the Paterson Works, New Jersey, will leave New York for this place, on the first of October, and will arrive here about the fifteenth. The cars from the manufactory of A. B. Stone & Co., Chicago, will be delivered by Nov. 1st, and construction trains will be immediately upon the road.

The whole line wears an aspect of activity and life which speaks loudly in favor of the energy and capacity of Messrs. Cruger, Secor & Co., the contractors, and we sincerely hope and most confidently believe, that the work they have so well commenced will be prosecuted to completion with the same ability and unflinching energy that have characterized their movements up to this time.

Messrs. C., S. & Co., expect to run regular trains from Peoria to Washington about the first of January, and from the Illinois Central Rail Road by the first of March next;—which will open to the traveling community a railroad communication between this city, Chicago, and also with St. Louis.

Messrs. C., S. & Co., have likewise within a few days, made another contract with the Peoria & Oquawka Railroad Company for that portion of the

Western Division between Elmwood and Knoxville, about 21 miles.—The contractors furnish everything, including iron, and are to have the same completed by the first of August next.

It has now become a fixed fact, that the entire route from Burlington to Middleport, nearly 200 miles, will be in actual operation next year, and the resources of this portion of our State thus developed, will be a matter of just congratulation to our citizens.—*Peoria News*.

Illinois.

Chicago & R. I. R. R.—The distance between Tiskilwa and Rock Island, now run by stage, is 65 miles; but the rails are being laid at the rate of nearly a mile a day, and in November the cars will run to Geneseo, 25 miles from Rock Island. The road is sure to be completed to Rock Island before spring.

At an election held in Tazewell county, on the 24th of Sept., that county decided by a vote of 1824 to 710 to subscribe \$75,000 to the stock of the Mississippi and Wabash Railroad Company, and \$25,000 to the eastern extension of the Peoria and Oquawka Railroad.

The city of Canton, in Fulton county, by a recent vote of 198 to 33, also authorized a subscription of \$50,000 to the Mississippi and Wabash Railroad.

Bridge over the Mississippi at Rock Island.

At the last session of the Illinois Legislature, a charter was obtained by parties interested in the Rock Island Railroad for the construction of a bridge across the Mississippi river at that point. We learn from the Chicago papers that the contract for building the bridge has just been let. It is to be completed by the first of December, 1854. Messrs. John Warner & Co., have the contract for the stone work; and Messrs. Stone & Boomer, of Chicago, build the superstructure. The slough on the east side of the island is to be crossed by three spans of 150 feet each; and the main channel of the river by five spans of 250 feet each, and a draw for the passage of vessels. The total length of the main bridge will be 1,580 feet. The bridge will be a beautiful and most substantial structure.—*Alton Telegraph*.

New York and Erie Railroad.

Choice of Directors.—The annual meeting of the Erie Railroad Company was held to-day, and the following gentlemen made Directors for the ensuing year: Homer Ramsdell, (of Newburg,) Samuel Marsh, Henry Shelden, William E. Dodge, Shepherd Knapp, Cornelius Smith, Thomas J. Townsend, Marshall O. Roberts, Charles M. Leupp, Gouverneur Morris, Nelson Robinson, William J. McAlpine, Daniel Drew, Edward C. Weeks, Alanson Robinson, (of Buffalo,) John Arnot, (of Elmira,) Ambrose S. Murray, (of Goshen.) The last five in place of Messrs. SKIDMORE, GALE, PHELPS, MILLER, and SUYDAM.

We copy the following from the "state of Maine" for the purpose of expressing our concurrence therein:

A. T. Galt, Esq., of Canada, is now in our city. We but repeat the common expression among our business men that, the presence of no other man excites so much interest, in Portland, as does that of Mr. Galt. The city of Portland is under greater obligations to Mr. Galt, than to any other man, for her present commercial importance. Not only has Mr. Galt given shape and direction to the public mind of Canada, on Railway matters, but he has exerted more influence in England upon those great enterprises that effect Maine and the city of Portland than any, if not all other persons. We have not time to say what we would desire in to-days' issue. It will come in more appropriately, at a future, though at an early day.

Mr. Galt has resigned a official connection with Railways in Canada, and is now the leading man in the great firm of *Gzowski & Co.*, Railway contractors, who are building that portion of the Grand Trunk, that extends from Toronto to Port Sarnia, on which line 4,600 men are at this moment by

them employed. The same firm have taken the contract, and are building the *Northern Michigan Railway*, called the "Port Huron and Lake Michigan Railroad," extending from Port Sarnia to Grand Haven a fine harbor, on Lake Michigan, opposite Milwaukee.

Railroads in New Hampshire.—Consolidation.

We learn from the *Boston Post* that a virtual consolidation of the interests of the Ogdensburg, Central, Sullivan and Merrimac and Connecticut River railroads, has taken place by the closing of a contract between the several corporations for a long term of years. Great advantages are expected to result from this arrangement in the way of more economical operation, cheaper transportation, etc.

It is said further that it insures the immediate construction of the connecting link of the Merrimac and Connecticut river, from Bradford to Claremont, by guarantying such a business to this road when completed, as will make its bonds, at all events, a good investment of the kind. It gives a large through business at once to the Sullivan, making the mortgage bonds of this road worth par, and giving some prospective value to the common stock. For the time, also, it adds a considerable business to the Cheshire and Fitchburg, and some assistance to the Fitchburg and Worcester, the Worcester and Nashua, and the Vermont and Massachusetts. From conversations with all the leading parties to this arrangement, we are satisfied that 'letting bygones be bygones' the present management of the northern roads is perfectly harmonious; and that from various causes, whether of interest, integrity or ability, this management will be conducive to the best interests of the stockholders and bondholders in all of them. Mr. Lee has now his own superintendent upon the Vermont Central, and with his relief, as president of the Ogdensburg, from financial difficulties, he will soon be enabled to show his practical management. No man can change the geography of the land, and the shortest route between two points is destined to be the favored one. By the contract in question, this shortest route as we believe, is obtained for the through trade from the great lakes. It now remains only to build the Merrimac and Connecticut rivers to Claremont, and no fears are entertained, but that with the assistance of the towns upon the route, this can be done without delay.

The extension of the Passumpsic to Stanstead has received the earnest approval of all the connecting roads, who have come forward liberally, with their guarantees. The benefits of this extension will be very great to the Passumpsic and to the Northern and Concord and Montreal. From reliable accounts of the business to be obtained therefrom, the portion of the Northern will go far to compensate it for the withdrawal of the Central's through business.

American Rails in Virginia.

It is said that the Board of Public Works of Virginia have instructed the superintendent of the Covington and Ohio railway to advertise for rails that will be needed on the entire route, to be made on the line of road. This will have an important bearing upon the iron and manufacturing interests of Virginia. He is also to advertise for freight and passenger cars, to be made on the line of the road or elsewhere.

Virginia.

Greenville and Roanoke Railroad.—This road has accomplished what is rather unusual among railroads, viz. it has paid a large construction debt out of surplus profits, and though but a short road with limited receipts is now out of debt and paying good dividends to the stockholders. The road is now laid with a flat bar, but the Company will rebuild it with edge rails as soon as a sufficient portion of the North Carolina Railroad (from Raleigh to Charlotte) is in operation to justify the necessary expenditure. This will probably be in the course of the next year.

The length of this road in operation is 18 miles. The capital paid in \$200,000. The total cost of road, equipment, stations, &c., being \$284,815 44. The gross earnings for the last official year were \$47,860 67 and the net earnings \$18,571 03. The last dividend was 7 per cent. and the present value of the stock \$60 per share.

Petersburg Railroad.—This company have also paid a large portion of their debt out of surplus earnings, the remaining liabilities amounting to \$173,867 48, which it is expected will be extinguished in the same manner. The last dividend of this company was 7 per cent. This road was relaid throughout with edge rails in 1850-51.

Steam Fire Engine.

While at Cincinnati we had an opportunity of seeing the steam fire engine built for the city by Messrs Shawk, Lattie & Co. We learned that it was regularly used at fires and was regarded as of great service in extinguishing them. It is kept in readiness to be drawn to any fire, and in the time generally required to get there will have raised sufficient steam to operate the pumps. Its weight was seven tons, and its main suction hose nine inches in diameter. The workmanship is of excellent description, although some of the parts might be reduced in weight. Mr. Griffin Taylor, a citizen of Cincinnati has contracted with Messrs. Shawk, Lattie & Co. to build for him an engine of the same general plan, but to be lighter. It is not stated what Mr. Taylor proposes to do with the engine.

Central Ohio Railroad.

The following is the board of directors elected at the recent meeting of the stockholders.

John Sullivan, George James, Stephen R. Hosmer, Joseph Thomas, James L. Cox, and John Peters, of Muskingum; D. W. Deshler and Samuel Brush, of Franklin; George B. Wright, of Licking; Nehemiah Wright and John Welsh, of Belmont; John Hall and Moses Sarchet, of Guernsey. They are all old members of the board, with the exception of Messrs. Sarchet and Thomas.

Joliet and Laporte Railroad.

We learn from the *Alton Telegraph* that the Railroad connecting Joliet, Illinois with Laporte Indiana, better known as the "Joliet and Laporte" cut-off is to be built under the charter of the Oswego and Indiana Plank Road Company, and arrangements are understood to have been made for its early construction. The board of Directors consists of Col. W. Smith, N. D. Elwood, John Stryker, Geo. Wodruff, and H. D. Risley, of which Mr. Elwood is President.

The Board at a recent meeting elected H. A. Gardener, Chief Engineer, and Geo. R. Macgregor, Resident Engineer. The former is at present

Resident Engineer on the Alton and Chicago road; the latter has been employed on the Rock Island road ever since its commencement.

American Railroad Journal.

Saturday, October 15, 1853.

Erle Railroad.

We get no report from the Erle company. The public were to have one as soon as the September earnings were figured up, which was the case long ago. The financial year terminated Sept. 30. The new board of directors was chosen on the 11th inst. It is the usual and proper custom for a retiring board of directors to give an account of their stewardship, by way of closing up matters in the event of not being re-elected, or for the purpose of showing their fitness for the trust reposed in them, in case they desire to be continued in office. Such reports are universally submitted to the stockholders for their approbation. We can hear of no such report at the meeting of the 11th instant. The old board have gone out, and a new one has come in, but a veil still rests upon the mysteries that have so long been concealed. When is it to be removed? In the meantime the stock is suffering for the want of a good report. Why do not the friends of the road fight out their battle over the merits of the road. If the stock is so valuable, that one director buys, by the millions, for investment, why not let the public know its worth, and give them a fair chance; or is it so good a thing for distribution? We must have the report soon, or we shall try to supply its place. There are some things in the brief statement of the finance committee that need explanation badly. A full, lucid and credible report, must be made to sustain the stock, bonds, and the credit of the company.

Cincinnati, Hamilton and Dayton Railroad.

This Company are building a double track to Hamilton, 25 miles from Cincinnati. At Cincinnati they are erecting a new engine house, 160 feet in diameter to contain 24 engines, besides making other improvements. The shops, machinery and motive power of the company are of the first class, comprising the best specimens of eastern work, the whole under the charge of Daniel McLaren, Esq. formerly of the Boston and Worcester Railroad. The track of this road is in excellent order and is well fenced throughout its length.

Detroit and Pontiac Railroad.

At the annual meeting of the Stockholders of the Detroit and Pontiac Railroad company held Oct. 3d 1853 the following Board of Officers were elected for the ensuing year: N. P. Stewart, President.

D. Smart, E. A. Brush, H. N. Walker, Elon Farnsworth, N. P. Stewart, B. C. Whittemore, J. W. Brooks, J. F. Joy, Chas. Howard, Directors.

The Detroit Advertiser says: The list shows that the new board is composed of men whose integrity, whose high standing in business and as citizens, whose energy, and whose knowledge of railroad affairs are not surpassed either in the city or State, and must give confidence and faith in the assurance that this road is about to become an important avenue, over which a large business with this city will be carried on.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	85
Androscooggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	86
Kennebec and Portland..... "	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	98½
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	107½
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern	82	3,016,634	.....	.....	328,782	163,075	5	47
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan..... "	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	37
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Vermont Central	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	13
Vermont and Canada	47	1,500,000	.....	1,500,000	Leased to the Vt. Cent.	.....	.....	99
Western Vermont	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	94½
Boston and Maine	83	4,076,974	150,000	4,092,927	659,001	338,215	7	103½
Boston and Providence	53	3,160,390	390,000	3,546,214	469,656	227,434	6	86
Boston and Worcester	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch	28	421,295	171,800	633,906	60,743	30,056	2½	45
Connecticut River	52	1,501,100	193,500	1,801,946	229,001	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92½
Fall River	42	1,050,000	none.	1,050,000	229,445	99,589	8	106½
Fitchburg	66	3,540,000	112,305	3,623,073	574,574	232,787	6	95
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony	45	1,064,070	282,300	2,293,534	322,213	101,510	none	91½
Taunton Branch	12	250,000	none.	307,136	137,406	21,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	18
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	58
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99
Stonington	50	.....	361,700	.....	340,572	42,317	.....	63½
Providence and Worcester.. R. I.	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven.... "	62	3,000,000	472,000	.....	600,408	332,223	none	122
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	103
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	53
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,600	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	30,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erle, (New York and Erie).... "	164	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	72½
Hudson River	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	63
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	6	54
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	28
New York Central	504	22,858,600	2,111,824	.....	.....	.....	.....	108
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	28
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	100
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,400	1,388,385	478,413	10	150
Morris and Essex	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erle and North East	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	75
Philad., Wilmington and Balt. "	98	8,850,000	2,403,276	6,818,889	667,765	383,501	5	79

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for yr.	Price of shares.
Pennsylvania Central.....	Penn.	250	9,768,155	5,000,000	13,000,000	1,943,827	617,625	....	98
Philadelphia and Trenton....	"	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	"	47	.....	.....	.....	.....	.....	.....	108
Baltimore and Ohio.....	Md.	381	9,188,300	9,827,123	19,512,307	1,325,563	615,384	7	61½
Washington branch.....	"	38	1,650,000	.....	1,650,000	348,622	216,237	8	....
Baltimore and Susquehanna....	"	57	.....	.....	.....	413,673	152,536	.....	....
Alexandria and Orange.....	Va.	65	.....	.....	In prog.	.....	.....	.....	....
Manassas Gap.....	"	27	.....	.....	In prog.	.....	.....	.....	....
Petersburgh.....	"	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville.....	"	73	1,372,324	200,000	In prog.	.....	.....	.....	....
Richmond and Petersburg.....	"	22	655,000	.....	1,100,000	122,861	74,113	none	....
Rich., Frd. and Potomac.....	"	76	1,000,000	503,006	1,531,238	251,376	113,256	7	105
South Side.....	"	62	1,328,722	800,000	In prog.	.....	.....	.....	....
Virginia Central.....	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	....
Virginia and Tennessee.....	"	60	3,000,000	1,500,000	In prog.	.....	.....	none	....
Winchester and Potomac.....	"	32	180,000	120,000	416,532	89,776	.....	12	....
Wilmington and Raleigh.....	N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	....
Charlotte and South Carolina.	S. C.	110	.....	.....	.....	.....	.....	.....	....
Greenville and Columbia.....	"	140	1,004,231	300,000	In prog.	.....	.....	.....	....
South Carolina.....	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester.	"	.....	.....	.....	In prog.	.....	.....	.....	....
Georgia Central.....	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	"	211	4,000,000	1,214	.....	934,424	456,468	7½	9
Macon and Western.....	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee.....	"	71	.....	.....	In prog.	.....	.....	.....	....
South Western.....	"	50	586,887	150,000	743,525	129,395	71,535	8	....
Alabama and Tennessee River	Ala.	55	.....	.....	In prog.	.....	.....	.....	....
Memphis and Charleston.....	"	93	776,259	400,000	In prog.	.....	.....	.....	....
Mobile and Ohio.....	"	33	879,868	.....	In prog.	.....	.....	.....	....
Montgomery and West Point.	"	88	688,611	.....	1,330,960	173,542	76,079	8	....
Southern.....	Miss.	60	.....	.....	.....	.....	.....	.....	....
East Tennessee and Georgia.	Tenn.	80	835,000	511,000	In prog.	.....	.....	.....	....
Nashville and Chattanooga....	"	125	2,093,814	850,000	In prog.	.....	.....	.....	....
Covington and Lexington.....	Ky.	38	1,430,150	1,100,000	In prog.	.....	.....	.....	....
Frankfort and Lexington.....	"	29	357,218	.....	584,902	87,421	44,250	....	80
Louisville and Francfort.....	"	65	.....	.....	.....	.....	.....	.....	....
Maysville and Lexington.....	"	.....	.....	.....	In prog.	.....	.....	.....	....
Cleveland and Pittsburgh.....	Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, Painesv. and Ash..	"	71	.....	.....	.....	.....	.....	.....	....
Cleveland and Columbus.....	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	125
Columbus, Piqua and Indiana.	"	46	.....	.....	2,000,000	.....	.....	.....	98
Columbus and Lake Erie.....	"	61	.....	.....	.....	.....	.....	.....	....
Cincinnati, Ham. and Dayton	"	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	103
Cincinnati and Marietta.....	"	.....	.....	.....	In prog.	.....	.....	.....	72½
Dayton and Western.....	"	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan.....	"	20	.....	.....	In prog.	.....	.....	.....	....
Eaton and Hamilton.....	"	36	.....	.....	.....	.....	.....	.....	70
Greenville and Miami.....	"	31	.....	.....	.....	.....	.....	.....	....
Hillsboro.....	"	37	.....	.....	In prog.	.....	.....	.....	....
Little Miami.....	"	84	2,370,784	.....	2,634,157	526,746	314,670	10	119½
Mansfield and Sandusky.....	"	.....	900,000	1,000,000	1,855,000	.....	.....	.....	....
Mad River and Lake Erie.....	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central.....	"	57	.....	.....	In prog.	.....	.....	.....	....
Ohio and Mississippi.....	"	.....	.....	.....	.....	.....	.....	.....	97
Ohio and Pennsylvania.....	"	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	....
Ohio and Indiana.....	"	.....	.....	.....	In prog.	.....	.....	.....	....
Scioto and Hocking Valley....	"	.....	.....	.....	.....	.....	.....	.....	....
Toledo, Norwalk and Cleve'd	"	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	....
Xenia and Columbus.....	"	54	1,092,137	119,500	1,257,714	237,506	135,363	15	....
Evansville and Illinois.....	Ind.	31	.....	.....	In prog.	.....	.....	.....	....
Indiana Central.....	"	.....	.....	.....	.....	.....	.....	.....	....
Indiana Northern.....	"	131	.....	.....	.....	Recently opened.	.....	.....	....
Indianapolis and Bellefontaine	"	83	.....	.....	.....	.....	.....	.....	105
Lawrenceburg and Ind.....	"	.....	.....	.....	In prog.	.....	.....	.....	82
Lafayette and Indianapolis....	"	62	.....	.....	.....	Recently opened.	.....	.....	78
Madison and Indianapolis.....	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Peru and Indianapolis.....	"	40	.....	.....	In prog.	.....	.....	.....	70
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	"	.....	.....	.....	.....	.....	.....	.....	....
Chicago and Mississippi.....	"	113	2,400,000	4,000,000	4,600,000	.....	.....	.....	....
Illinois Central.....	Ill.	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago.....	"	92	1,932,361	500,000	In prog.	473,648	286,152	.....	124
Michigan Southern.....	Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	118
Michigan Central.....	"	282	1,000,000	4,067,398	8,314,193	.....	.....	8	110
Pacific.....	Mo.	88	1,000,000	none	In progress	Recently opened.	.....	.....	....

Covington and Ohio Railroad.

The Petersburg Express understands that Capt. Chas. Dimmock has so far completed the survey of the "Monroe Route," for the Covington and Ohio railroad, as to determine that the grade on the Alleghany mountains need not exceed 75 feet per mile from east to west, and 55 feet from west to east. These will be the maximum throughout the line, and no tunnels are necessary. The other routes, viz; one by the Greenbrier, and the other by Meadow river are now being surveyed.

Appointment.

Mr. William Morris, for a long time a popular conductor on the Little Miami Railroad, has been appointed Superintendent of the Dayton and Western Railroad, running from Dayton to Richmond.

Chester Valley Railroad.

The Chester Valley railroad, from Norristown to Downingtown, Pa., where it connects with the Columbia road, was opened on Thursday 29th ult.

Share and Money Market.

The great subject in Wall street is the present state of the money market, which is producing some disastrous results, in causing failures in some instances, and in depressing the value of securities of all kinds. Money is unusually scarce, and there is a general paralysis upon negotiations of railroad, and other stocks and bonds. The effect may be to check, temporarily, the rapid progress we have been making in the construction of public works, and it will pretty surely put a stop to the spirit of speculation which was beginning to develop itself in various quarters. As we believe the general business of the country to be in a sound condition, we regard the present stringency as temporary, though it is easy to seek that money must be in active demand for some time to come. Should this be the case, many of the projects now coming before the market must be postponed. There are, however, a considerable number too far advanced to render the suspension of their operations either expedient or practicable, and the wants of these will continue to be a steady drain upon the capital of the country for a year or two ahead.

We have discussed this subject somewhat at length in another of part the Journal. For a more detailed view of monetary matters we refer to our notice for the week.

Thursday.—The foreign news to-day had a depressing effect upon the share market, which showed a decline from yesterday's prices. Erie sold at 78; Hudson River, at 70; Harlem at 56¼. Other fancies were heavy. Money was in active demand at former rates. The steamers news was unfavorable to cotton, but favorable to bread stuffs, which have advanced largely. The reverse of this state of things would be most to our advantage, as our exports of the cereals bear but a trifling proportion to those of cotton.

Friday.—The market showed a further decline to-day. New York Central sold at 107¼, the lowest point it has touched, and some sixteen per ct. lower than its highest point since the consolidation. We are surprised at the continued depression of this stock, which we believe will be a ten per cent for many years to come. Erie sold at 77½, Hudson River at 68. Michigan Central at 108. Coal stock also, showed a considerable decline. The money market appears to be growing

tighter and tighter every day; the result principally of apprehensions as to the future. The present stringency is induced more by the prevailing sentiment than any other causes, and will be relaxed so soon as our people can be led to view things in a correct light.

Saturday.—There was little change to day from the preceding day's prices, with a few exceptions. New York Central sold at 110, an improvement of $2\frac{1}{2}$ per cent. Erie was a little better; Crystal Palace sold at 55. At one time this stock sold at 160. Panama was heavy at 92. Money remains as usual. It is particularly difficult for railroad companies to supply their wants.

Monday. The Share market was better to-day. Erie advanced one per cent; Central railroad one-half; Hudson River one-half. Coal stocks were active at advanced rates.

The Bank reports made up for Saturday, show the following result:

	Oct. 8.	Oct. 1.
Loans.....	\$89,128,998	\$90,148,540
Specie.....	10,266,602	11,231,912
Circulation.....	9,673,458	9,521,665
Deposits.....	57,985,768	57,968,661

The only material change for the week is the loss of specie which amounts to nearly \$1,000,000.

Tuesday.—The stock market was much depressed to-day. Erie declined to $76\frac{1}{2}$; New York Central to $109\frac{1}{2}$; Reading to 78; Harlem to 55; Michigan Central sold at 111; Michigan Southern at 118; Crystal Palace at 55. For fancies generally the market was dull. Money was exceedingly tight, the rates for first class paper being not less than 12 per cent. The unlooked for suspension of Mr. Draper, made matters worse. We understand that his suspension was entirely caused by his inability under the present pressure, to command those bank facilities, which under ordinary circumstances would have been freely extended, and which he had a right to expect. His means are in securities which are sound, and which would readily sell upon a change in the times. His suspension was entirely unexpected, is universally regretted, and will be, it is believed, but temporary.

Wednesday.—Matters were worse in Wall street to-day. The recent failures have tended to give a severe shock to public confidence. Stocks of all kinds were much depressed. Erie went to $75\frac{3}{4}$; Hudson River to 67, Reading to 76, New York Central sold at $108\frac{3}{4}$. Many of the fancies are much lower. If possible, money is much more difficult to had to-day than at any time during the present pressure. It is almost useless to attempt to give rates, as they depend more upon the position of parties, than upon any standard applicable to the whole market.

RAILROAD RECEIPTS FOR SEPTEMBER.

	1853.	1852.
Erie.....	\$512,634	\$375,176
Hudson.....	131,079	99,454
Little Miami.....	65,285	55,487
Milwaukee.....	35,434	18,000
New Haven.....	84,142	72,009
Sixth avenue.....	28,656	6,000
Eighth-avenue.....	26,265	Just opened
Cleveland and Pittsburg.	42,871	44,004
Chicago and Rock Island	53,251	Not opened
Southern Michigan.....	198,401	115,289
Buffalo and N. Y. City...	86,272	Not opened
Macon and Western.....	24,426	19,699
Ohio and Pennsylvania...	80,826	87,520
Norwich and Worcester.	33,688	28,846

"Running the thing into the ground."

We think too, the proposed road from Union to Indianapolis is running the thing into the ground with a vengeance. The writer thanks the editor of the Journal for publishing his article, but still more for these comments. When the editor descends from generals to particulars, there is no danger of capitalists being deceived. The new road that cannot stand public examination ought not to be built. The writer with the kindest feelings begs leave to assure the editor that with all his usual caution, he too is mistaken, there is no proposed road from "Union to Indianapolis". There is a proposed road from Evansville on the Ohio river by Indianapolis to Union, know as the Evansville Indianapolis and Cleveland straight line railroad. The writer is gratified to find that the editor does not object to that part of the road from Evansville to Indianapolis, the importance of which has commended its self to all who have looked upon the map, and the destination of that productive section of the state of railroad facilities; and had the editor been apprised of the true state of the case he certainly would not have deemed it necessary to single out the other end of the road as specially objectionable. Had he known that the Evansville, Indianapolis and Cleveland straight line railroad was projected for the purpose of building a through line of the same gauge, extending the line from Cleveland to Evansville on the Ohio gauge, so as to avoid all transshipments between the Lake and the Ohio, and that it might become necessary to make that part of the road from Indianapolis to Union, where the connection of the through line could be formed, although it might not be at Indianapolis, owing to the difference of gauge between the present and proposed roads the views of the editor might be changed. The editor is aware that the recent attempt to widen the track from Union to Indianapolis of the present road so as to extend the through line of the same gauge from Cleveland to Indianapolis has been met by an injunction. Had that measure been successful there would have been no necessity to make that end of the Evansville, Indianapolis and Cleveland road, as the through line could have been made over that road. It is not competition, but the through line, that the company desire, and this well known to those interested in the roads between Indianapolis and Cleveland, and if this main object can be obtained, which will be mutually beneficial, by the time the road is made from Evansville to Indianapolis to which the means of the company will be first directed, no road will be built from Indianapolis to Union, nor unless the company shall be compelled to build it, to enable them to carry out the great object of making the through line from the Lake to the Ohio river of the same gauge, yet to be extended from Evansville, by Paducah to Memphis. The writer thanks the editor for giving this opportunity to explain and set the position of the company right before the public.

INDIANAPOLIS.

Travel on the Michigan Central Railroad

From the Chicago Tribune we learn that for the ten days ending on the 22d of September, there were in the aggregate fifteen thousand one hundred and fifty persons carried over the road on the regular passenger trains, making an average of 1,514 persons per day. The largest number carried in one day was 1,670, and the lowest was 1,235.

Iron Manufacturing in Cincinnati.

The facilities of Cincinnati for the manufacture of a superior quality of iron, are very much in her favorable location in the vicinity of a variety of ores, from a mixture of which a better iron may be made than from almost any single ore with the exception, perhaps, of the Lake Superior ores. Cincinnati receives the mineral products of the Tennessee mountains, of Virginia and of Kentucky, borne to her by the rivers tributary to the Ohio. Coal, the best adapted to the conversion of iron, is had upon all sides. The rolling mills in Cincinnati are all in active operation, and many of them are extending their means for doing a still heavier business. From an article in the *Columbian*, published in Cincinnati, we have the following list of the mills now at work in Cincinnati and its vicinity:

Shreve, Steele & Co., store corner of Broadway and Second sts., manufacture bar iron, sheet iron, boiler iron and nails.

L. Worthington & Co., store No. 25 Main street, manufacture at the Globe mill, bar and sheet iron, railroad iron, wire and rivets, and railway chairs.

Phillips & Jordan, store No. 58 and 60 Columbia street, near Broadway, manufacture at the Licking Mill, bar, sheet and boiler iron.

Morrell, Shoemaker & Co., store, Nos. 62, and 64, Columbia street near Broadway, manufacture at the Morrell Mill, sheet, boiler, bar iron and railway chairs.

D. Wolff, store on Congress street, between Broadway and Ludlow, manufactures at the Newport Mill, bar, sheet, and boiler iron, railway axles, and locomotive tire, and is prepared to manufacture railway iron.

T. G. Gaylord, Son & Co., store 88 and 92 Broadway, manufacture at the Portsmouth Mill, bar, sheet and boiler iron, rivets and nails.

Williams & Co., store 9 and 11 Columbia street, manufacture at the Hanging Rock Mills, the compound rail.

None of these will turn out less than 3000 tons of iron per annum, and their average annual consumption of coal is perhaps 200,000 bushels each.

The number of hands employed in them will amount to more than one thousand, and the aggregate value of iron produced annually, cannot be estimated at less than two millions of dollars.

It will be seen that one establishment, that of Mr. D. Wolff's, is engaged in making Locomotive Tire. We believe this is the only establishment in the West that has commenced the business, and we learn from Niles & Co., and Moore, Richardson & Co., Locomotive builders at Cincinnati, that these tires are found to be of very good quality.

The manufactures of machinery at Cincinnati, are large and important. We will briefly allude to the establishments engaged in the manufacture of locomotives.

Niles & Co., have on Second street, a large shop devoted to locomotive building, which is carried on in connection with their general machine works. This shop is now turning out from two to three engines per month. The work upon these machines is apparently of the best description, and the general arrangement of their parts will compare to advantage with the work of the oldest establishments in the country.

Moore, Richardson & Co., of the former estab-

Shment of Anthony Harkness and Co., are completing from fifteen to eighteen engines a year. A large part of the equipment of the Little Miami railroad is from these works. Upon the Cincinnati, Hamilton and Dayton road, we saw two of the engines from these works, constructed very much from Rogers' plans, and which were pronounced by the master of machinery to be very excellent machines.

A. L. Greer & Co., at Covington, opposite Cincinnati are commencing the business of locomotive building, as are also Olmstead & Co., at Anrora, Indiana, about twenty miles below Cincinnati.

Illinois Central Railroad-Award of Damages.

The Commissioners, Messrs. George Steel, Jason Gurley, and Flaviel Mosely, appointed to assess the damages caused to property on the Lake Shore, north of Randolph street, by the Illinois Central railroad track, have made their award as follows:

Chas. Walker,.....	\$47,275
Isaac Cook,.....	4,040
Hydraulic Co.,.....	8,838
Jas. H. Woodworth,.....	9,281
Luther Rossitter,.....	7,680
J. Y. Scammon and wife,...	6,480
J. D. Webster and wife,....	6,680
J. D. Webster,.....	6,485

\$89,765

The above from the Chicago *Commercial Advertiser* exhibits the amount of damages awarded, to the persons named, by the commission appointed by the court to assess the same. These damages are to be paid by the Illinois Central Railway company for the privilege of running their track into the city on the western shore of Lake Michigan. The object is to locate the Chicago depot at the mouth of the river, on the south side. The next object will probably be to get across the river at this point, in order to make advantageous Northern and Western connections with the Milwaukee, Green Bay, Fond du Lac and Galena Roads, which have their depots on the North and West sides of the river.

As the city of Chicago is likely to be a great point for the centralization of the Illinois and Wisconsin Railroads, and as the Illinois Central Railroad is one of the heaviest of the converging lines a concise description of the present condition of the several lines with regard to their depot locations, the relative position which such localities bear to each other, and the facilities they will afford for the cheap and speedy transfer of passengers and freight from one line to another and from the several lines to lake and canal craft, or *vice versa*, may not prove uninteresting to the readers of the *Journal*. In attempting such description it will hardly be necessary, after the confidence which has been repeatedly manifested in the articles which have appeared, at various times, in the columns of this *Journal*, in the success, prosperity and ultimate profitableness of business at Chicago and the numerous railway projects centering there, for us to disclaim in this instance, all sectional prejudices in favor of or against any of the many rival local interests which might appear to be affected by our remarks. Our only object is to consider what policy will ultimately prove the most advantageous to Chicago as a great commercial depot and to the different enterprises which are to contribute largely to its future eminence. In doing this we desire to treat all in

terests with the utmost fairness. We have no private local interests to obscure our vision or contract our view. Our premises are broad and liberal and it is our intention that our conclusions shall be equally so.

Chicago possesses natural advantages for the enjoyment of a lucrative interior commerce rarely equalled and which are certainly surpassed by no one point in the great St. Lawrence Basin. Situated at the head of Lake Michigan, upon the Chicago River, a navigable stream which forms an excellent harbor, it is the lake depot for nearly all Northern Illinois, a part of Southern Wisconsin, Southern Iowa and Northern Indiana; while by its connection with the Illinois River through the Illinois and Michigan Canal it is the most convenient Lake port for the trade of the Central and Southern portions of Illinois and Northern Missouri. To aid her natural position and extend the advantages of these water facilities to the whole surrounding country railroads are in operation or progress in almost every direction. Prominent among those in operation are the "Galena and Chicago Union", the "Chicago and Rock Island", the "Illinois Central", the "Michigan Central", and "Michigan Southern" lines. Besides these are various other lines in a state of forwardness; but which so far as we know enter the city at present on one of the above named tracks and use the same depots.

The Chicago River is composed of two branches—the North and South—which unite about one mile from the end of the piers, at the entrance to the harbor, and form the main river. These branches are both navigable for vessels of the largest class, the North for a considerable distance and the South, three to four miles, from the junction to Bridgeport, the point where canal boats lock down eight feet into the river. The City of Chicago lies on both the North and South sides of the main river and on the West side of both branches, being bounded on the East by the Lake Shore. Communication is kept up between the different portions of the city by means of swing bridges, at present, though tunnels are proposed as means of uninterrupted communication which it is to be hoped may be successfully prosecuted. Chicago numbers about 50,000 inhabitants and extends over the prairie which forms its site some three to four miles, with a prospect of being indefinitely expanded towards the North, South, and West, the site being favorable for such extension to almost any distance—level as a floor and with the improvement of plank pavements easily traversed.

The present depots are situated as follows:

The "Illinois Central," occupied in common by that road, and the "Michigan Central," is on the Lake shore, about one mile and a half south of the main river, and one mile east of the South Branch. The "Chicago and Rock Island," occupied in common by that road, and the "Michigan Southern" is on or near the South Branch a mile and a half south from the main river, and one mile west from the Lake Shore. The "Chicago and Galena Union" used by that road, and the "Aurora Extension" road and the St. Charles Branch, is on the north side of the main river, a distance of one to two miles from either of the others.

The "Chicago and Mississippi" road will, for a time use the track of the Chicago and Rock Island

road, and consequently use the depot of the same company. The "Lake Shore" road running from Chicago north to Milwaukee and Racine, Kenosha and Waukegan will have a depot on the north side of the main river, probably. The "Illinois and Wisconsin" road will probably have their depot on the west side, north of the line of the track of the Galena and Chicago Union. The "air lines" of the St. Charles and Savanna, and the Chicago and Galena companies, the former touching the Mississippi at Savanna, and thence following that river north to Galena, and the latter connecting with the "Rock River Junction" at Dixon, which reaches the Mississippi at Fulton, will probably have their depots on the north or west sides of the river near its banks.

From the above outline, which we believe is substantially correct, it will be observed that the transfer of passengers and freight from line to line or from boats to lines, or *vice versa* will involve an amount of cartage and carriage hire, and what is invaluable to the business man—time—which will, to say the least, be prolific of "cut offs," curses and bad temper. And what will it cost the Illinois Central to secure her much coveted location on the Lake Shore, to say nothing of the difficulties which she must yet overcome in crossing the mouth of the river to secure her profitable northern connections? Litigation has probably only commenced, and to secure right of way the distance of two blocks, from Randolph street north to the river she has nearly \$90,000 awarded against her. Besides she has to construct a breakwater, which the winds and ice of the coming winter may destroy or very much injure, to protect her track, the ground for the foundation of which must also be manufactured at her expense. Suppose the company is successful in securing the right of way for the rest of the distance on the Lake Shore—over a mile—at a reasonable cost, and in the construction of tracks and depots of sufficient capacity, well guarded from the invasions of weather and ice, what will they have? A depot on the Lake Shore, disconnected from the harbor, and separated from all the Western and Northern railway tracks and depots by the river.

We assume that the people of Chicago will not be insane enough to allow their harbor to be blocked at its very entrance by the crossing of a railway or a sub-marine track which will be subject to the caprice of every dragging anchor which may be required in seasons of gales and marine disasters. Such a policy would be very detrimental to her marine interests which are every day growing more important and receiving additional strength from every mile of new railway opened on her numerous lines and their connections, and which, moreover, as has been seen, are her very foundation upon which to build future commercial supremacy.

But to return to the original subject,—the policy of Chicago as a whole, in reference to railway connections. Projects for "cut off" routes by which trade and travel may shun her are as plenty as could be desired by her most envious rivals and with as good prospects of success, theoretically considered. The question with Chicago, then, should be, how shall the increased trade and travel incited by the competition raised by these projects, be turned to her own account?

To answer this question let her refer to the ex-

perience of the past, and be guided in her policy by the results of such experience. Let such facilities be afforded the traveller and his freight, in passing through her borders, that they may pass that way quicker and safer than via a "cut off". Let her numerous lines of railway have commodious depots at which all the tracks may centre on the North or West sides of the river, with such docks and warehouses as will facilitate the storage and transfer of property of all kinds, and passengers from land to water or from water to land. This can be done with little difficulty. The Central, Southern, Rock Island, and Chicago and Mississippi roads can run their tracks across the Canal south of Bridgeport and into the city on the west side and meet the northern and western roads on common ground, and we think more cheaply, at some point between Bridgeport and the head of navigation on the north branch, than where they are at present located. The property they hold now will command sale for residences and business at prices much in advance of what it cost them, in a few years. This should be a mutual operation for the benefit of the several roads and the city. The time has passed when Railway companies can control the direction of trade and travel or transportation, except by the superior facilities they may offer such travel and transportation. We would instance the Dunkirk "cut off". Has it injured Buffalo or the New York central line of Railway? No and why? Because the central lines consolidated and increased their facilities for transport and travel. Their business was never better and Buffalo never grew faster than now.

Take another instance. Chicago, St. Louis and Cincinnati are as near or nearer to New York via the Pennsylvania and Baltimore routes in point of distance as by Buffalo and Albany or Dunkirk; but in point of time and expense the latter are much preferable routes and are consequently the more travelled. Besides, the western and south-western merchants have business relating to water transportation in Buffalo, and on this account prefer the Lake route. And this latter argument will apply with equal force against the proposed Illinois "cut offs" and in favor of Chicago, provided her enterprises furnish like means for accelerating the business of the public, we might elaborate this article to an indefinite extent, but it is already too long and we must drop the subject for the present.

Milwaukee and Mississippi R. R.

The Milwaukee *Sentinel* states that the business over this road for the past month far outruns the expectations, as it has overtaken the facilities of the Company. The aggregate receipts for the month will not fall short of \$35,000, about double the largest amount heretofore received in one month. In a week, or ten days, the Road will be extended to Fulton, Rock County, ten miles West of Milton, and in a fortnight, or three weeks, to Stoughton, Dane County, 18 miles beyond Milton. At Fulton, the Station House, a neat and substantial structure, is already up, and a similar building is in progress at Stoughton. Both buildings were put up by Sibley & Pasby, of that city, who built the new and handsome Depot of the Company at the junction of the Milwaukee and Menominee Rivers.—The business for October over this road is expected to be even larger than that of the past month, and the receipts will probably exceed \$40,000. In January the road will be opened to Madison, and beyond that point the grading is under good headway.

Mississippi Central Railroad.

This important line of railroad has recently been placed under contract, and the work of construction is to be commenced immediately.

The line of the road commences at Canton, and extends to the north line of the State, a distance of about 180 miles. At Canton it connects with a road now in progress to Jackson the capital of the state. Jackson is a point in the New Orleans, Jackson and Great Northern railroad, and upon the construction of this, the Mississippi Central railroad will have the advantage of a connection with New Orleans. On the north, the connections formed will be equally favorable. The road will be extended under an existing charter to Jackson, Tennessee, which is the probable point of intersection of the Mobile and Ohio, and the Memphis and Louisville railroads. These connecting lines will make the Mississippi Central a portion of the shortest line between Lake Michigan and New Orleans, and probably the shortest of any proposed between Louisville and the former city. A reference to a map of the western states will show that the above road will occupy a very favorable position in reference to the convenient route of travel, and to the great works now in progress in the south, for its accommodation.

The road has equally good prospects in reference to its local business. It traverses a tier of counties equal to any in the state in fertility of soil and amount of productions, and sufficiently far removed from navigable watercourses to throw upon it all the transportation of the route. The road is well adapted to meet the local wants of the section traversed. Of the capacity of the most fertile and best settled portions of Mississippi to supply a lucrative traffic to a railroad, some idea may be formed from the earnings of roads in other portions of the south, having the same sources of income. Such roads have, without exception we believe, been invariably successful. The cause is obvious. They traverse sections entirely devoted to the production of one staple, all of which is exported. For this reason, nearly all articles entering into consumption must be imported. An amount of transportation therefore, is thrown upon railroads, nearly equal in bulk, or value, to twice the amount of production. The business of southern roads is necessarily large, and the great value of the principal article carried, cotton, enables it to pay a large freight. A well located southern road has never failed to pay. Their freedom from competing lines is also an important fact in their favor.

The Mississippi Central railroad has all the elements of a lucrative local business. We suppose that about twice the amount of cotton is produced to the acre in Mississippi as in Georgia or South Carolina. This fact is well understood. The road can be built at the minimum cost of Southern roads, and not exceeding \$20,000 a mile, fully equipped.

Another evidence of the ability of the country traversed to supply a lucrative business, is the amount of their contribution towards its construction. Already have cash subscriptions from perfectly reliable parties been obtained to the amount of \$1,500,000. A large portion of these the company propose to call in, and expend, before making any appeal to the public for money. With the basis which these subscriptions will afford, it is

believed that no difficulty will be had in borrowing the balance necessary to complete the work.

This project has been taken up by a class of men of ample means and the highest respectability. Men whose private character can command both means and credit, whatever may be the fact as far as the state at large is concerned. Independent of the pecuniary advantage which they expect to reap from the road, they see in construction, the surest means for the resuscitation of the state credits. Two such roads as the Mississippi Central, and Mobile and Ohio, by introducing new ideas, and new elements of prosperity into the state, by the commercial pursuits which would result from their construction, and with the more liberal views which would spring from intercourse with the people of other states, would exert a greater influence in securing an early acknowledgment and resumption of the state debt than all other causes combined.

ED. R. R. JOURNAL.

I perceive that in the number of your Journal, of the 24th ult., you have noticed the removal of my Ventilation from a car belonging to the Central railroad, and you request information as to how it has happened.

I do not wonder at this inquiry; indeed, with your watchful vigilance, in relation to any matter which is likely to affect in any way, the comfort of the travelling public upon the United States railroads, it would have been surprising, after the favorable accounts given of the ventilation alluded to, if it had escaped your observation.

As the inventor and constructor of this ventilation, the public, as well as you, have a right to look for the information asked for from me.

I prefer, however, that it should come from Mr. Dutton, the superintendent of a section of that road, and who furnished me with the car to experiment upon, last spring, and who in July last ordered the removal of the fixtures from the car. This gentleman is of course ready and willing to give you his reasons for the step he has taken, and I have written to, and requested him to do so.

If after waiting a reasonable time Mr. Dutton should not write you, then I shall, of course, consider myself bound to do what is requisite in the matter.

Your obedient servant,

H. RUTTAN.

COBURN, Canada, Oct. 2, 1853.

Maine.

Androscoggin Railroad.—At a meeting of the Stockholders on the 26th ult., a report was made by the Treasurer, J. Gilmore, and the President and Directors. The construction accounts amount in gross to \$160,000. The loss on the sale of bonds, interest, &c., with the amount necessary to complete the road, will probably make the construction account \$300,000. The gross earning of the road for the last two or three months, has been more than \$2100 per month; the running expenses about 40 per cent. Deducting a reasonable sum for depreciation and losses, it is paying some 4 per cent on the investment.

The Stockholders authorized the Board of Directors to issue Mortgage Bonds to the amount of \$10,000 per mile to furnish the superstructure of their road to Farmington. It was estimated that if extended it would double the net receipts, and that the expenditures would not exceed one-half, and that a portion of it could be put under contract immediately.

MONTREAL & NEW YORK AND Plattsburgh and Montréal RAILROADS.

Open through from Plattsburgh to Montreal.

Passenger Trains leave Montreal for Plattsburgh at 6:30 a.m. and 6 p.m., arrive at 8 a.m. and 7:30 p.m.

Leave Plattsburgh for Montreal 7:30 a.m. and 4 p.m., arrive at 10 a.m. and 6:50 p.m.

Trains connect at Montreal with Steamers for Quebec, and the St. Lawrence and Atlantic Railroad for Sherbrooke and intermediate stations.

Trains connect at Moores Junction with Northern (Ogdensburg) Railroad for Ogdensburg and Lake Ontario Steamers for Lewiston, Niagara Falls and Upper Canada, and all ports on the Western Lakes.

Trains connect at Plattsburgh by Steamer to Burlington with Rutland and Burlington Railroad and connecting lines for Troy, Albany, New York and Boston, and all intermediate stations. Also with steamers for Whitehall to the Saratoga and Washington Railroad, and connecting lines of road to Troy, Albany and New York.

Passengers will find this route unequalled for comfort and dispatch, and attended with less fatigue and delay than any other. It possesses moreover the advantage of a short ferrage of only fifteen minutes across the River St. Lawrence at Caughnawaga, which has never been known to freeze, and can be confidently relied upon at all seasons of the year.

Freight Trains run daily each way.

For particulars see Freight and Passenger Tariff.

BAGGAGE checked through.

H. W. NELSON, Superintendent.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe in FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Duane-st., N. Y.

Railroad Car Works.

THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Road Cars, also Baggage Barrows and Freight Trucks.

F. HUNGERFORD & CO.

Marysville, Ky., Sept. 29, 1853.

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY SIX PER CENT. FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW, LANIER & Co.,
No. 52 Wall-st., Oct. 6, 1853.

THE LITTLE MIAMI RAILROAD COMPANY offer for sale one million of their SIX PER CENT. BONDS, with coupons. Interest and principal payable in New York, the former half-yearly, 1st of November and 1st of May. They are in sums of \$1,000 each, payable the 1st day of May, 1858.

These Bonds are issued under the express authority of the Legislature of the State of Ohio; and are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track, the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station-houses, &c., up to this date \$2,708,109 19.

This Company hold stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also, in the Hillsborough Road the amount of \$11,716.

The receipts of the Road have been as follows:

For the year ending Dec. 1, 1844.....	\$18,623 26
For the year ending Dec. 1, 1845.....	46,327 58
For the year ending Dec. 1, 1846.....	116,052 02
For the year ending Dec. 1, 1847.....	221,139 52
For the year ending Dec. 1, 1848.....	280,085 78
For the year ending Dec. 1, 1849.....	321,398 82
For the year ending Dec. 1, 1850.....	405,597 24
For the year ending Dec. 1, 1851.....	487,845 89
For the year ending Dec. 1, 1852.....	526,746 35
The receipts from Dec. 1, 1852, to Sept. 1, 1853, 10 months were.....	544,625 59
For the same period year before.....	411,797 06

Increase in 10 months.....\$132,823 53

The position of this road, being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia Road, and runs in con-

nection with the Cleveland and Columbus Road; in fact they are now run as one line greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of 5 per cent. in 1852. In 1852 two cash dividends of 5 per cent. were made.

The present surplus and reserve fund amounts to.....\$98,546 10
The mortgage covers the entire line of road, costing to date... 2,708,108 19
To be expended on double track, &c. 1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is one of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the City of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. LANIER, Esq., of this city, in trust for the bondholders, with ample power to take possession of the Road, its real and personal estate, franchises, &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. The mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the City of Cincinnati, and all other debts of the Company, excepting this loan of \$1,500,000.

These Bonds are offered at private sale by the undersigned, Agents of the Company.

Printed statements of the affairs of the Company, and any further information relative to the securities, will be given by

WINSLOW, LANIER & CO.,
No. 52 Wall-st.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Dunkirk and Buffalo.
MAIL, at 8½ a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Binghamton and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAY, at 3½ p. m. for Delaware and all intermediate stations.

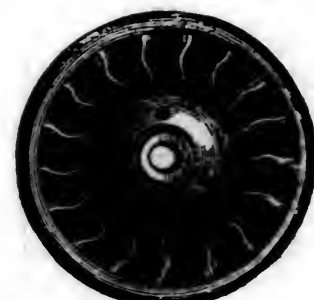
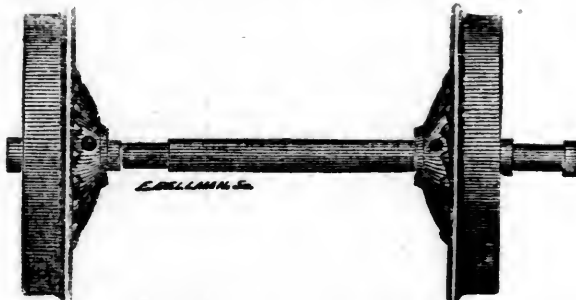
NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EXTRA, at 6 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 5 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sm't.



WASHBURN, POND & CO.,

MANUFACTURERS OF

WASHBURN'S PATENT CAR WHEELS,

FOUNDRY, NORTH THIRD ST., TROY, N. Y.

FROGS, CHAIRS. AND OTHER CASTINGS FOR RAILROADS.

Wheels Manufactured from the best of Salisbury and Sterling Iron (mixed), under the direction of Mr. Washburn, and warranted

Notice to Contractors.

SEALED PROPOSALS will be received at the Office of the Mississippi Central Railroad Company in Holly Springs, Mississippi until one o'clock & P. M. of Tuesday the 15th day of November next, for the Clearing, Grubbing, Grading, Bridging and Furnishing Cross-ties for about 22 miles of said road between the Town of Holly Springs and the State line of Tennessee.

Plans and specifications may be seen at Holly S. rings after the 10th day of November next.

Proposals will be received at Granada Mississippi until one o'clock P. M. of Wednesday the 7th day of December next for the same description of work and materials on the line of road between Water Valley and Granada being about 30 miles. Plans specifications may be seen at Granada after the 1st. day of December next.

Proposals will also be received at Canton Mississippi until one o'clock A. M. of Wednesday the 14th of December next for the same description of work and materials between Canton and the Big Black river, a distance of about 12 miles.

Plans and specifications may be seen at Canton after December 10th.

The work will be divided into sections of one mile each and proposals will be received for each item separately or for the whole work on one or more sections.

The right of rejecting such proposals as are not satisfactory is reserved.

HEALY, HOLMAN, SIMS & CO.

Holly Springs Mississippi.

October 10th 1853.

Furnace for Kent.

THE George's Creek Coal and Iron Company will **RECEIVE PROPOSALS** until the first of November next, to rent their **FURNACE**, at Lonaconing, situated in the village of the same name in Allegheny County, Maryland.

This Furnace was the first in the United States for the manufacture of iron with coal, and as Mr. Overman, in his Treatise on Iron Making, justly says, "has been the model for all that have succeeded it."

Fifty feet from the hearth up, and with 14 feet boshes, it is capable of turning out from seventy to 100 tons per week, according to the kind of metal made.

It has all the accessories necessary; a steam engine and blowing cylinder, capable of supplying 8000 cubic feet of air per minute, three water twyes which can be fed with hot or cold air; hot air furnaces, etc., etc., and a spacious and most convenient cast-house.

Some repairs will be necessary, which the tenant would be expected to put up at his own cost.

The **COAL**, of first quality for making coke, is immediately above the Furnace, and connected with it by an inclined plane.

The **ORE MINES** are a few hundred yards off. Limestone is on the same ground, not much further. These ores are good for thirty per cent. grey iron of first quality; and in addition, in various places of the proprietor's estate, and adjoining it, are deposits of Hematite, much richer; the right of mining which, on the lands of the company will be conceded without royalty.

With all these resources, Iron has been and can be made there at an unusually low price, and of superior quality.

The Furnace is nine miles from the Baltimore & Ohio Railroad, at Piedmont, and is connected by a railroad in regular operation; so that there is every facility for speedy and economical freights to either an eastern or western market.

There will be ample accommodation for hands. To a suitable tenant the terms would be made advantageous. Proposals to be endorsed, "Proposals for the Lonaconing Furnace," and addressed to

A. H. STUMP, President,

Box 229, Baltimore Post Office.

Oct. 15, 1853.

Railroad Mortgage City and County Bonds.

WE offer for SALE, at fair rates, the following **SECURITIES** of the most undoubted character, viz:

\$200,000 **MARIETTA & CINCINNATI RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS**, redeemable January 1, 1868.

\$200,000 **COVINGTON & LEXINGTON RAILROAD MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS**, redeemable March 1, 1868.

\$25,000 **COVINGTON & LEXINGTON RAILROAD CONVERTIBLE SIX PER CENT. BONDS**, guaranteed by the city of Covington, redeemable Sept 1, 1873.

\$50,000 **MADISON & INDIANAPOLIS RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS**, redeemable May 1, 1869.

\$100,000 **PERU & INDIANAPOLIS RAILROAD FIRST MORTGAGE SEVEN PER CENT. CONVERTIBLE BONDS**, redeemable July 1, 1864.

\$50,000 **SCIOTO AND HOCKING VALLEY RAILROAD SEVEN PER CENT. MORTGAGE CONVERTIBLE BONDS**, redeemable November 1, 1861.

\$50,000 **OHIO & PENNSYLVANIA RAILROAD INCOME CONVERTIBLE SEVEN PER CENT. BONDS**, redeemable Oct. 1, 1872.

\$50,000 **CLEVELAND, PAINESVILLE AND ASHTABULA RAILROAD SECOND MORTGAGE SEVEN PER CENT BONDS**, redeemable in 1873.

\$25,000 **BELLEFONTAINE AND INDIANA RAILROAD 1st Mortgage 7 per cent Convertible Bonds**, redeemable January, 1866.

\$25,000 **INDIANAPOLIS AND BELLEFONTAINE 7 per cent Convertible Mortgage Bonds**.

\$25,000 **DAYTON AND MICHIGAN 1st Mortgage 7 per cent Convertible Bonds**.

\$15,000 **COLUMBUS AND SHELBYVILLE 7 per cent 1st Mortgage Convertible Bonds**.

\$50,000 **BONDS OF THE COUNTY OF ALLEGHENY**, in the State of Pennsylvania, bearing 6 per cent interest, guaranteed by the Allegheny Valley Railroad Company—the taxables of this county is \$50,000,000.

\$25,000 **BONDS OF THE COUNTY OF WASHINGTON**, in the State of Pennsylvania, bearing 6 per cent interest, guaranteed by the Hempfield Railroad Company—the value of taxables is \$18,000,000.

\$25,000 **BONDS OF OHIO COUNTY IN THE STATE OF VIRGINIA**, (Wheeling is the county seat) guaranteed by the Hempfield Railroad Co. Value of taxables \$16,000,000.

\$50,000 **WASHINGTON COUNTY (Ohio) SEVEN PER CENT BONDS**, redeemable July 1, 1872.

\$50,000 **ATHENS COUNTY, (Ohio) SEVEN PER CENT BONDS** redeemable July 1, 1872.

These two last are guaranteed by the Marietta and Cincinnati Railroad Company, and made convertible into stock at the holder's option.

\$30,000 **CRAWFORD COUNTY (Ohio) SIX PER CENT BONDS**, guaranteed by the Ohio and Indiana Railroad Company, and made convertible into its stock—redeemable January 1, 1868.

\$40,000 **FAYETTE COUNTY (Kentucky), SIX PER CENT BONDS**, guaranteed by the Maysville and Lexington Railroad Company—redeemable Sept. 10, 1862.

\$50,000 **BOURBON COUNTY (Kentucky) SIX PER CENT BONDS**, guaranteed by the same, redeemable July 1, 1882.

\$25,000 **BOYLE COUNTY, (Kentucky), SIX PER CENT BONDS**, guaranteed by the Lexington and Danville Railroad Company, redeemable July 1, 1882.

\$40,000 **MASON COUNTY, (Kentucky), SIX PER CENT BONDS**, guaranteed by the Lexington and Maysville Railroad Company, convertible into Stock, redeemable July 1, 1882.

\$100,000 **BONDS OF THE CITY OF PITTSBURGH**, in the State of Pennsylvania, six per

cents, guaranteed by the Allegheny Valley Railroad Company—value of taxable, \$20,000,000.

\$50,000 **CINCINNATI SIX PER CENT BONDS** Coupons payable Jan. 1 and July 1. Principal redeemable Jan. 1, 1882.

\$25,000 **CITY OF MARIETTA (Ohio) SEVEN PER CENT BONDS**, guaranteed by the Marietta and Cincinnati Railroad Company, and made convertible into its Stock, redeemable July 1, 1872.

\$25,000 **CITY OF MADISON, (Indiana,) SIX PER CENT. BONDS**, guaranteed by the Columbus and Shelbyville railroad Company, and made convertible into its Stock, redeemable November 1, 1825.

These Bonds are for the sum of \$1,000 each, with Coupons, principal and interest, redeemable in New York, the latter in most cases 1st July and 1st January in each year.

The payment of the railroad Bonds in each case is secured by a Deed of Trust to some responsible citizen of New York, with power of sale in case of default.

The County and City Bonds are issued by virtue of special acts of the Legislature of the proper States, and by authority of the votes of the citizens of each.

The laws under which these Bonds are issued require the proper authorities to make a special levy of taxes, to be set apart exclusively to pay accruing interest, and to create a sinking fund to redeem the principal which can be enforced through the courts of law if necessary.

The debts operate in the nature of a mortgage on all the real and personal estate within the two cities or counties respectively.

The Constitution recently adopted by Ohio and Indiana prohibit absolutely the creation of any farther debt by counties or cities. This will prevent any farther issue of such Bonds.

We deem these securities good, safe and desirable investments. We recommend them to our correspondents.

Printed "Exhibits," giving detailed information in each case, can be had by applying at our office.

WINSLOW, LANIER & Co., No. 52 Wall-st.
New-York, Sept. 19. 1853.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 55 lbs. to the yard, already shipped, and expected here soon—for sale by
381r JOHN H. HICKS, 90 Beaver st.

To Railroad Companies.

COLLINS' PATENT VENTILATORS,
FOR

Ventilating all kinds of

PUBLIC AND PRIVATE BUILDINGS

Railroad Cars, Depots, etc.

The Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of for giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P. R. R., Altoona, Feb. 8, 1853.
This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.
STRICKLAND KNEASS,
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.
Messrs. BAKER & WILLIAMS,

Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,
OLIVER W. BARNES,
3rd40 Principal Assistant Engineer P. R. R. Co.

Notice to Contractors.



NORTHERN CROSS RAIL ROAD,
STATE OF ILLINOIS.

MAPS, profiles and estimates for the work necessary to the complete construction of the NORTHERN CROSS RAILROAD, will be exhibited at the office of the company in Quincy, on and after the 18th November and proposals for the work are requested from contractors.

Meanwhile, as the preliminary lines have been taced on the ground which do not vary materially from the probable location, and as the work will be let by quantities with equitable provision for changes, it is entirely practicable by visiting the ground to obtain all the most important information necessary to regulate the bids.

The route extends from Quincy on the Mississippi river, in a direction east and north to the dividing ridge between the Mississippi and Illinois rivers, thence about midway between those rivers to Galesburg, in Knox county, a distance of about 100 miles. At Galesburg it connects with other roads leading to Chicago. The country through which it passes is well settled, healthy and fertile, unsurpassed in these latter particulars on this continent, and, as it is contemplated to build a road of the first class common in the United States, the work will be of sufficient magnitude to make the execution desirable including at many place good work for the winter.

The line will be divided into sections, and proposals will be received for the construction of one or more up to the whole road, the propositions being made for the grading and masonry-bridges, ties and sills—and complete construction, (excepting depots,) all in a single contract or separately for each item.

Contracts will not be closed before the 25th November, nor sooner thereafter than to afford sufficient time to decide on the most satisfactory offer.

Specifications for the mode of construction, with maps and profiles of the preliminary lines, may always be seen at the office in Quincy.

Quincy, Illinois, September 24th. 1853.

N. BUSHNELL, President.

W. H. SIDELL, Chief Engineer.

NOTE. From the point where the line to Galesburg leaves its easterly direction to turn northerly, an extension is projected to the Illinois river. This will be about 30 miles long, terminating opposite Meredosia, where it connects with the main line of The Great Western Road, which extends from thence east through the capitals of Illinois, Indiana, Ohio, &c. The construction of this part of the line was begun as a State work about fifteen years ago, and abandoned after a large sum had been expended in the graduation. The company will be ready to negotiate for its construction as a separate work.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Watson's well known establishment at Springfield Mass., for the last six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, **HENRY SIZER, Agent,**
Cincinnati Ohio.

Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch
DAVID CHILLAS,
60 South 3rd Street.
Philadelphia.

May 1st, 1853.

ELLET

ON THE

Mississippi and Ohio Rivers.

THIS WORK contains plans for the protection of the Delta of the Mississippi from inundation, and investigations of the practicability and cost of improving the

NAVIGATION OF THE OHIO RIVER.

BY MEANS OF

RESERVOIRS;

and an appendix on the Bars at the mouths of the Mississippi, by,
CHARLES ELLET, Jr.,
Civil Engineer.

1 Vol., 8 vo., price \$3.

NOTICES OF THE PRESS.

From the Scientific American.

"We hope to see the plans of Mr. Ellet carried out. We believe them to be not only feasible, but eminently ingenious and practical." "If carried out they will be the means of benefitting all the country watered by the tributaries of the Mississippi, and that noble river itself to an amount far beyond our ability to compute at present."

From the Cincinnati Railroad Record.

"The question then arises whether the equalization of the waters can be accomplished? If so, can it be done at a moderate cost? Both these questions must be answered in the affirmative." "The demonstration of this has been made by Mr. Ellet in his book, so complete, that if the work be never done, this memoir, at least, will remain a monument to the genius and labor of its author, and to the skill of American Engineers."

From the Journal of the Franklin Institute.

"This book, which we look upon as certainly one of the most valuable contributions which has yet been made to Civil Engineering in this country, consists of two elaborate memoirs on the Mississippi and Ohio rivers."

"It will be seen that Mr. Ellet has taken the most comprehensive view possible of this subject, and has treated his work with great ability."

From Appleton's Mechanic's Magazine.

"This work contains a larger amount of facts bearing on the past, present, and probable future of the Mississippi valley, and will be intensely interesting to the general reader, in that great and growing section of our country. It investigates the causes of freshets, the reasons for their gradual and certain increase in height, as the country becomes settled and drained, and points out what is in his opinion the best and only method of effectually protecting the valuable lands on the lower Mississippi from threatened destruction, and of maintaining, to some extent, an equal flow of water in the channels of great rivers throughout the year."

From Hunt's Merchant's Magazine.

"Mr. Ellet has furnished a fund of knowledge and information in this work which must command the attention of professional readers."

"In making these surveys, Mr. Ellet has introduced a new system of civil engineering which must increase in interest as it becomes more fully developed. His views are supported by irresistible arguments and clear reasoning. His calculations are made with great care, and the diagrams illustrate his subject perfectly."

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LIPPENCOTT, GRAMBO & Co.,
Philadelphia,

And for sale by,
D. S. APPLETON & Co.,
and **G. P. PUTNAM & Co.,** } New York.
Oct. 15. 3t

N. York and N. Haven R. R.

NOTICE OF SUMMER ARRANGEMENTS.



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation to New Haven.
11.20 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation to New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk, and Bridgeport.	9.35 A. M.—Express from New Haven, stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.25 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation to New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Supt.

New Haven, May, 1853.

STATE OF NEW YORK—SECRETARY'S Office, Albany, August 13, 1853.—To the Sheriff of the County of New York.—Sir. Notice is hereby given, that at the General Election to be held in this State on the Tuesday succeeding the first Monday of November next, the following officers are to be elected, to wit:

A Secretary of State, in the place of Henry S. Randall;
A Controller, in the place of John C. Wright;
An Attorney-General, in the place of Levi S. Chatfield;

A State Engineer and Surveyor, in the place of William J. McAlpine;

A State Treasurer, in the place of Benjamin Welch, Junior;

A Canal Commissioner, in the place of John C. Mather;

A State Prison inspector, in the place of William P. Angel;

Two Judges of the Court of Appeals—one in the place of Charles H. Ruggles, and one in the place of Hiram Denio, appointed to fill the vacancy occasioned by the resignation of Freeborn G. Jewett;

A Clerk of the Court of Appeals, in the place of Charles S. Benton;

All whose terms of service will expire on the last day of December next, except that of Freeborn G. Jewett, which will expire on the last day of December 1857.

Also, a justice of the Supreme Court for the First judicial District, in the place of John W. Edmonds, whose term of office will expire on the last day of December next;

Also, four Senators for the Third, Fourth, Fifth and Sixth Senate Districts, in the places of William McMurray, Obediah Newcomb, James W. Beekman, and Edwin D. Morgan, whose terms of office will expire on the last day of December next.

COUNTY OFFICERS ALSO TO BE ELECTED FOR SAID COUNTY,

Sixteen members of Assembly;

Two Justices of the Superior Court, in the place of John Duer and Robert Emmet;

A Judge of the Court of Common Pleas, in the place of Charles P. Daly;

A District Attorney in the place of N. Bowditch Blunt.

Two Governors of the Almshouse, in the places of Richard S. Williams and Isaac Townsend;

All whose terms of office will expire on the last day of December next.

Yours, respectfully,

HENRY S. RANDALL,
Secretary of State.

The above is published pursuant to the notice of the Secretary of State and the requirements of the statute in such case made and provided.

JOHN ORSER,
Sheriff of the City and County of New York

Stuart, Serrell & Co., CIVIL ENGINEERS,

Rooms 22, 24, 26 & 27,
157 Broadway, New York.

CHARLES S. STUART,
DANIEL MARSH,

EDWARD W. SERRELL,
SAMUEL McELROY.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms.

Also, McMillen's superior WHITE ROSE, not only for Railroads, but all other purposes, and of any size or thickness required.
Aug. 10, 1853. 3m Office No. 25 Cliff street, New York.

Henry I. Ibbotson,

MANUFACTURER OF

FILES AND SAWS,

Warranted of superior quality.

Office and Warehouse, 218 Pearl st., New York.

Machinists' Tools.

A SUPERIOR CLASS,

DESIGNED particularly for Railroad work, manufactured by L. B. TING & CO., (late ALDRICH, TING & CO.)
October 7, 1853. LOWELL, Mass.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

SIMEON DRAPER, 46 Pine st., offers for sale a variety of Railroad Bonds and Stocks; also, State, City, Town and Country Bonds, among which are:

State of Pennsylvania 5 per cent. coupon Bonds, \$1,000 each, coupons payable Feb. 1 and Aug. 1, in Philadelphia, mature 1877.

State of Georgia 7 per cent. coupon Bonds, \$500 each, coupons payable Jan. 1 and July 1, in Savannah, mature 1861.

State of Wisconsin 12 per cent. coupon Script, for improvement of Fox and Wisconsin Rivers, whole issue \$75,000, coupon payable Jan. 1, in New York, mature 1862.

State of New York 5 per cent. Canal Certificates, interest payable in New York.

City of Troy, N. Y., 6 per cent. Bonds, whole issue \$500,000, Bonds \$1,000 each, coupons payable Jan. 1 and July 1, in New York, mature 1867 and 1872.

City of Newburg 6 per cent. Bonds, whole issue \$100,000 coupons payable March 1 and Sept. 1, in New York, mature 1873.

City of Racine, Wis., 7 per cent. Bonds, whole issue \$300,000 bonds. \$500 and \$1,000 each, guaranteed by the R. J. and Mississippi Railroad, and convertible into its stock, coupons payable Jan 1 and July 1, in New York mature 1872.

First Mortgage Convertible 7 per cent. Bonds of the Buffalo, Corning and New York Railroad, whole issue \$550,000, coupons payable in New York, April 1 and Oct. 1, mature 1867.

First Mortgage Convertible 7 per cent. Bonds of the Western Vermont Railroad, whole issue \$400,000. coupons payable in New York Jan 1 and July 1, mature 1861-71.

First Mortgage Convertible 7 per cent. Bonds of the Columbus, Piqua and Indiana Railroad, whole issue of \$600,000, coupons payable in New York Jan. 1 and July 1, mature 1862.

First Mortgage Convertible 7 per cent. Bonds of the Mississippi and Rock River Junction, whole issue \$400,000, coupons payable in New York Jan 1 and July 1, 1863.

First Mortgage Convertible 8 per cent. Bonds of the Milwaukee and Mississippi Railroad, whole issue \$600,000, coupons payable in New York Jan. 1 and July 1, 1862.

First Mortgage 7 per cent. Bonds, Corning and Blossburg Railroad, whole issue \$150,000, coupons payable in New York May 1 and Nov. 1. mature 1873.

First Mortgage 7 per cent. Bonds, Toledo, Nowalk and Cleveland, whole issue \$525,000 coupons payable in New York Feb. 1 and Aug. 1, mature 1863.

First Mortgage 7 per cent. Bonds, Mansfield and Sandusky, whole issue \$730,000, coupons payable in New York Jan. 1 and July 1, mature 1860.

First Mortgage 7 per cent. Bonds Vermont Valley, whole issue \$386,000, coupons payable in New York April 1, Oct. 1, mature 1861.

First Mortgage 7 per cent. Bonds Troy and Bennington Railroad whole issue \$100,000 coupons payable in Troy, New York Jan. 1 and July 1, mature 1862.

First Mortgage 7 per cent. Bonds New Jersey Central Railroad, whole issue \$1,500,000, coupons payable in New York Feb. 1 and Aug. 1. mature 1860-70.

First Mortgage 7 per cent. Bonds, Brunswick Canal Co., whole issue \$200,000, coupons payable in New York Jan. 1, July 1, mature 1857.

Also, Second Mortgage Bonds of many of the above Companies, and 7 per cent Bonds, Saratoga and Washington Railroad, whole issue \$340,000, coupons payable in New York, mature 1862.

7 per cent Bonds Troy and Boston, whole issue \$300,000 coupons payable in New York April 1 and Oct. 1, mature 1864.

10 per cent. Bonds Mansfield and Sandusky Railroad Co., whole issue \$170,000, coupons payable in New York April 1 and Oct. 1, mature 1855-57.

7 per cent. Mortgage Bonds of the Atlantic Steamship Co., whole issue \$700,000, coupons payable in New York, mature 1855.

8 per cent. Convertible Bonds of the Michigan Central Railroad Co., whole issue \$2,459,500, coupons payable in New York April 1 and Oct. 1, mature 1860.

TYRES.

LOCOMOTIVE AND CAR WHEEL TYRES, from the Manufactory of the celebrated and well known Iron Works of the LOW MOOR CO., in England, are furnished by the subscriber, Agent, by direct importations, ready Welded, Blocked, and Rolled, from only ONE BAR and with only ONE WELD, at a cost much below that of any other stamp.

Importations through the last year of nearly 3000 Single-welded Tyres, which are now found running on the important Railways, have rendered them in almost exclusive use, and their performance of over 20,000 miles each, have elicited the highest recommendations of their superiority.

All work of this Company is warranted to give satisfaction. Sample Tyres may be seen at the Crystal Palace, New York, and at my Warehouse, 9 Liberty Square, Boston.

W. BAILEY LANG,
24 BROADWAY, N. Y.
9 LIBERTY SQUARE, BOSTON.

New Works on Civil Engineering.

THE Field Practice of laying out Circular Curves for Railroads.—By JOHN C. TRAUTWINE, Civil Engineer—2nd edition in pocket-book form.

A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates.

Price One Dollar each—postage on the Curves Three Cents—and on the Excavations and Embankments, Six Cents.

For sale by WILLIAM HAMILTON,
Hall of the Franklin Institute,
Philadelphia.

May 4, 1853.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.
Jan. 20, 1849

Railroad Iron.

THE undersigned being appointed Agent to Messrs. Guest & Co., the proprietors of the Downie Iron Works, near Cardiff, South Wales, is duly authorized to contract for the sale of G L Rails on the most advantageous terms.

April 22, 1852.

RICHARD MAKIN,
24 Broadway.

Notice to Contractors.

ALLEGHANY VALLEY RAILROAD LETTING.

SEALED PROPOSALS will be received at the subscribers office, in Kittanning, Armstrong county, Pa., until sunset of Tuesday, Oct. 18, for doing the Grading and Masonry between Kittanning and the mouth of Mahoning, 10 miles, and grading, masonry and tunnelling on all the heavy jobs between the mouth of Mahoning and Brookville, 35 miles. This division embraces all the tunneling on the line.

Proposals will also be received for the delivery of cross ties on the line between Pittsburgh and the mouth of Mahoning, 55 miles. The cross ties to be 9 feet long, 7 by 8 inches, of white oak, red beech, chestnut or other approved lumber.

Proposals may be left at the office of the subscribers, in the city of Pittsburgh, Water street, above Market, until Monday, the 17th of October.

The work on the line will be ready for examination on and after Saturday, Oct. 8, at which time the plans and specifications may be seen at the office in Kittanning. For further information application may be made to Franklin Wright, Principal Assistant Engineer, Kittanning; to W. Milnor Roberts, Chief Engineer; George R. Eichbaum, Associate Engineer, Pittsburgh; Hon. William F. Johnston, president, or to the subscribers, CHAMBERLAINS, LEECH & Co.

Notice to Contractors.

OGDENSBURGH, CLAYTON AND ROME RAILROAD.

THE OGDENSBURGH, CLAYTON & ROME RAILROAD COMPANY will receive proposals at their Office in the Village of Rome, until the 24th day of October next, for the construction of their railroad from Rome to Ogdensburg, to be completed as follows:

The Road between Rome and Boonville by the 1st day of August next. Between Boonville and Denmark by the 1st day of October, 1854. Between Denmark and Philadelphia by the 1st day of May 1855. Between Philadelphia and Ogdensburg by the 1st of November, 1855.

The proposals will be received for the construction of the whole Road, including Lumber Ties and all other materials, with or without the Rails, in one contract, or in short sections, at the option of contractors, or offers will be received for furnishing the Lumber, Ties, and other materials separately, either for the whole Road or for sections.

The Maps, Profiles and Plans of the Road, together with specifications of the work and materials will be ready for the inspection of Contractors at the office, on or before the 10th day of October and Engineers will then be ready to show the line of the Road to persons desirous to contract.

By Order of the Executive Committee,
HENRY A. FOSTER, President.

R. S. DOTY, Secretary.
Sept. 12, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH.

They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 43.]

SATURDAY, OCTOBER 22, 1853.

[WHOLE No. 914, VOL. XXVI.

The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, October 22, 1853.

Editorial Correspondence of the Railroad Journal.

BUFFALO, Oct. 19, 1853.

I avail myself of an evening's leisure to note down a few observations made up to this point, on this my first visit to the west.

Leaving New York by the six o'clock Hudson River express train, we reached Buffalo at half past eight this evening, by way of the Central line; the whole distance travelled being 444 miles. At this rate of speed the landscape, and the various villages and cities on the route, dashed past us with such velocity and appeared and disappeared in such rapid succession, that we could scarcely get a distinct idea of one scene before it was displaced by a view of another. We will not therefore attempt any description of a route which is so generally familiar, but instead, will present some facts in reference to its business capabilities, the relation it bears to the convenient direction of the commerce and travel of the whole country, together with a statement of the present financial condition of the Consolidated line, and an estimate of its probable future income, matters of much more

importance to our readers, than any account of what appears to the traveller passing over it.

The artificial works, connecting the great lakes with tide water at Albany, afford the best illustration the world has yet seen of the influence of such works in developing and changing the route of commerce and travel. No longer ago than 1820, the cost of transporting a ton of freight over the route which we passed to-day, of which enough is still left to write this letter, was \$100, and the time required twenty days, as was stated by the legislature of this state, to whom was referred the subject of constructing the Erie canal! About 10 days were required for a journey upon the same route by the ordinary mode of conveyance.

The slow and expensive movement over this route, of course rendered it impracticable one both for persons and property. A few emigrants to the west passed over it, but the feeble commerce that at that time existed between the eastern and western states, took the route of the Cumberland road, or that through Central Pennsylvania, and was carried entirely upon horse-wagons. At that time the principal outlet of the west was the Mississippi river, which also served as the channel through which the same section received its supplies of imported merchandise.

This state of things existed till 1825, when the Erie canal was opened. This work reduced the cost of transportation from Buffalo to New York, from \$100 to \$5 per ton! The canal immediately became the route of travel as well as commerce, and for the former was regarded as a greater improvement upon the previous mode, than the change from the canal to the railroad! The effect produced was magical. It was like cutting away the barrier that separates the great lakes from the Hudson, and allowing their vast expanse of waters to rush into that river. The Erie canal immediately became the convenient outlet for the GREAT VALLEY. The volume of trade and travel between the cities of Baltimore and Philadelphia, and the west, grew less and less, and soon sunk into comparative insignificance, till it was restored to somewhat its former size by the construction of railroads and canals upon its old routes. New York which up to this time was behind Philadelphia in population, and in the amount of its inter-

nal commerce, immediately took the prominent rank among all our cities, and advanced with strides which have placed her vastly in advance of all her rivals. This superiority is entirely due to the railroads and canals connecting her with the west.

Of course all this could not have been effected without a remarkable adaptation of the route to the results. The great Appalachian chain which divides the Atlantic slope from the great basin of the Mississippi, is unbroken, save in the state of New York. The long level of 70 miles on the Erie canal, and which may be regarded as the summit on this work, is one hundred feet lower than Lake Erie. This summit corresponds to the "crest of the Alleghanies," on other routes. With some additional expense the waters of Lake Erie might have been introduced into the Hudson. As it is, the canal is fed for more than one half its length from this source. It is a remarkable fact that the summit between the lakes and the Hudson is fed by waters flowing into the former, while the summit on the Champlain canal is fed from the Hudson river. This river penetrates completely what may be termed the great Coast range of mountains, so that no barrier whatever, is interposed between it and the basin of the UPPER LAKES except the natural elevation of the country. Toward the seaboard, the descent may be made uniformly downward. On the north, Lake Champlain is elevated only eighty-seven feet above tide water, and the summit in the Champlain canal is only 147 feet above; so that a dam of this height at the Highlands, would throw the Hudson, which is the great source of the prosperity of New York into the St. Lawrence!

We refer to these topographical facts by way of illustrating the value of the route occupied by the Erie canal, and the Central and Hudson River railroads. It is the key to the commerce of the country. The Baltimore and Ohio railroad gains its western terminus in the Ohio by crossing the Alleghanies at an elevation of 2,620 feet above tide water. The corresponding summit on the Pennsylvania railroad is about 2000 above. The highest point on the Erie railroad is about 1600 feet above New York Harbor. These roads have their peculiar advantages, which may compensate to a considerable extent, for their more abrupt gra-

Brought up.....\$8,885,000
 Premiums unconvertible debt. 1,888,823
 Total indebtedness.....\$10,773,823
 Stock and convertible bonds..... 23,085,600

Total actual and estimated cost of the road.....\$33,859,423

While the route occupied by the Central line is so favorable, it is equally fortunate in being protected by the natural configuration of the country from rival works. Upon each side of the cleft or chasm in the Alleghany range, occupied by the above line, the country rises so rapidly as to render the construction of any competing or rival roads, nearly, if not quite, impracticable. An elevation of many hundred feet is gained within a few miles after leaving the Mohawk on either side. Such rival roads too, would, instead of following up the water courses, cross them at right angles, involving a heavy expenditure, with bad alignment and heavy grades, disadvantages altogether too serious to allow the idea of maintaining a successful competition.

The amount of travel upon the railroads occupying the above route will compare well with the tonnage both of the railways and the canal. The total number of passengers carried upon the roads in 1852 was 2,622,672.

There is no route in the United States that can show an equal movement of persons, either in the aggregate or in proportion to the mileage. The Hudson River road may in time eclipse it. The former however, has some decided advantages over the latter, in being entirely removed from competition of all kinds. It is lined too, with a succession of cities and large villages, the product of the railroad and the canal. No other portion of the state has so dense a population, engaged in such a variety of pursuits, or, which is making such rapid progress in every department of industry.

The cheap cost at which the roads from Albany to Buffalo have always been managed, is mainly owing to the fact that they were chiefly owned by parties living upon their line, and from whom the majority of directors have always been taken. Those having charge of them were directly interested in their success, and conducted their roads as they would their own private affairs. A proper responsibility, and the most rigid economy, has uniformly characterized their management. Here is the secret of the great success of the above roads, and of the high rates of dividends that have always been paid. The stockholders under the consolidation, have shown their wisdom in confiding the future management of their road to persons residing upon its line. We hope they will never depart from this wholesome rule.

We see no cause why the future earnings of the consolidated road, should not fully equal the earnings of the several lines, in proportion to their actual cost. The premiums recently paid to the stockholders of above \$8,000,000, remains a burden upon the earnings of the road. The result so far tends to prove, that though the cost of the consolidated line is nearly double the cost of that of the roads from Albany to Buffalo, the receipts of the former are equally in excess. Estimating them to average \$500,000 per month, which will probably be below the mark, the aggregate for the year will be \$6,000,000. The expenses will not exceed 33 per cent. of the receipts, which would leave \$4,000,000,

for interest and dividends, or over 12 per cent. upon the whole cost. We see no reason why dividends of at least 10 per cent. per annum may not be earned and paid for many years to come.

Such is a brief account of the route which we have passed over to-day, and of the artificial works constructed upon it, and some of the results they have achieved. It will be difficult to find their parallels. However, we shall start in the morning for the purpose of seeing what the West can show.

New Works.

We have received from George Taylor, Esq., agent of the house of Blackie & Son, 117 Fulton street, New York, the 18th and 19th numbers of Daniel Kinnear Clark's valuable work on Railway Machinery. This is the great work of the day upon the Locomotive, exceeding in the extent of investigation and illustration any thing ever before published upon the subject. The engraving and typography of the work are in keeping with its character as the first and best work of its kind.

These two numbers are occupied with descriptions of the details of construction of the locomotive, such as the workshop mechanic finds of service in arranging and fitting his work. The 18th number contains a section of one of Sharp's Locomotives of recent construction, showing what capacity of engine may be had with a common gauge of track. As this may prove of interest to those who lament the "incapacity" of the narrow gauge we will give a short account of this engine.

It is inside connected, having 18 inch cylinders, 24 inch stroke and 6 coupled drivers of 5 feet diameter. The cylinders are inclined, so that the cross heads work over the forward driving axle, the valve faces being underneath the cylinders. The Link motion is of course employed, it being universally used, so far as we know, in England. The boiler is 3 feet 8 $\frac{3}{4}$ inches in diameter and contains 133 tubes, 2 $\frac{1}{2}$ inches outside diameter and 14 feet 3 $\frac{1}{4}$ inches long. The furnace is 3 feet 8 inches long, 3 feet 3 inches wide, and 4 feet 7 $\frac{1}{2}$ inches deep and has a 4 inch diaphragm or water bridge across its width. The cylinders are 2 feet 3 inches between centers. The frame is set edgewise, is 1 inch thick and 9 $\frac{3}{4}$ inches deep. The length of wheel base is 12 feet 2 inches, all the wheels having flanges.

This engine is of equal power to the heaviest standard class of freight engine on the New York and Erie road.

The 19th number contains an elevation of a passenger engine by Messrs. Kitson, Thompson & Hewitson of Leeds, having four, coupled, flanged drivers of 6 feet diameter, placed 7 feet 6 inches between centers. The leading wheels are 4 feet 6 inches diam. and the length of outer firebox 5 feet 4 inches. Many of the recent English passenger engines have coupled flanged drivers.

The plans of carriages, drop tables, &c. in these numbers are full and interesting.

The 5th number of the "Engineer's and Machinist's Drawing Book", published also by Blackie & Son, has been received. This is a very interesting number, containing five steel plates of examples of finished shading, penetration of solids, projection of screws, details of steam engines, &c. &c.; the text being devoted to the drawing of elementary forms, the elements of architecture and the drawing of machinery by geometrical pro-

jection. This work is very full and accurate in its teachings and is profusely and superbly illustrated, being got up in a style corresponding with "Clark's Railway Machinery". It will be completed in about 14 parts at 50 cents each and will make a beautiful volume when bound.

Flanged and Coupled Driving Wheels.

The Superintendent of motive power of the New York and Erie Railroad, at an early day, made a general application of flanges to all the driving wheels of the engines under his charge, and the practice has been continued in all subsequent additions made to the engine stock of the road. The common practice of putting plain tires on the forward drivers is generally made to provide for the lateral play which the tires take upon the rails on curves, a provision which would seem to be especially necessary for the Erie road, having an unusual width of track and curves of the minimum radius allowed on first class roads. But as the practice commenced when railroads generally were built with much sharper curves than now, there is, perhaps, less necessity for its continuance. The principle has been carried out with success in the following extreme cases upon the Erie road. Eighteen engines out of their equipment are of the extreme length of 20 feet 11 inches from the center of back drivers to center of truck pintal, or 22 feet 9 inches between the centers of the extreme wheels. There are three pairs of drivers, the extreme pairs being 11 feet apart. All the ten wheels of the engine have flanges with the usual allowance of $\frac{5}{16}$ th inch from the rails, while there was not, while new, any mentionable "play" in the journals or driving boxes. These engines are of thirty tons weight, and are running daily through curves of 950 feet radius in a six feet track. This would seem to be a pretty good test, yet no extreme wear takes place upon the tires in consequence of it, and it is therefore believed that the wear upon the track is not appreciably increased thereby. The use of additional flanges relieves the back pair and distributes the wear among all. The advantages obtained by this practice are found to be

First: The wear upon the tires and flanges is equalized, and the wheels, consequently, preserve their equality of size much better, a consideration of great importance in the case of engines having a large number of coupled drivers carrying a great weight.

Second: There is less danger of the tires stretching and working loose, a difficulty to which plain wrought iron tires, carrying a great weight and driven by large cylinders, are very liable. In the case of a few heavy, eight wheel engines upon this road, where the forward tires had been left plain, this difficulty was found to be great, and flanged tires were afterwards substituted, with an improvement in this respect. The flange strengthens the tire.

Third: There is more adhesion to a flanged tire from the additional bearing afforded by the flange.

Fourth: Engines having all their tires flanged are found to run steadier.

The great improvement in our more recent railroads, in the respect of easier curves, makes the practice of using coupled wheels more generally applicable, while the increased business done and heavier engines used, makes it almost indispensable so as to secure sufficient adhesion without

placing too much weight on a single point. There are engines now on the Erie road, and others of a similar distribution of weight are building, which have $5\frac{1}{2}$ tons on each driver! The weight of an eight wheel car, loaded in this manner, would be forty-four tons! and we believe very few railroad men would admit the propriety of running trains of such a class. The great weight which is allowed to concentrate at one point would be divided upon two but for the fear of using coupled drivers. It is with this view that we advocate particularly the superior adaptation of the chilled tire, by which the great objection to coupled wheels, viz. unequal wear and tendency to take unequal diameters, will be removed. The resistance which the *chill* affords against this wear makes the objection, in cases of six or eight coupled wheels, of much less importance than formerly, and one which ought to be sacrificed to the great necessity (growing more and more important every season,) of a proper and economical distribution of weight. The chilled tire affords the true remedy, and if the effects on the track are not to be considered, it will still relieve the engine from the great expense of maintaining wrought iron tires under the wear imposed by such heavy burdens.

Cincinnati, Hamilton and Dayton Company Sale of Bonds.

The reader's attention is directed to the advertisement of the Cincinnati, Hamilton and Dayton Railway Company, offering for sale their 7 per cent bonds, having over 25 years to run. The object of the Company is to raise funds to complete the second track now in the course of construction, and required to accommodate the large and increasing business on their road. Two years have elapsed since this road was opened, and the earnings foot up as follows:

For the year ending 30th Sept. 1852	\$241,426 46
Do do do 1853	402,154 43

Increase (over 66 per cent.)..... \$160,728 01

The prospect is, that the increase for the present year over that just closed, will equal that over the year preceding.

The capital stock paid in cash, at par, is.....	\$2,100,000
Its outstanding unconvertible bonds am't to.....	500,000
Its reserved fund (the 1st Aug. 1853) am't to,.....	52,829 15
	\$2,652,829 15

The disbursements of the Company for the property now held, are—

For Construction Account.....	\$2,044,423 96
For Equipment.....	281,146 04
For Real Estate.....	234,083 04

\$2,659,653 04

The Cincinnati Gazette of Oct. 11th says of this road:

The country through which this road passes is not surpassed in the West for fertility of soil, extent of water power, or density of population. The running connections made with other lines north and west, secure to the Cincinnati, Hamilton and Dayton road the traffic of equally fertile countries in the north and in Indiana, with their natural and accustomed market in Cincinnati. In addition this road has a large *through* business with the East. With these elements of large and constantly increasing business, it is evident that a second track

will be necessary for its accommodation as soon as it can be completed. The true interest of the stockholders in the road, therefore, require the loan to be made. The only remaining enquiries which address themselves to capitalists, are—Will an investment in these bonds be a safe one? Will it be profitable?

In relation to the first question, it may be regarded as useless to add anything to what is said above. The road is well built, and in most excellent condition, and can be kept so at a little comparative cost. The grades on it are very low, and the proportion of straight line is so large that there can be no doubt the business on it can be done with as little expense of motive power and money, as on any other road in the country. The financial condition of the company is good, its machinery is good and new, and the real estate held by it is steadily increasing in value. Add to these the certain *present* and *prospective* advantages of the road and there can be no doubt whatever, that investments in their bonds will be safe. The half yearly interest will be promptly met, and the principal be *certainly* paid at the maturity of the bonds.

As to the *profit*. The capitalists will look to the rate of half yearly interest, and the time the bonds have to run. The interest is 7 per cent., payable half yearly, and the bonds have more than twenty-five years to run. Such securities should command, and where known, will command a high premium from persons who seek investments of a permanent character, to secure a *certain income*. The interest is as high as first class stocks pay.

Increased Value of Land on the Hannibal & St. Joseph Railroad.

James M. Bucklin, Chief engineer of this road, has estimated the value of the lands, owned by the company by right of the grant made by the State of Missouri, and has addressed a letter to the president of the Hannibal and St. Joseph railroad containing the result. The estimates are given for the value of the lands upon the completion of the road, and are based upon the present value of lands of similar quality situated within similar distances of such facilities of transportation as are afforded by the Missouri and Mississippi rivers, facilities which, considering the difficulties of approaching these rivers through the bottom lands, and the uncertainty of the navigation, are evidently inferior to those which the proposed railroad will give. The engineer has also ascertained that the improved lands held in private ownership on the line of the road can be had for less than \$12 per acre, while all entered unimproved lands are valued at \$4 per acre.

The estimates show an average valuation of the 800,000 acres at \$10 per acre as follows:

1. Lands of special value as coal fields quarries, minerals, etc., or from proximity to towns; 100,000 acres at \$20.....\$2,000,000
2. Superior agricultural qualities and locations, 150,000 acres at \$15..... 2,250,000
3. Good agricultural qualities, 250,000 acres at \$10 per acre..... 2,500,000
4. Low agricultural qualities, 200,000 acres at \$5 per acre..... 1,000,000
5. Inferior lands, 100,000 acres at \$2-50 per acre..... 250,000

Aggregate valuation of 800,000 acres..\$8,000,000

Some of the considerations which have influenced Mr. Bucklin's estimate in comparing the value of these lands, within fifteen miles of the

railroad, with others within equal distance of the great rivers, are their superior location on the score of health, and that the railroad depots, to be located generally on the ridges between the streams crossed by the road, will be easier reached, as there are facilities for building good roads to them to be passable at all seasons with heavy loads.

From personal examination Mr. Bucklin has found these lands to be of a very fertile character, comprising hemp and tobacco lands of superior productiveness. Coal from the North Missouri mines, contiguous to the route, has also been found in large quantities, and is pronounced by Mr. Bucklin to be fully equal to the best specimens from the Pittsburgh mines.

Manufacture of Locomotives in the West.

Our numbers of the Journal of the 30th July and 27th August last, contained lengthy articles upon the above subject, wherein we took the ground that the proper seat for such manufactures, where carried on for the purpose of supplying the western market, was at the West. Those articles were written upon our own convictions of the facilities possessed by the large western towns for carrying on this business, and of the ample patronage which their productions would command. We had never visited personally, the ground of whose advantages we were so confident. Since then, however, we have been enabled to visit most of the points which we had indicated as eligible for commencing locomotive building, and our opinions have been fully confirmed by what we have seen.

We gave our remarks especial reference to Detroit, as we were well convinced of the access to the materials which is afforded by her position, the extent and certainty of her market, and quite as much from having been assured that some of her most enterprising men were anxious for the commencement of such an enterprise, and were ready and willing to assist in its prosecution. The character of the work which they proposed, it being of the largest class, gave it additional importance in our estimation, and led us to look upon it, not as an ordinary enterprise of its kind, but as an extensive work, such as would effect important changes in the supply of equipments for Western roads, and prove alike profitable to its proprietors and advantageous to Detroit generally. It embraced all the details involved in the manufacture of Engines, from the conversion of the ore to the completely finished locomotive, contemplating a permanent investment of upwards of half a million of dollars.

Our visit to Detroit convinced us, that if capital for the complete development of this enterprise could not be at once commanded, it was still certain that the best use would be made of the available means in reach, and we found the nucleus of the proposed works already established and active measures in progress for the ultimate completion of all the important features of the plan.

This enterprise has been presented to, and promptly acted upon by active business men in Detroit, by reason of the general dependence of Western roads upon Eastern manufactures, and more directly by encouragements from long and important roads in their immediate vicinity. The Michigan Central Railroad, now operating nearly 300 miles, is insufficiently stocked with motive power, much of which is besides of an inferior

class. The Oakland and Ottawa road will require an equipment of rolling stock and motive power of one million dollars value, and the patronage which this company would give to an establishment located in Detroit, at the principal terminus of their road, and in fact beside their very track, would be measured only by the extent of this want and of the ability of such a work to supply it. The large number of roads in the States of Indiana, Illinois, and Wisconsin, which will require first equipments, and subsequent additions of Engines, are in direct communication with Detroit by roads of their own gauge, an important fact in the transportation of locomotives. The roads in the Canadas would find Detroit also, a most convenient and accessible source of supply for engines, and a large part of the unsupplied equipments for the Great Western line, we have reason to believe, could be immediately secured there. These lines are generally willing to pay the price of Eastern engines with expense of transportation added, the ordinary cost of transportation being assumed, which is sufficient for the protection of the Western manufacturer, while the saving to these roads in special cases of high freights and insurance, would add to the inducement for them to give their patronage near their own lines.

The materials to be used will be of the most superior quality, and will be ultimately furnished at a lower cost than materials of equal quality can be furnished at any point in the East. The Lake Superior Iron, which has become generally noted throughout the country for its extraordinary purity, ductility and cohesion, is here reached by the shortest means of communication. There is no iron in the world so well adapted to the important purposes of locomotive construction, and none which would afford so powerful a recommendation to the parties using it. This iron will afford a large profit to the manufacturers when sold in Detroit at \$60 a ton. The forgings from this iron would ultimately be made in Detroit, while there is already a forge at Cleveland, ample to supply a shop doing a moderate business, and until a large and established manufacture would support a larger establishment upon the spot.

The best copper, rolled into sheets, will be supplied in the city at a less cost than to Eastern works, the erection of the necessary buildings and machinery being decided upon by the Waterbury and Detroit copper company.

The skill necessary for constructing engines of superior design and workmanship, it is well settled, can be immediately brought on to the ground. The present shops of the Michigan Central company and of other parties in Detroit, attract a large number of mechanics from the East, and others have expressed themselves willing to go there upon moderate inducements. Able and experienced engineers and designers, upon whose services much of the reputation of such works must necessarily depend, have been engaged, and it is confidently expected that engines of a class superior to much of the Eastern work, will be produced in Detroit at a cost which will leave a very profitable margin within the prices offered by neighboring roads.

The estimates for the cost of locomotives built at Detroit have been so fully given that it is not necessary here to repeat them, and it is sufficient to remark that the direct outlay for labor and ma-

terials will not exceed the cost assumed in our number of August 27th, which was \$6800 each. The prices of materials will not exceed \$3800, as has been determined by actual offers of parties supplying iron, copper, castings, tires, tubes, etc., while \$3000 is generally admitted to be a large allowance for labor, being 20 per cent. more than is paid by most Eastern establishments for engines of the class and capacity assumed in our estimates. For this description of engine from \$8500 to \$9000 is readily paid by western railroads, from which after deducting all expenses of carrying on an establishment, and delivering and starting locomotive, a profit of \$1500 is left upon each engine, which upon the capacity of capital and machinery of \$300,000 value would be fully \$100,000 per annum.

The works projected and in progress have been undertaken chiefly by O. M. Hyde Esq., of Detroit, and are described as follows in a recent number of the Detroit Tribune:

We have stated that Mr. Hyde already has a new and substantial machine shop 100 by 50 feet in addition to his old foundry. We have also stated, that he has determined to make some very extensive additions to his present buildings. The plans of such buildings have been shown us, and the contract has been made for the work, which is to be commenced immediately, or has been commenced, and which is to be completed in the least possible time. These additions are to consist of an extension of the main building on Atwater street, 125 feet long by 50 feet wide, making with the present shops a front of 225 feet by 50 on Atwater street, a wing on one end running back to Pine street 200 feet by 50 feet and thence an extension of the same wing along Pine street of 110 by 75 feet, and from the other end of the main building also running back to Pine street, another wing 50 feet by 200 feet, leaving a large square in the centre for storage, &c., and for a branch of the Oakland & Ottawa Railroad which is to run through the building to those in front of it on the river.

These extensive additions, all of which are to be three stories high, are intended solely for the manufacture of locomotive engines, and from the capacity of the building, taken in connection with those he now has, our readers will see that the plan is on the most enlarged scale, extending in length 735 feet, and the whole covering 39,500 feet of ground. These three wings, as we have seen, are to be erected this season. But these are only a portion of the plan, Mr. Hyde has in view. They are preparing to erect another building in front of those we have described above, between Atwater street and the river, 75 by 250 feet, designed for a forge and rolling mill. Here will be made the iron, exclusively from Lake Superior ore, required for their locomotives, their steam engines and other machinery. They are also preparing to commence on a large scale, the copper-smith, the tin and sheet iron business, and a brass foundry.

When these enterprises are carried into successful execution, as they will be as early in the next season as it is possible for them to be completed, they will require and employ a capital of over \$500,000 will furnish employment for 500 men the year round, and use annually 1800 tons of pig and 500 tons of wrought iron. This, of course, is but an imperfect estimate of the extent of the operations contemplated by Mr. Hyde, but it approximates the truth, and will serve to show our citizens that the most enlarged and liberal measures have been commenced for making Detroit a great iron manufacturing mart, and for securing to our city and state some of the very important advantages they possess in the inexhaustible mines of iron and copper ore of the Lake Superior country.

Our reasons for especial attention to Detroit as a point for the manufacture of railroad machinery are her superior facilities and market, and still,

more that more has been done toward establishing this business there than elsewhere. It is aimed to establish a great work there, such as shall fix a reputation for itself throughout the west; and no other place can necessarily be injured thereby as the demand for railroad machinery in the west will not be met by any probable present investments for a number of years. For similar reasons we should urge Chicago as another point for the commencement of a great enterprise, were we but assured that any of her active men would second our efforts.

Sinking Piers by the Pneumatic Process.

A correspondent of the Wilmington (N. C.) Commercial gives an account of the manner of sinking the piers for the bridge of the Wilmington and Manchester Railroad across the Great Pee Dee River. The engineer of the road is Mr. L. T. Flemming, and this work has been so far successfully carried forward under his direction.

The locality where the bridge was to be built presented many difficulties that would have rendered its being built, by the method long adopted, very insecure. It was determined to give a trial to a novel method that had proved successful in Europe, in all similar cases, to the locality of the one contemplated on the Pee Dee.

The difficulties to be met with were a shifting bottom, a rapid current, and freshets rising twenty feet in a few hours, and their consequences.

The new method adopted of constructing piers for the support of the railroad was that of sinking hollow iron cylinders, made up of sections of nine feet long, six feet in diameter, and one inch thick, with proper internal flanges fastened by screws.

The power to be used and contemplated by the patent in order to force the cylinders down, was the pressure of the atmosphere on the closed head of the cylinder, after a vacuum was produced in it, by means of exhausting pumps moved by a small steam engine.

This plan does very well as long as the cylinder has to pass simply through beds of mud, clay, drift of sand and gravel and the like; but if it meets with a solid obstacle, such as logs, large stones, and the like, the edge of the cylinder not being able to cut them, as it does the sand, it comes to a stand still, though it has not as yet arrived to the solid stratum that has been previously ascertained to exist by boring, and on which the cylinder is ultimately to rest.

Such obstacles presented themselves in the way of the very first cylinder that was attempted to be forced down. It was therefore necessary to go down to the bottom of the cylinder and to remove the obstructions, of whatever nature they might prove to be. To do this, it was necessary to empty the cylinder of its contents of water, mud, sand, &c.

It was soon found that they could not proceed much lower than the surface of the water of the river outside, without being inundated inside by the pressure of water of the river forcing the water through the bed of the river under, and thence into the cylinder.

In order to be able to proceed further down in the removal of the obstacles, it was indispensably necessary to oppose this force and stop the leakage.

The principle of the patent, of course, could not avail, for the greater the vacuum inside, the greater was the rush of water into the cylinder.

The talented and ingenious engineer of the railroad, L. T. Flemming, soon saw that unless he employed a power diametrically opposed to the one already used, that he would be completely foiled in the undertaking. He therefore, reversed the whole action of his machinery, and by forcing air into the cylinder, equal to twenty pounds, or less, to the square inch, he forced the water out

of the cylinder, and afterwards, with less pressure, continued to keep the cylinder perfectly dry—enabling men to stand on the bottom, and remove every obstacle in the way.

In this indispensable condition of affairs, the laborers within the cylinder are all the time under a pressure of ten to fifteen pounds to the square inch, as indicated by a mercury gauge.—This state of pressure on the tympanum of the ear, and surface of the eyes, causes some pain; but a bearable one under a pressure of twelve or fifteen pounds to the square inch; for, I went myself, in the cylinder, under these circumstances, and experienced no inconvenience for the space of two hours that I remained in it.

By this time, the third cylinder is fairly and solidly resting on firm foundation, completing the western pier. There are four more cylinders to form the eastern pier, and the great difficulty of establishing this bridge will be over: for the mere filling the cylinders with concrete, hydraulic cement, and stones, presents no difficulty, and the wood work of the platform, &c. &c. presents still less.

Hartford and New Haven Railroad.

We have the eighteenth annual report of the Directors of this company which gives the following statement of its operations for the year ending August 31, 1853.

The income of the Company for year ending August 31st, 1853, is as follows:

From Passengers....	\$405,173 38
" Freight.....	200,154 35
" Rents, Steamboats, Mails and Expresses	34,201 25
	<hr/>
	\$639,528 98
The expenditure for the same period for operating and repairs of road, repairs of equipment and incidental expenses, is.....	\$304,180 16
Interest paid on Loans and Bonds.....	41,079 62
	<hr/>
	\$294,269 20
Receipts for Passengers & Freight, 1853.....	\$605,327 73
Receipts for Passengers & Freight, 1852.....	568,930 19
	<hr/>
	\$36,397 54

The whole number of passengers conveyed on the road during the year, is 510,539.

The number of miles run by Freight and Passenger Trains, is 282,394: by Gravel and Wood Trains, 30,555; making a total of 312,949 miles.

The receipts for the past year show a large and gratifying increase, notwithstanding the extremely low fares which prevailed for more than half the year upon the three principal steamboat lines between Boston and New York.

The income from freight exhibits a large gain over former years, and shows that this road possesses a constantly increasing business in that department and which is to a great extent independent of competition from any source whatever.

A double track will be completed upon the entire line between New Haven and Springfield by the first of December next. This has been rendered indispensably necessary by the constantly increasing business of the road, and will tend materially to its accommodation. The line will then be fully equal to any in the country in its facilities for transacting an extensive and continually expanding traffic, with safety, regularity and dispatch.

The issue of 800 Bonds of \$1000 each, authorized at the last annual meeting, for the purpose of constructing a double track, has been partially disposed of upon satisfactory terms. A mortgage upon the road for \$1,000,000 has been executed, and the Directors recommend the further issue of

\$200,000, which, together with the amount already authorized by a vote of the stockholders, will be sufficient to complete the double track and pay off all the Loans, and also the outstanding Bonds of the Company due in February next. The whole cost of the road and equipment, with its double track complete, will then be represented by \$2,350,000 of Capital Stock, and a funded debt consisting of \$1,000,000 six per cent. Bonds, having twenty years to run, secured by a first and only mortgage upon the road.

The Directors chosen at the stockholder's meeting 14th Sept., 1853 were as follows:

Charles F. Pond, Charles Boswell, Hartford, Conn.; Cornelius Vanderbilt, John A. Robinson, Thos. S. Gibbs, New York City; Chester W. Chapin, Springfield, Mass.; James S. Brooks, Meriden, Conn.; Ezra C. Read, New Haven, Conn.; William Jarvis, Middletown, Conn.

New Locomotive.

On Thursday of last week, we had the pleasure of witnessing the performance of a locomotive of superior construction, just completed at the works of William Mason and company, of Taunton, Massachusetts.

It was built for the Jeffersonville Railroad, of Indiana, and was named "William G. Armstrong" in compliment to the president of that road.

As this engine presents features of especial value in the construction of locomotives, besides being among the first productions of a recent enterprise, commenced on a large scale in Taunton, we deem an extended notice to be alike valuable to our readers and creditable to the builders.

The engine is outside connected, has 13½ inch cylinders, and 22 inch stroke—the cylinders being laid horizontally; has four drivers six feet in diameter, and four trucks. The valve motion is that of the shifting link, adjusted to equalize the admission of steam on both strokes, and under each grade of expansion.

The boiler has been brought down to within a very short distance from the driving axle, the cylinders are laid exactly level, exerting no upward strain whatever; the drivers have been accurately balanced, opposite to the disturbing forces; and the trucks have been placed at a distance of 5 feet between centers, by which the action of inequalities on the rails are divided, and more absorbed in the trucks than where these are nearer together. The result of these dispositions is, that the engine is as steady as any inside connected engines that have been built, and this being illustrated, as it is in this case, in *New England*, may effect some improvements in the motive power of those roads who adhere so perseveringly to the crank engine.

The materials used in the construction are of the best description, the boiler being made entirely from Lowmoor plates, while the heavy forgings from Salisbury and Glendon iron, are fine specimens of smith work. The mechanical finish of the engine is also superior.

In the details of the engine there is much to commend. The frame is light, strong, and particularly well fitted together. The attachment of the cylinders is particularly neat, simple and strong. The foot board is of wrought iron, and there is generally little "dead weight" in any part of the work. The link motion is well got up, and a new principle of suspension is taken advantage of, whereby all slip of the block, at the point most worked upon, is avoided. This point occurs when running forward with expansion adjusted for half

stroke. The trucks are strong, the wheels being a novel combination of the spoke and plate forms, the strength of which has been well tested and established, while their appearance is very fine. The bearings are of ample size, being all of 7 inches length, and those of the trucks 4 inches in diameter. The boiler has an elevated crown sheet and large dome, affording, together, a large amount of steam room. The pumps are provided with air chambers of ample capacity on both their forcing and suction sides. The cylinder covers are cast hollow as a protection against the radiation of heat.

On the whole we regard this as a model engine, combining great beauty of design with excellence of workmanship. It is strong, light, and especially simple. Its evaporative and communicating capacity is ample, the furnace and steam passages being unusually large for engines of the same capacity of cylinders. It is especially adapted for running steadily, and combines we think, every thing which would aid in this result.

Its performance was extremely satisfactory. It was run, alone, at great speed over the Taunton Branch Railroad, and with the greatest steadiness, there being no perceptible fore and aft motion and the forward end of the engine ranging constantly in a true line with the rails. It took a heavy train over the Taunton Branch road, 12 miles in 23 minutes, including 3 stops; which for an engine fresh from the shop, with an engineer unacquainted with the road, must be allowed to be a good performance.

Messrs. Mason & Co., have erected shops of the largest capacity in connection with their present well known machine works, and will be enabled, on the completion of their arrangements now in hand, to complete a locomotive every week. Mr. Mason's reputation has been long fixed as a singularly successful inventor and builder of cotton machinery and machinists' tools, and his practical and scientific talent and fine taste will show themselves especially in this new enterprise, of which there is no better evidence than what he has already accomplished in the work which is the subject of these remarks.

We would especially recommend the officers of any of our roads, in want of motive power, to visit Mr. Mason's establishment and examine his works, fixtures, and the improvements he is constantly making in the business, having full confidence that in the character of his work and his terms they will find entire satisfaction.

Virginia.

The Board of Public Works, convened in Richmond, adjourned on the 5th inst. after a session of three days.

The reports made to the Board by the Superintendents and Engineers in the service of the State, indicate a prosperous condition of her improvements now in progress. Contractors have commenced work on the Western division of the Covington and Ohio Railroad, and an effort will be made to let to contract, during this year, fifty miles of the Eastern Division of that road.

For the first time, the Board, at their session, appointed directors on behalf of the State in the James River and Kanawha company. The following gentlemen were appointed: Samuel C. Robinson of Botetourt; Daniel H. London of Richmond, Francis B. Deane Jr. of Lynchburg.

Balancing Locomotive Drivers.

We perceive that the Taunton Locomotive Manufacturing Company, have resumed the old mode of balancing the driving wheels of their engines, after having sent out nine or ten engines balanced on the "new principle." The Lowell machine shop, we have also noticed, has sent out several inside connected engines balanced upon the plan which the Taunton company lately tested. We saw two of their engines upon the Galena and Chicago Railroad, which were balanced with weights, the centre of gravity of which was $5\frac{1}{2}$ degrees past the radius opposite to the crank pin, and what was still worse, the balances were cast in, whereby it is difficult to remedy the defect without throwing aside the wheels. The master mechanic, Mr. John Ebbert, pronounced them much less steady than the large outside connected engines on the road, from the shops of the Schenectady company, and Rogers, Ketchum & Grosvenor.

From the fact that the vertical planes of motion of the disturbing forces do not occur upon the centers of the tread of the wheels, there is a considerable leverage exerted by each crank at the opposite ends of the axle, and this strain, reduced to its elements, according to the simple rules given for that purpose in Clark's Railway Machinery, gives the proper position of counterweights. For an outside connection the variation of their center of gravity from exactly opposite the crank pin is too little to be regarded; for an inside connection this is something to be considered, but does not amount in most cases to over 20 degrees from the usual position, or less than the distance between two adjoining spokes in a wheel having 16 arms.

Baltimore and Ohio Railroad.

The revenue for the month of September is as follows:

	Main Stem.	Wash. Branch.	Totals.
Passengers	\$48,648 93	\$24,478 24	\$73,127 17
Freight...	190,651 48	7,250 79	197,902 27
	\$239,300 41	\$31,729 03	\$271,029 44

These receipts as compared with the previous month of August, show the following result:

	Main stem.	Washington branch
September....	\$239,300 41	\$31,729 03
August.....	217,011 39	29,197 77
Increase..	22,289 02	2,531 26

Making the total increase of the receipts of September over August \$24,820 28.

The receipts of the month of September of last year were as follows:

	Main stem.	Wash. branch.	Total.
Passengers	\$32,808 58	\$27,056 88	\$59,865 46
Freight...	124,862 97	7,897 05	132,760 02
	\$157,671 55	\$34,953 93	\$192,625 48

This shows an increase in September, 1853, over September of 1852, of \$78,403,96 on both roads. There was a falling off in the receipts on the Washington branch. Taking the receipts of the Main-stem alone, we have an increase this September as compared with the September of last year, as follows:

	Passengers.	Freights.
September, 1853.....	48,648,93	190,651,48
September, 1852.....	32,808,58	124,862,97
Increase.....	15,840,35	65,788,51

The receipts of the road in the year ending with September, 1853, were as follows:

	1852.	Main stem.	Washington branch
October.....	133,187 94	32,173 53	
November.....	114,081 43	26,867 98	
December.....	133,863 67	36,782 23	
1853.			
January.....	101,819 49	27,529 10	
February.....	99,017 27	29,847 85	
March.....	216,267 37	54,153 02	
April.....	200,219 59	32,527 47	
May.....	204,950 01	32,318 66	
June.....	189,967 51	30,642 84	
July.....	164,140 42	27,170 85	
August.....	217,011 39	29,197 77	
September.....	239,300 41	31,729 03	
Total.....	2,013,826 50	390,940 33	
The receipts for year ending Sept. 30, 1852, were..	1,325,563 65	348,622 76	
Increase.....	688,262 85	42,317 57	

Model Life Preserving Car.

We have been shown a Model Railroad Car, with the above title, now in the Crystal Palace, which presents some points worthy of consideration.

The model is made of contiguous steel bands, bent to the proper shape of the car. Transversely—the bands extend from one side of the frame to the other in pairs, one precisely over the other, and in a full size railroad car, will be at equal distance of from 20 inches to 2 feet apart.—The single bands run in a longitudinal direction at equal distances from each other, and pass between the transverse bands, forming with them, rectangular squares. When so arranged, the three are firmly riveted together in each intersection, thus making the whole frame a complete network—combining in every direction, great strength and elasticity—whence it is argued and with much plausibility, that when such a car happens to be thrown off the track, or upset, it will not break, but owing to its great elasticity, will always keep its integral shape.

Another important feature with the car, consists in a longitudinal beam, braced or bound with iron, extending the whole length of the car, and also semicircular steel springs connected with the floor and extending under and beyond the platform—all these are intended to check or resist the first shock in case of collision.

In the cars now in general use, it may be said there is scarcely any elasticity in them, but rather a complete stiffness from one end of the train to the other, which is without doubt, the main cause that renders collisions so fatal to life; for when the momentum of the train meets with a sudden check, or obstruction, it is evident that there must be a perfect wreck somewhere until the shock be overcome or exhausted.

In the proposed steel car, it is clearly shown that by putting powerful springs between all the cars and freight cars in the train, and each of these springs to extend from 3 to 4 feet under and beyond each platform, as this can be easily done without inconvenience,—it will make, when taken collectively, an extent of 70 to 80 feet of springs in the whole train and as these springs of necessity will be the first to yield or give way, the first shock in the collision will be lost, in overcoming their united resistance &c.

There are still other advantages connected with the above car of which we intend to speak hereafter.—More information can be obtained by addressing Dr. B. J. La Mothe 461 Broome street, New York.

Maryland.

York and Cumberland Railroad.—The fifth annual report of the directors of this company gives the following statement of the operations of this road for the year ending July 31, 1853.

Transportation receipts.....	\$65,884 47
Transportation expenses.....	\$22,650 62
Expense and construction accounts.....	13,754 50
State tax on passengers and freight.....	2,171 68
Tolls to Cumberland valley railroad.....	1,661 43—40,238 23

Net revenue.....	\$25,646 24
Interest on bonds.....	\$12,000 00
Two and a half per cent. dividend.....	13,194 37—25,194 37

Balance net revenue..... \$451 87

The following is the balance sheet of the company to September 1st 1853.

DR.	
Railroad.....	\$725,674 82
Construction and repair stock.....	5,672 81
Cash, bills receivable, general ledger and stock debts, forfeited stock, etc.	6,489 82
	\$737,837 45

CR.	
Capital stock—21,200 shares.....	\$530,000 00
First mortgage bonds, due 1870.....	175,000 00
Second do convertible, due 1871.....	25,000 00
Profit and loss.....	7,787 45
	\$737,787 45

Balance of \$500,000 loan in aid of the Susquehanna railroad company.

DR.	
Greenway & Co. purchasers.....	\$310,590 00
Do. for premiums.....	7,060 00
Susquehanna railroad company's first mortgage bonds for amount paid...	200,000 00
	\$517,650 00

CR.	
York and Cumberland railroad company's mortgage bonds, guaranteed by city of Baltimore, due 1877, for amount sold Greenway & Co.....	\$500,000 00
Premium on sale \$3 53 per ct.....	17,650 00
	\$517,650 00

Maysville and Big Sandy Railroad.

Amid the difficulties which for two or three months have attended the negotiation of Railroad securities, we are happy to learn from the President of this Company that he has received advices from New York of a negotiation for funds on the securities held by the Company (County and City Bonds) and that remittances have already been made to him.

The grading on the road, under the faithful execution of the contractors, has progressed very finely. There has been no thought at any time, of suspending the work, as was feared in some quarters. The resources of the Company are sufficient to press it onward, and these resources are being made available every day.—The Board of Directors embrace our most able, enterprising and energetic citizens, whom no ordinary difficulties can daunt or embarrass.—The capital stock of the Company in the twelve months, has increased from \$200,000 to \$700,000, which will be still largely increased.

The Company have contracted for 5,500 tons of heavy American-made rails, enough to lay the track from Maysville to Springville, opposite Portsmouth, the delivery of which will commence in April next. They have also purchased Eight Locomotives, to be delivered next summer and fall. If there is any enterprise in the country that has progressed with

greater rapidity and energy than this, we should like to know what it is.—*Maysville Eagle.*

American Railroad Journal.

Saturday, October 22, 1853.

Stock and Money Market.

Notwithstanding the untoward foreign news, the condition of matters in Wall Street are no worse than last week, which, under the circumstances is equivalent to being much better. After the violent fluctuations of the latter part of the past week, the stock market has recovered a good degree of firmness, with a decided improvement in many stocks. Erie, which suffered the most, having fallen nearly 7 per cent. in one day, and touching 69 on Thursday, has recovered again to 70. The country is generally in a very healthy state, our railroads were never doing so well, and our people are beginning to feel that there is no reason, whatever, why the value of railroad stock should be made so dependent upon every puff of news from the other side, whether true or false. They are evidently getting over their fright, and the firmness of the market under the war news was a most encouraging symptom. The good show made by the Bankers helped to promote a better feeling. The comparative statements for the week ending Oct. 15th, are as follows:

	Oct. 8.	Oct. 15.	
Loans....	\$89,115,883	\$87,837,277	*\$1,278,606
Specie...	10,280,990	11,350,152	+1,069,162
Circulation	9,672,967	6,461,444	*206,253
Deposits..	57,954,882	59,168,774	+1,213,892

*Decrease.

†Increase.

The position of the Banks is materially improved from last week.

Notwithstanding the more cheerful looks for the future, money continues in very active demand, as must be the case for some time to come. It is now well settled that supplies from abroad will be merely nominal for some time to come, and that the demand of our roads, such as are nearly completed will exceed the supply of domestic capital. Companies who have not gone so far that they cannot retreat, will do well to postpone operations entirely, till a radical change in the market takes place.

Maysville and Big Sandy Railroad.

We learn from the *Louisville Journal* that the President of this road has effected the sale of county and city bonds to large amount. This will enable the Company to press forward the work, already well advanced, with great energy. The Company have purchased 5,500 tons of the best American manufactured iron, to be delivered early in the spring. They have also purchased eight locomotives of great power and of the very best quality.

Clinton and Madison Railroad Survey.

We understand from the *Telegraph* that the survey of this road, under the direction of J. H. SHIPMAN, is entirely completed as far out as Shoal creek, and that a report of the same, embracing its location, estimates, and probable amount of business, will be ready by the end of this week.

Lexington and Maysville Railroad.

This road was opened throughout on Thursday, Oct. 6th, the occasion being celebrated with much spirit.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,978,700	5,150,278	254,743	113,520	none	85
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	88
Kennebec and Portland..... "	72	876,411	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	98½
York and Cumberland..... "	20	285,747	341,100	718,605	23,946	11,256	none	40
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	107½
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern	82	3,016,634	.....	.....	328,782	163,075	5	45½
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	169
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	.....	.....
Sullivan..... "	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	37
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	13½
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	ent.	100
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	94
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	103½
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	86½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	100½
Cape Cod branch..... "	28	421,295	171,800	633,967	60,743	30,056	2½	45
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	106½
Fitchburg..... "	66	3,540,000	112,305	3,632,073	574,574	232,787	6	94½
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	90½
Taunton Branch..... "	12	250,000	none.	307,136	187,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	17½
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	58
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99½
Stonington..... R. I.	50	.....	467,700	.....	240,572	110,89	.....	60
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	none	.....
Hartford and New Haven.... "	72	2,350,000	800,000	3,150,000	639,529	294,269	10	122
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	103
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	53
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna..... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	69
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	62½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	51½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	27
New York Central..... "	504	22,858,600	2,111,824	.....	.....	.....	.....	107
Ogdensburgh (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	28½
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal..... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga..... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington..... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington..... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	287,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	100
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,492	1,388,385	478,413	10	150
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,600,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	74
Philad., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	78

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn. 250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	94
Philadelphia and Trenton....	" 30							108
Pennsylvania Coal Co.....	" 47							504
Baltimore and Ohio.....	Md. 381	9,188,800	9,827,123	19,542,307	1,325,563	615,384	7	....
Washington branch.....	" 38	1,650,000		1,650,000	348,622	216,237	8	....
Baltimore and Susquehanna..	" 57				413,673	152,536	....	....
Alexandria and Orange.....	Va. 65			In prog.				....
Manassas Gap.....	" 27			In prog.				....
Petersburgh.....	" 64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville.....	" 73	1,372,324	200,000	In prog.				....
Richmond and Petersburg....	" 22	685,000		1,100,000	122,861	74,113	none	....
Rich., Fred. and Potomac....	" 76	1,000,000	503,006	1,531,238	254,376	113,256	7	106
South Side.....	" 62	1,328,722	800,000	In prog.				....
Virginia Central.....	" 107	1,400,100	446,036	In prog.	176,485	74,902	none	....
Virginia and Tennessee.....	" 60	3,000,000	1,500,000	In prog.			none	....
Winchester and Potomac.....	" 32	180,000	120,000	416,532	89,776		12	....
Wilmington and Raleigh.....	N. C. 161	1,338,878	1,134,698	2,965,574	510,088	153,898	6	....
Charlotte and South Carolina.	S. C. 110							....
Greenville and Columbia.....	" 140	1,004,231	300,000	In prog.				....
South Carolina.....	" 242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester.	"			In prog.				....
Georgia Central.....	Ga. 191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	" 211	4,000,000	1,214		934,424	456,468	7½	....
Macon and Western.....	" 101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee.....	" 71			In prog.				....
South Western.....	" 60	586,887	150,000	743,525	129,395	71,535	8	....
Alabama and Tennessee River	Ala. 55			In prog.				....
Memphis and Charleston.....	" 93	776,259	400,000	In prog.				....
Mobile and Ohio.....	" 33	879,868		In prog.				....
Montgomery and West Point..	" 88	688,611		1,330,960	173,542	76,079	8	....
Southern.....	Miss. 60							....
East Tennessee and Georgia..	Tenn. 80	835,000	541,000	In prog.				....
Nashville and Chattanooga...	" 125	2,093,814	850,000	In prog.				....
Covington and Lexington.....	Ky. 38	1,430,150	1,100,000	In prog.				....
Frankfort and Lexington.....	" 29	357,218		584,902	87,421	44,250	....	80
Louisville and Frankfort.....	" 65							....
Maysville and Lexington.....	"			In prog.				....
Cleveland and Pittsburg.....	Ohio. 100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, Painesv. and Ash..	" 71							....
Cleveland and Columbus.....	" 135	3,027,000	408,200	3,655,000	777,793	483,454	12	118
Columbus, Piqua and Indiana.	" 46			2,000,000				98
Columbus and Lake Erie.....	" 61							....
Cincinnati, Ham. and Dayton	" 60	1,694,000	906,000	2,600,000	321,793	200,967	....	103
Cincinnati and Marietta.....	"			In prog.				72½
Dayton and Western.....	" 40	310,000	550,000	925,000	Recently opened.			80
Dayton and Michigan.....	" 20			In prog.				....
Eaton and Hamilton.....	" 36							70
Greenville and Miami.....	" 31							....
Hillsboro.....	" 37			In prog.				....
Little Miami.....	" 84	2,370,784		2,634,157	526,746	314,670	10	119½
Mansfield and Sandusky.....	"	900,000	1,000,000	1,855,000				....
Mad River and Lake Erie....	" 167	2,387,200	1,767,000	4,110,148	540,518	113,401	....	95
Ohio Central.....	" 57			In prog.				....
Ohio and Mississippi.....	"							97
Ohio and Pennsylvania.....	" 187	1,750,700	2,450,000		Recently opened.			....
Ohio and Indiana.....	"			In prog.				....
Scioto and Hocking Valley...	"							....
Toledo, Norwalk and Cleve'd	" 87	552,000	800,000	1,317,140	Recently opened.			....
Xenia and Columbus.....	" 54	1,092,137	119,500	1,257,714	237,506	135,363	15	....
Evansville and Illinois.....	Ind. 31			In prog.				....
Indiana Central.....	"							....
Indiana Northern.....	" 131				Recently opened.			....
Indianapolis and Bellefontaine	" 83							105
Lawrenceburg and Ind.....	"			In prog.				82
Lafayette and Indianapolis....	" 62				Recently opened.			78
Madison and Indianapolis....	" 88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Peru and Indianapolis.....	" 40			In prog.				70
Terre Haute and Indianapolis	" 72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	"							....
Chicago and Mississippi.....	" 113	2,400,000	4,000,000	4,600,000				....
Illinois Central.....	Ill. 136							136
Galena and Chicago.....	" 92	1,932,361	500,000	In prog.	473,548	286,152		124
Michigan Southern.....	Mich. 315	2,499,410	2,629,000	6,430,246	592,187	293,046		118
Michigan Central.....	" 282	4,000,000	4,067,396	8,614,193			8	119½
Pacific.....	Mo. 38	1,000,000	none	In progress	Recently opened.			....

Manufacture of Iron at Chicago.

The *Democratic Press* of Chicago, states that a company has been formed in that city, with a capital of \$100,000, for the manufacture of iron ore by Renton's process, several notices of which we have recently published. It states that some of the best and most enterprising men of Chicago are engaged in this movement, and they will, doubtless, realize a very handsome profit upon their investment, besides contributing largely towards the prosperity and growth of the city. Col. E. D. Taylor, Dr. Evans, and Orinton Lunt, Esq., are the directors of the company.

We are pleased to hear of this, as the commencement of such an enterprise will at once open a large business, not only in iron, but manufacturers of iron. Forges, foundries, machine and locomotive factories will follow, and Chicago will find a new element of prosperity in the benefits which will result from them.

Railroad Iron at Auction.

We would invite the attention of Railway Companies, in want of iron rails, to the advertisement of a peremptory sale of this article, in this number of the *Journal*, take to place on Monday Oct. 31st, at Messrs. Haggerty, Jones & Co.

Locomotive Works in Chicago.

H. H. Scoville & Son, who, for several years, have been engaged in car building at Chicago, have commenced the construction of locomotives, and are at present engaged upon work which will compare well with any that we have seen elsewhere. It is singular, we should suppose, that not until now has this business engaged the attention of business men and machinists at so important a point as Chicago, and that the railroads centering there should have been compelled to give out so large contracts at the east, comprising nearly their whole equipments, which they can only receive at such a distance at great cost. The establishment of Messrs. Scoville and Son is of but moderate extent but will be increased so fast as machinery and workmen can be supplied, until a capacity for completing from 25 to 30 engines a year is reached. Their present investments have amounted to about \$70,000 and employ about 50 men. We should suppose, taking into consideration the character of their productions and the wide unoccupied market at their command, that their works might become capable of competing in extent and reputation with any others in the country.

The engine building at their works at the time of our visit was an outside connected engine of the most recent design and construction. Its dimensions were 15 inch cylinder, 22 inch stroke, 5 feet, 6 inch drivers; boiler 42 inches diameter containing 132 tubes, 2 inches diam., and 10 feet, 6 inches long. The engines from these works are designed and built under the superintendence of William H. Scoville, a machinist of good experience, and who has enjoyed good opportunities for a thorough acquaintance of the business at the East.

Norfolk and Petersburg Railroad.

The chief engineer of the Norfolk and Petersburg Railroad Company invites proposals until the 15th of December for the graduation and masonry of 82 miles of the road between Norfolk and Warwick Swamp, in Sussex county, Virginia.

North Western Railroad of Pennsylvania.

We have the reports of the directors and of the chief engineer of this company, showing the route, relations to business and means for construction for their road. This company became incorporated February 9th, 1853, and received a charter to construct a railroad from the Pennsylvania and Ohio state line, or from the point of intersection with the Cleveland and Mahoning railroad, on the west, to the Pennsylvania railroad, near Blairsville, Indiana county, and a supplement also allows a connection with the Pennsylvania railroad at any point in Cambria county. The object of the road is the accommodation of the five counties intersected in Pennsylvania, among which are found large quantities of iron, coal and salt, and all of which have large agricultural productions; and also to connect Philadelphia, by an unbroken gauge, with the lakes. From Blairsville, through Butler, to the intersection of the Cleveland and Mahoning road at New Castle, (seven miles from the Ohio state line,) and thence over the latter road to Cleveland, is nearly in a direct line. Cleveland being the point on the lake; nearest to Philadelphia, it is expected that through her trade, and the advantage of an unbroken gauge, the latter city may draw to herself a large share of the western business. The same gauge will also extend, via. Sandusky and Toledo to Chicago.

The line of the survey commences at New Castle, the western terminus, following the course of the streams, and preserving a general south-easterly direction. Butler is reached at a distance by the survey of a little less than thirty miles. Of this distance ten miles will be of the maximum grade of 52.8 feet per mile, and one deep cut or tunnel will also occur. The cost of grading and bridging this division of thirty miles is estimated at \$11,000 a mile. From Butler to Freeport on the Alleghany river, is twenty miles, upon the most of which distance the above grade of 52.8 feet per mile will be necessary, and a tunnel of eight hundred feet will occur in the ground, dividing the tributaries of the Conemaugh and the Alleghany. The grading and bridging of this division is estimated at \$13,750 per mile. At Freeport the line crosses the Alleghany river and the Pennsylvania canal by a bridge of 1250 feet length and 52 feet high above low water. At Freeport the route intersects the Alleghany valley railroad, twenty seven miles from Pittsburgh. From thence to Blairsville, 34½ miles, the road follows the line of the Pennsylvania canal. On this division there are one tunnel of 1050 feet, three large bridges at the crossings of Alleghany, Loyalhanna and Conemaugh, thirteen deep but narrow ravines varying from 50 to 80 feet of extreme filling, and one of 130 feet, one cut of 76 feet and four others from fifty to fifty-six feet, extreme depth. From Blairsville to the junction with the Pennsylvania road is two and a-half miles, and for which a road is built and operated as a branch of the Pennsylvania road. It is expected, however, that the North Western company would ultimately have to extend their road for this distance, as the present road is not of proper character for a large business.

The whole distance, from New Castle to Blairsville is 84½ miles, and the estimated cost of grading and bridging is \$1,375,000 or \$16,272 per mile, while the superstructure, stations and equipments will probably cost as much more.

The counties of Lawrence, Butler, Indiana, Westmoreland and Armstrong, through which the road passes, contain 8,499 square miles, or 2,479,860 acres, and have a population of 159,781. Coal and iron are abundant along the route, and the manufacture of iron is carried on in each one of these counties. The water power is also ample, and the agricultural products varied and extensive.

The relation of this road to the through business from the lakes to the eastern cities is exhibited by the following table of distances.

TABLE.

	Miles.
Chicago to Goshen, by Michigan Southern railroad.....	110
Goshen to Swanton, by Northern Indiana railroad.....	102
Swanton to Cleveland by Junction railroad..	122
Cleveland to New Castle, by Mahoning railroad.....	85
New Castle to Blairsville, by North Western railroad.....	87
Blairsville to Philadelphia, by Pennsylvania railroad.....	300
1. Chicago to Philadelphia without change of gauge.....	806
Chicago to Crestline by Fort Wayne.....	281
Crestline to Pittsburgh, by Ohio and Pennsylvania railroad.....	188
Pittsburgh to Philadelphia by Pennsylvania railroad.....	353
2. Chicago to Philadelphia, with one change of gauge.....	822
3. Cleveland to Philadelphia, by Mahoning and North Western railroads without transshipment.....	472
4. Cleveland to Philadelphia, by Alliance and Pittsburgh, with one transshipment.....	494
5. Cleveland to Philadelphia, by Wellsville & Pittsburg, with one transshipment.....	502
6. Cleveland to Elizabethport, by Dauphin and Easton without change of gauge.....	523
7. Cleveland to Jersey City, by Buffalo and New York City railroad, with three changes of gauge.....	607
8. Cleveland to Jersey city, by Dunkirk and N. York and Erie railroad, with three changes of gauge.....	611
7. Cleveland to New York city, by Buffalo and Albany, with three changes of gauge..	655
10. Cleveland to Baltimore, without change of gauge, by Mahoning (85) N. Western (87) Pennsylvania (193) and Baltimore and Susquehanna (84) railroads.....	449
11. Cleveland to Baltimore, by Wellsville railroad to Wheeling (136) and Baltimore and Ohio railroad (379) with change of gauge, and the Ohio river to cross at Wheeling....	515
The means of the company are at present as follows:	
Amount of individual stock subscribed..	\$160,200
" stock subscribed by Lawrence county.....	200,000
Amount of stock subscribed by Butler county.....	250,000
	\$610,200
It is assumed that the subscription on the line can be increased to.....	
Philadelphia has been authorized by law to subscribe.....	\$750,000
	750,000
	\$1,500,000

If this additional sum can be obtained from Philadelphia the directors will place the road under contract at once, without fear of commanding, upon the bonds of the company, the amount necessary for its completion. Upon the success of

this issue now chiefly rests the construction of the road.

The present officers of the company are Charles C. Sullivan, of Butler, Pa., *President*, James G. Campbell, *Secretary*, and Edward Warner, *Chief Engineer*.

Little Rock and Jacksonport Railroad.

This road is intended to occupy a link in the line of railroad in the Mississippi valley, ultimately to reach from New Orleans to St. Anthony's Falls. It is eighty miles in length, running from Jacksonport, in Jackson county, to Little Rock. The counties intersected are Independence, White and Pulaski.

As a part of the trunk line referred to above, this section of road becomes entitled to a national grant of lands, amounting by the terms of the grant to 3840 acres per mile, or for the whole distance to upwards of 300,000 acres. These lands being among the best in the state, and part of those in Pulaski and White counties, indicated on Mitchell's map as the "Cotton Region" can be easily brought into profitable use, and it is believed can be safely estimated at \$5 per acre, on which estimate they would yield \$1,500,000. The sale of these lands is authorized upon the certificate of the Governor of the State to the Secretary of the Interior, to the effect that twenty continuous miles of road are completed, when 120 sections may be sold, and the same quantity for each successive 20 miles opened; the first sale of 120 sections being however made before the completion of any part of the road. The entire amount derived from the estimated sales of these lands, it is believed will be more than sufficient to build and equip the road.

The importance of this work, regarded as a part of the main trunk line referred to is evident, as it occupies the necessary route which that line must take in seeking the principal business points of the country traversed. Its importance as a local work will become felt in the large tracts of land which it will populate and improve, and in the trade which it will thereby bring into Little Rock. Jacksonport, at the northern terminus of the road, also enjoys a good position in regard to the trade and traffic of that portion of the state, lying as it does at the confluence of two large streams flowing from hills which are filled with minerals and through valleys of great fertility. These are the White and Black rivers, which together afford water communication to nearly all of the upper counties of the state.

The surveys by Captain Barney, made for the location and estimation of this road, commence on the west bank of White river, opposite the mouth of Black river and Jacksonport. This point is 225 miles from St. Louis, and 80 from the Missouri line, by the line of a survey made for the location of a road between those points. The first four and a half miles are over grounds subject to overflow from the river. Beyond this, the ground is elevated and dry. The general character of the ground south of Glaze creek, which is 16½ miles from Jacksonport, is more diversified, and on the whole far more productive than on any other part of the survey between Little Rock and the Missouri line. Between Glaze Creek and Little Red river, the ground is undulating and the line follows the base of a range of hills which form a second bench of more elevated country.

The cost of construction and equipment for this road has been estimated as follows:

Grading and bridging.....	\$482,850
Superstructure, with 65 pound rail, sidings and switches; \$7,500 per mile...	600,000
Engine department and contingencies...	80,000
Cost of station and engine houses, machine shops, cars and locomotives.....	240,000

\$1,402,850

These estimates, although probably too low, by a considerable amount, would doubtless require but a little extension to get the road into passable order, from which time, its importance to the local trade and its prospective relation to a great line would induce means to flow into it, necessary for its completion and perfection. We regard the advantages which this work possesses in the relation of its route to the wants of the state of Arkansas, and to the great North and South line, soon to connect St. Louis with New Orleans, together with the aid it will receive from the government, as making altogether a strong guarantee of its speedy construction and ultimate value.

Copley's Compound Car-Axle.



FIGURE I.

Like letters refer to like parts in the different views.

AA are the wheels; BB, the journals; C, the hollow section of the axle; D, the solid section. F, a band around the axle. G, a set screw, which passes through the band into the key I, which key is fitted into a mortise in the hollow section C.

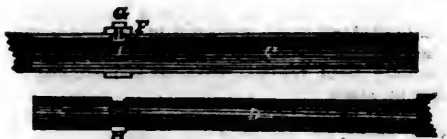


FIGURE II.

This solid section, D, passes into the chamber of the hollow section, C, so that the end of the one and the shoulder of the other come in contact, as seen at D, fig. 1. When in this position, the key I is inserted into the groove H, and is retained in place in the axle and groove by the set-screw G.

This Axle consists of two parts. In the journals and seats for the wheels they are alike; and in these particulars they are like the common solid axle. The difference is in that part between the wheels; which instead of being one solid, inflexible shaft of iron, is composed of two parts, a solid cylinder that fits into a hollow cylinder. This union of the two parts extends from within two or three inches of one wheel, to within a like distance of the opposite wheel, thus forming a strong, self-sustaining joint, capable of easy rotary motion, but presenting a powerful resistance to every other motion. This rotary motion allows each wheel to revolve just as much as the length of the track upon which it rests requires.

On every considerable railroad curve the difference in the length of the outer and inner rails is from five to eight feet. With the stiff, immovable axle this difference must be made up by the dragging or slipping of the wheel upon the rail. Suppose a car weighs seven tons, and has a load of ten tons more, here are seventeen tons resting upon eight wheels, which is two and one-eighth tons to each wheel. The force necessary to drag

or slip such a weight, pressing together two pieces of dry iron—the wheel and the rail—is enormous, and yet, great as it is, it is all forced upon the axle, multiplied by all the leverage of the semi-diameter of the wheel—being nearly ten to one. The torsion of the axle arising from this cause is almost incalculable; and serious accidents frequently arise from the breakage occasioned by this torsion, the axles being literally twisted off.

Various expedients have been tried, to overcome this difficulty, which has, up to the present time, attended railroad transportation and travel. One loose wheel has been tried: but under the tremendously severe action of an inflexible iron wheel travelling with great rapidity over an equally inflexible rail, and carrying a weight of, over 4,000 pounds, the loose wheel soon becomes too loose—such a weight, resting loosely upon such rigid materials, soon batters and enlarges the eye, and renders it unfit for use. A loose wheel, with a greatly elongated hub, has been tried, but with little better success. Experimenters all seem to have fallen into the radical error of resting the burden to be sustained upon a moveable and of course a loose joint. Hence the uniformly ill success of these expedients.

In the axle now presented to the railroad public, this error is avoided. We have a loose joint, it is true; but that joint has no weight to sustain. The journal on the outside of the wheel bears the load, the wheel is the fulcrum, and the part between the wheels, where our long joint is, has no other office but to hold the wheels to their proper places. It has neither weight to carry nor torsion to sustain.

The ordinary solid axle is subject to two kinds of vibration—lateral and circular. The first is occasioned by the unavoidable inequalities of the rails, which give to a rapidly moving car a succession of jars, which keep everything in a tremor. The rotatory or circular vibrations are caused by the unequal lengths of the rails on curves, which requires the wheels on one side of the car to travel further and faster than those on the opposite side. Now, as the wheels are immovably fixed upon solid axles, like the two ends of a spool, and their circumference being the same, the difference of movement required by the unequal lengths of rails on curves can only be made up by sliding or dragging. The next question is, how is this dragging accomplished? Is it by a regular uninterrupted movement? This cannot be; but it is by a rapid succession of movements, their length being regulated solely by the power of the axle to resist the torsion arising from the adhesion of the wheel to the rail. This adhesion twists the axle a little; but the strength and elasticity of the iron enable it, by a strong vibratory action, to overcome the adhesion of the wheel to the rail, push it forward, and thus relieve itself for the moment, of the severe torsion. These alternate and rapidly recurring twistings and untwistings cause that circular vibration of which we have spoken.

Let a pulley of two feet or more in diameter be fixed upon an iron shaft, either cast or wrought, and let this shaft be put into a turning lathe, the power being applied to one end of the shaft, and a turning tool to the face or periphery of the pulley, and a good illustration of what we mean by circular vibration will be afforded. The movement is not equable, but consists of a rapid succession of stops and starts—the stronger the shaft is the more rapid are the alternations of motion and rest.

If a damp finger is moved slowly around the rim of a glass tumbler, with a moderate pressure, it soon causes the glass to give out a sonorous sound: and why? Because the movement of the finger upon the glass, although it may appear to be smooth and uniform to the sense of touch, is really intermittent—a rapid succession of stops and starts, imparting to the glass a rotatory vibration, very similar to that which is given to a railroad axle in going around a curve; and let any person give attention to it, while a train is passing around a curve, especially on a broad track road, and he will hear a deep, son-

orous sound. Is this sound drawn out of the axle in the same way that we draw sound out of a glass tumbler? If so, the torsion is tremendous, and cannot but be attended with extreme danger.

It is, we are assured, an ascertained fact, that severe and long continued vibration, or torsion, will change the nature of iron from fibrous to granular or crystalline—that car axles that have been long in use, may sometimes be broken square off, close behind the wheel, with a blow of a sledge; although, a few inches from that point the iron may still be as tough and fibrous as ever. From this it may be rationally inferred, that it is at the point where vibration is suddenly arrested—as it is by the heavy mass of iron in the wheel—that the change from a fibrous to a crystalline state takes place. This is a question of great importance, and one that ought to be carefully investigated. But be this as it may, we propose to obviate the difficulty, not by curing it, but by avoiding it altogether.

In the compound axle which we offer to our railroad friends, the circular or rotatory vibration is totally done away; and we think that the lateral vibration is so neutralized as to render it harmless. It is a well known principle in philosophy, that the times of vibration in two different pieces of metal, of equal length, but of unequal diameter, are different. Now here are two pieces—one a tube of greater diameter, the other, a solid piston of lesser diameter. These two are distinct and separate, and yet so intimately combined that their vibrations must act the one upon the other: it follows, therefore, that if their times of vibration are, as say 5 to 4, they will necessarily neutralize each other, so that none of the disastrous effects before adverted to can take place.

It was feared by some eminent engineers, to whom this plan of an axle was originally submitted, that its construction would be attended with great if not insuperable difficulty; but we find that those fears were altogether groundless. Messrs. Morris, Tasker & Morris, of Philadelphia, made the tubular parts of our first set, and the remainder of the work, in fitting up a car, was executed under the direction of Jacob Hovey, Esq. of Cleveland, the master machinist of the Cleveland and Pittsburgh Railroad, for whose skill and kindness we thus publicly return our thanks.

We take pleasure in acknowledging our indebtedness to C. Prentiss, Esq. President of that road, for the facilities he afforded us in getting up and testing our first practical experiment.

The entire axle, except the key that holds the two parts together, is made of wrought iron. The tubular parts of our first set are $3\frac{3}{4}$ inches calibre, and 7—16 of an inch thick in the shell. This is perhaps unnecessarily strong; but we thought it best to err on the safe side. The tubes are welded; and so perfectly is it done, that the places where the plates are joined cannot be distinguished from other parts; and the strength of those gentlemen's tubes may be inferred from the fact, stated to us by a distinguished machinist of New York, that he put a pressure of 18,000 pounds to a square inch into one of their tubes, without bursting or injuring it. To be sure the shell of that tube was thicker than those we use; but we mention the fact, to show the entire confidence that may be placed upon the strength of welded tubes.

The solid iron which forms the journal on the tubular section reaches into the tube about two inches past the wheel seat, and is welded fast, forming a solid bearing for the wheel, which is forced on in the usual way. The inner section reaches to the bottom of the hollow section, and sustains the inward lateral pressure, and relieves both the key and the shoulders.

The key which fastens the two parts of this axle together is made of cast-steel; it is an inch and a quarter square, and is fitted to the cylindrical surface of the inner section of the axle, at the bottom of the groove into which it fits, and in which it works. An iron band, three inches broad, passes round the outer or tubular section,

covers the key, and keeps it securely in its place. A strong set screw passes through the band into the key, which renders it impossible for the band to get out of its place. The only use of the key is to keep the parts from drawing assunder. It sustains no inward pressure.

We now submit this axle to our railroad friends upon its own merits. We confidently believe that it will add to the safety of railroad travel and transportation; that it will preserve the rails from the severe abrasion caused by the dragging of the wheels on the curves; that it will save a considerable percentage of motive power; and, which is more important than all, that it will prevent the crystallization of the iron, arising from the tortuous vibration inseparable from the common stiff axle, by allowing each wheel to have an independent movement, while at the same time all the base, leverage and solidity of bearing of the solid axle are preserved. This crystallization is a secret and insidious evil. No outward mark indicates that it has taken place; but while an axle may have every appearance of perfect soundness on the surface, it may really have become as brittle and unsafe as if it were composed of cast-iron. This may involve questions, not of dollars and cents only, but of life and death. But even on the score of mere economy, these compound axles will probably be found preferable; because, if they cannot be crystallized, they may be used with safety as long as the journals will last—from five to seven years; whereas the common axle cannot be safely used more than two or three years.

JOSIAH COPLEY & CO.

Pittsburgh, Sept. 1853.

The foregoing was written previous to our first PRACTICAL EXPERIMENT.

On the morning of Sept. 7, we set out from Cleveland for Wellsville, on the Ohio river, a distance of 100 miles, with the first car constructed on this principle—a house car of the largest class. We ran down empty. The wheels and axles performed extremely well. At Wellsville we took in a load of almost eight tons, and set out on our return next morning. Before leaving Cleveland we fixed a scale to the car, by means of which we were able to weigh the power required to draw it, with a good degree of accuracy. On our way down we encountered no grades exceeding 40 feet to the mile. On one of these, of considerable length, composed of both curves and straight lines, the weight of the draught was, as near as we could arrive at it, 280 pounds; but there was no perceptible difference between the curves and straight lines. On levels we could not weigh it at all, because for half the time the coupling was slack.

On our return from Wellsville with the loaded car—Mr. P. F. Geisse, of Wellsville, car-builder and machinist, and Mr. Charles C. Gorham, the conductor of the train, being on board—we attempted to weigh the draught on level curves, but failed for the reason before stated; and it was not until we reached the 50 feet grade, north of Salineville—which is nearly five miles long, and made up of alternate short curves and straight lines—that we were able to get anything like a steady draught. Several of these curves are of 1200 to 1500 feet radius. On nine curves we found the average weight of draught to be 462 pounds; while on eight pieces of straight line, on the same grade, the average was 458 pounds, being a difference of not quite one per cent. There was no perceptible difference to either the sense of hearing or feeling, between the straight lines and curves. This was remarked by the experienced gentlemen on board; and when watching the work of the trucks from the preceding car, and observing the steadiness with which they ran, and the perfect readiness with which they adjusted themselves at right angles with the rails, while running a curve, it was manifest that there could be no rubbing of the flanges against the rails; and thus the sense of sight corroborated those of hearing and feeling. Altogether the experiment was in the highest degree satisfactory.

The next day we returned to Wellsville, with the

same apparatus for weighing the draught, and had it attached to a common car. On the heavy grades above Salineville, before spoken of, the average weight of the draught on the curves was 22 per cent. greater than upon the straight lines; while it will be recollected that the difference in the case of the car with the compound axles was a fraction under one per cent. These experiments were conducted by gentlemen perfectly disinterested, and in whose disposition to give a fair report the fullest confidence may be placed.

In respect to the facility with which the trucks adjusted themselves to the curves; the smoothness of movement in places where ordinary cars gave the sensation and sound of rubbing and grinding of the wheels upon the rails; and in respect to economy of tractive power, our highest expectations are fully realized. All we have said in the foregoing paper has so far been verified; and the fact may be regarded as established, that where these axles are used, curves of even 5 or 6 degrees will present no appreciable impediment to the progress of cars.

We can only say at present that in a short time we expect to be able to furnish axles to any railroad companies that may be inclined to try them; and that arrangements will be made to furnish them in any quantity that may be needed. Inquiries respecting them may be addressed to the Hon. THOMAS M. HOWE and JAMES M. COOPER, Esq. of Pittsburgh, either jointly or separately, or to JOSIAH COPLEY, the patentee, at Kittanning, Armstrong county, Pa.

Georgia.

The earnings of the State road for September were \$49,089 57, an increase of \$11,629 27 over the corresponding month of 1852. The following shows the receipts of this road for the years ending Sept. 30th, 1851, 1852 and 1853.

AMOUNT RECEIVED FROM PASSENGERS:	
During 1850-51.....	\$89,656 85
Do. 1851-52.....	112,955 01
Do. 1852-53.....	141,158 38
RECEIVED FOR MAIL SERVICE:	
During 1850-51.....	12,000 00
Do. 1851-52.....	13,000 00
Do. 1852-53.....	14,000 00
RECEIVED FOR FREIGHTS:	
During 1850-51.....	183,371 59
Do. 1851-52.....	249,221 61
Do. 1852-53.....	321,888 43
Total earnings of the road in 1850-51.....	285,028 44
Do. do. do. 1851-52.....	375,176 62
Do. do. do. 1852-53.....	478,876 06

Total earnings during the three years \$1,139,081 12

Railroad Injunction.

We learn from the Chicago Press that Judge Morris has granted a peremptory injunction, to take effect on the 19th inst., upon the Illinois Central crossing of the Northern Indiana Railroad, eight miles south of Chicago, unless the manner of crossing is settled by that time.

This is the track used by the Michigan Central in reaching the city, and the injunction applies to the crossing where the collision occurred some time ago.

Tunnel at Chicago.

Wm. Gooding, civil engineer, has made a long report upon the subject of connecting the east and west portions of Chicago by a tunnel under the river. The cost will be a little under \$185,000.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMullen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required. Office No. 25 Cliff street, New York. Aug. 10, 1853. 2m

AUCTION NOTICE.

BY

Haggerty, Jones & Co.

MONDAY, OCTOBER 31,

AT THE AUCTION ROOM, 54 WILLIAM ST., COR. PINE.

PEREMPTORY SALE

OF

RAILROAD IRON,

IN BOND,

FREE OF ALL CHARGES, EXCEPT DUTY, now landing at the Atlantic Dock, Brooklyn, made by one of the first makers in England, and equal in quality to the best Welsh Rails. Quality guaranteed, bars straight, sound, and free from flaws and cracks, and cut off square at the ends. Tons, 1,113 18, 0, 15, consisting of 6,565 bars, viz: 3925 of 21 feet, 2208 of 18 feet, 377 of 15 feet, and 55 bars of twelve feet in length, weighing about 58 lb. per yard, of the pattern known as the Erie Railroad Pattern. Sample of the quality can be seen at our office, and the whole for inspection at the Atlantic Dock.

TERMS OF SALE.—Ten per cent. on the day of sale, and, if required, the balance half in 15 and half in 30 days, with interest, the transfer to be made when paid for.

ALSO,

A similar quantity, and of the same quality as the above, on a credit of three and six months, with interest for notes satisfactory to the sellers, less 15 per cent in cash on day of sale.

OFFICE L. & U. M. R. R. Co.,
Lawrenceburgh, Oct. 12, 1853.

NOTICE is hereby given that at a meeting of the Board of Directors of the Lawrenceburgh and Upper Mississippi Railroad Company, held on the 3rd day of October, 1853, the following resolution was adopted, viz:

"That interest on the stock of the company shall cease after the first day of January next, and that thereafter regular dividends of the net earnings of the Company shall be declared every six months."

"That the Secretary procure a handsome certificate of stock to be engraved in the new name of the company to be issued on and after the first of January next for the principal and interest then due on stock."

"That where fractional sums less than a share shall occur, the owner of the same may pay the difference, and take a share of stock, or receive a separate certificate for such fractions entitling the holder to a share when the residue is paid in cash, or by like certificates."

Pursuant to the above, stockholders are requested to surrender their certificates before the 1st of January next, when new certificates will be furnished including principal and interest due to that time.

3t 43

WM. G. DUNN, Secretary.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

Stuart, Serrell & Co.,

CIVIL ENGINEERS,

Rooms 22, 24, 26 & 27,
167 Broadway, New York.

CHARLES B. STUART,
DANIEL MARSH,

EDWARD W. SERRELL,
SAMUEL McELROY.

MONTREAL & NEW YORK AND Plattsburgh and Montreal RAILROADS.

Open through from Plattsburgh to Montreal.

Passenger Trains leave Montreal for Plattsburgh at 6:30 a.m. and 6 p.m., arrive at 8 a.m. and 7:30 p.m.
Leave Plattsburgh for Montreal 7:30 a.m. and 4 p.m., arrive at 10 a.m. and 6:50 p.m.

Trains connect at Montreal with Steamers for Quebec, and the St. Lawrence and Atlantic Railroad for Sherbrooke and intermediate stations.

Trains connect at Mooers Junction with Northern (Ogdensburg) Railroad for Ogdensburg and Lake Ontario Steamers for Lewiston, Niagara Falls and Upper Canada, and all ports on the Western Lakes.

Trains connect at Plattsburgh by Steamer to Burlington with Rutland and Burlington Railroad and connecting lines for Troy, Albany, New York and Boston, and all intermediate stations. Also with steamers for Whitehall to the Saratoga and Washington Railroad, and connecting lines of road to Troy, Albany and New York.

Passengers will find this route unequalled for comfort and dispatch, and attended with less fatigue and delay than any other. It possesses moreover the advantage of a short ferrage of only fifteen minutes across the River St. Lawrence at Caughnawaga, which has never been known to freeze, and can be confidently relied upon at all seasons of the year.

Freight Trains run daily each way.

For particulars see Freight and Passenger Tariff.

Baggage checked through.

H. W. NELSON, Superintendent.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHREATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

Railroad Car Works.

THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

F. HUNGERFORD & CO.

Mayville, Ky., Sept. 29, 1853.

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY SIX PER CENT. FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW, LANIER & Co.)
No. 52 Wall-st., Oct. 6, 1853.

THE LITTLE MIAMI RAILROAD COMPANY offer for sale one million of their SIX PER CENT. BONDS, with coupons. Interest and principal payable in New York, the former half-yearly, 1st of November and 1st of May. They are in sums of \$1,000 each, payable the 1st day of May, 1858.

These Bonds are issued under the express authority of the Legislature of the State of Ohio; and are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station-houses, &c., up to this date \$2,708,109 19.

This Company hold stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also, in the Hillsborough Road the amount of \$11,716.

The receipts of the Road have been as follows:

For the year ending Dec. 1, 1844.....	\$18,623 36
For the year ending Dec. 1, 1845.....	46,327 58
For the year ending Dec. 1, 1846.....	116,052 02
For the year ending Dec. 1, 1847.....	221,189 52
For the year ending Dec. 1, 1848.....	280,085 78
For the year ending Dec. 1, 1849.....	321,398 82
For the year ending Dec. 1, 1850.....	405,597 24
For the year ending Dec. 1, 1851.....	487,845 89
For the year ending Dec. 1, 1852.....	526,746 35
The receipts from Dec. 1, 1852, to Sept. 1, 1853, 10 months were.....	544,625 59
For the same period year before.....	411,797 06

Increase in 10 months.....\$132,823 53

The position of this road, being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia Road, and runs in con-

nection with the Cleveland and Columbus Road; in fact they are now run as one line greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of 5 per cent. in 1852. In 1852 two cash dividends of 5 per cent. were made.

The present surplus and reserve fund amounts to.....\$98,546 10
The mortgage covers the entire line of road, costing to date... 2,708,108 19
To be expended on double track, &c. 1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is one of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the City of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. LANIER, Esq., of this city, in trust for the bondholders, with ample power to take possession of the Road, its real and personal estate, franchises, &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. The mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the City of Cincinnati, and all other debts of the Company, excepting this loan of \$1,500,000.

These Bonds are offered at private sale by the undersigned, Agents of the Company.

Printed statements of the affairs of the Company, and any further information relative to the securities, will be given by

WINSLOW, LANIER & CO.,
No. 52 Wall-st.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Dunkirk and Buffalo.
MAIL, at 8½ a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Binghamton and Corning, and proceed the next morning.

ACCOMMODATION, at 12½ p. m. for Delaware and all intermediate stations.

WAT, at 3½ p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 5 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 6 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 5 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Sup't.



WASHBURN, POND & CO.,
MANUFACTURERS OF

WASHBURN'S PATENT CAR WHEELS,

FOUNDRY, NORTH THIRD ST., TROY, N. Y.

FROGS, CHAIRS, AND OTHER CASTINGS FOR RAILROADS.

Wheels Manufactured from the best of Salisbury and Sterling Iron (mixed), under the direction of Mr. Washburn, and warranted

Notice to Contractors.



SEALED PROPOSALS will be received at the Office of the Mississippi Central Railroad Company in Holly Springs, Mississippi until one o'clock & P. M. of Tuesday the 15th day of November next, for the Clearing, Grubbing, Grading, Bridging and Furnishing Cross-ties for about 22 miles of said road between the Town of Holly Springs and the State line of Tennessee.

Plans and specifications may be seen at Holly Springs after the 10th day of November next.

Proposals will be received at Granada Mississippi until one o'clock P. M. of Wednesday the 7th day of December next for the same description of work and materials on the line of road between Water Valley and Granada being about 30 miles. Plans specifications may be seen at Granada after the 1st day of December next.

Proposals will also be received at Canton Mississippi until one o'clock A. M. of Wednesday the 14th of December next for the same description of work and materials between Canton and the Big Black river, a distance of about 12 miles.

Plans and specifications may be seen at Canton after December 10th.

The work will be divided into sections of one mile each and proposals will be received for each item separately or for the whole work on one or more sections.

The right of rejecting such proposals as are not satisfactory is reserved.

HEALY, HOLMAN, SIMS & CO.
Holly Springs Mississippi.

October 10th 1853.

Furnace for Rent.

THE George's Creek Coal and Iron Company will **RECEIVE PROPOSALS** until the first of November next, to rent their **FURNACE**, at Lonaconing, situated in the village of the same name in Alleghany County, Maryland.

This Furnace was the first in the United States for the manufacture of iron with coal, and as Mr. Overman, in his Treatise on Iron Making, justly says, "has been the model for all that have succeeded it."

Fifty feet from the hearth up, and with 14 feet boshes, it is capable of turning out from seventy to 100 tons per week, according to the kind of metal made.

It has all the accessories necessary; a steam engine and blowing cylinder, capable of supplying 8000 cubic feet of air per minute, three water twyes which can be fed with hot or cold air; hot air furnaces, etc., etc., and a spacious and most convenient cast-house.

Some repairs will be necessary, which the tenant would be expected to put up at his own cost.

The **COAL**, of first quality for making coke, is immediately above the Furnace, and connected with it by an inclined plane.

The **ORE MINES** are a few hundred yards off. Limestone is on the same ground, not much further. These ores are good for thirty per cent. grey iron of first quality; and in addition, in various places of the proprietor's estate, and adjoining it, are deposits of Hematite, much richer; the right of mining which, on the lands of the company will be conceded without royalty.

With all these resources, Iron has been and can be made there at an unusually low price, and of superior quality.

The Furnace is nine miles from the Baltimore & Ohio Railroad, at Piedmont, and is connected by a railroad in regular operation; so that there is every facility for speedy and economical freights to either an eastern or western market.

There will be ample accommodation for hands. To a suitable tenant the terms would be made advantageous. Proposals to be endorsed, "Proposals for the Lonaconing Furnace," and addressed to

A. H. STUMP, President,
Box 229, Baltimore Post Office.

Oct. 15, 1853.

\$500,000 CINCINNATI, HAMILTON AND DAYTON RAILROAD SEVEN PER CENT MORTGAGE BONDS.

The undersigned, under direction of the Board of Directors of the C. H. & D. Railroad Company, a Corporation in the State of Ohio, offers for sale \$500,000 seven per cent Bonds. They are in sums of \$1,000 each, with coupons attached: principal redeemable in the city of New York on the 1st day of May, 1880, and the interest payable semi-annually on the first days of May and November of each year, at the office of the Ohio Life Insurance and Trust Co., New York. This Road is completed with single track, in a manner superior to most Roads, and extends up the Great Miami Valley from Cincinnati to Dayton. The receipts and disbursements of the Company for Constructions, Real Estate, Equipment, Station Houses, and incidental items, are as follows:

DISBURSEMENTS

Construction Account	\$2,044,433.96
Equipment	381,146.04
Real Estate	234,088.04
Total	\$2,659,653.04

RECEIPTS.

From Capital Stock paid in cash, at par, and Bonds converted.....	\$2,100,000.00
" Bonds unconvertible.....	500,000.00
" Surplus earnings to Aug. 1, '53 reserved fund.....	\$52,889.15
Total	\$2,652,889.15

These Bonds are issued to defray the cost of a second track, from Cincinnati to Hamilton, which is now under contract and in course of construction, and for additional equipments and depot facilities. The extraordinary increase of business, and the extension of connecting Roads, makes a second track, for safety and despatch, absolutely necessary, the increased earnings of which, it is not doubted, will amply repay the Stockholders for the expenditure.

The Road was put in operation on the 1st. of October, 1851, at which time two Passenger Trains and one Freight were sufficient for the business. It is now found expedient to run daily, each way, five Passenger Trains and three Freight Trains.

Thus far, the net earnings of the Road, (in accordance with pledges made to the original subscribers to the Stock) have been paid to the Stockholders in cash dividends; three of which have been made, besides paying eight per cent. interest in cash during the construction of the Road. This policy, differing from that pursued by most Roads, leaves no other mode for accomplishing the work proposed, than a further issue of Bonds.

The earnings (nearly all local) of the first two years, ending on the 30th ult. show the necessity of the second track, arising from the rapid increase of business, and the prospect that they will continue nearly the like ratio. They were as follows, on a road 60 miles in length:

Year ending Sept. 30th. 1852.....	\$241,426 41
Year ending Sept. 30th. 1853.....	402,154 47

Increase, (over 66 per cent.)..... \$160,728 06

The present business of the road, and its future prospects justify the opinion that besides paying semi annual cash dividends of five per cent, a fund will be accumulated from the earnings sufficient to discharge the liabilities from bonds issued by the time they become due, which, on reference to the reserved fund and as by figures above, will be seen to be the policy of the Company.

The position occupied by the Cincinnati, Hamilton and Dayton Railway is one of the most commanding for business in the Western country. It is sixty miles in length, running through the populous and fertile Valley of the Great Miami, where water power for manufacturing purposes is abundant. The great feature of the Road is its local travel and traffic, which cannot be materially interfered with, if the necessary facilities are furnished. The average number of passengers now carried daily is over eleven hundred, more than three-fourths of which are way passengers. Four Roads, now in operation, connect with it at Dayton, and

one at Hamilton, with which arrangements have been made for a permanent business. Four other Roads, now in course of construction, will also connect with this Road at Hamilton, Carlisle and Dayton. A glance at the map will show that the immense trade and travel from the West, North and North West will be secure to this road, whilst at the same time it will be seen to occupy a favorable position for a fair share of Eastern business.

Sealed Proposals for \$250,000 of the Bonds, will be received at the Office of the Company in Cincinnati, and by Jos. B. VARNUM, Esq., a Director in the Road, 62 Liberty street New York (where any further information can be had of him, or of Chas. J. Stedman, Esq.) until the first day of November ensuing. No bid will be entertained, unless it shall exceed ninety per cent.

Payments for the Bonds may be made in installments of one third each and the remainder in 30 and 60 days, or the whole may be paid at one time as best suits the purchaser.

S. S. L'HOMMEDIEU, Pres't.
Cincinnati, Oct. 10, 1853.

Mr. Wm. Naish,

OF NEWPORT, MONMOUTHSHIRE,

INSPECTOR of Rails, begs most respectfully to acquaint Importers of rails, Engineers and others connected with the railroads of America, that he still continues to execute orders of inspection throughout the various districts of South Wales and adjacent Iron Works, and confidently refers to the satisfaction which his supervision has given during the last ten years, to exporters of rails and others as below named as a proof of the fidelity, carefulness and promptitude of his inspections.

BARING, BROTHERS,	London.
PALMER, McKELLOP, DENT & Co.	Do.
LEWIS HOPE, Esq.,	Do.
Hon. JAMES WADSWORTH,	Buffalo, N. Y.
COLLMAN & GLOSTERFOHT,	London.
JAMES SPENCE, Esq.,	Liverpool.
C. THOMPSON & Co.,	Do.
NAYLOR, VICKERS & Co.,	Do.

4t 43

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by
38tr JOHN H. HICKS, 90 Beaver st.

To Railroad Companies.

COLLINS' PATENT VENTILATORS,
FOR

Ventilating all kinds of
PUBLIC AND PRIVATE BUILDINGS
Railroad Cars, Depots, etc.



THE Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of for giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P. R. R., Altoona, Feb. 8, 1853.
This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.
STRICKLAND KNEASS,
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.
Messrs. BAKER & WILLIAMS,
Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,
OLIVER W. BARNES,
Supt. Principal Assistant Engineer P. R. R. Co.

Notice to Contractors.



NORTHERN CROSS RAIL ROAD,

STATE OF ILLINOIS.

MAPS, profiles and estimates for the work necessary to the complete construction of the NORTHERN CROSS RAILROAD, will be exhibited at the office of the company in Quincy, on and after the 13th November and proposals for the work are requested from contractors.

Meanwhile, as the preliminary lines have been taced on the ground which do not vary materially from the probable location, and as the work will be let by quantities with equitable provision for changes, it is entirely practicable by visiting the ground to obtain all the most important information necessary to regulate the bids.

The route extends from Quincy on the Mississippi river, in a direction east and north to the dividing ridge between the Mississippi and Illinois rivers, thence about midway between those rivers to Galesburg, in Knox county, a distance of about 100 miles. At Galesburg it connects with other roads leading to Chicago. The country through which it passes is well settled, healthy and fertile, unsurpassed in these latter particulars on this continent, and, as it is contemplated to build a road of the first class common in the United States, the work will be of sufficient magnitude to make the execution desirable including at many place good work for the winter.

The line will be divided into sections, and proposals will be received for the construction of one or more up to the whole road, the propositions being made for the grading and masonry—bridges, ties and sills—and complete construction, (excepting depots,) all in a single contract or separately for each item.

Contracts will not be closed before the 25th November, nor sooner thereafter than to afford sufficient time to decide on the most satisfactory offer.

Specifications for the mode of construction, with maps and profiles of the preliminary lines, may always be seen at the office in Quincy.

Quincy, Illinois, September 26th, 1853.

N. BUSHNELL, President.

W. H. SIDELL, Chief Engineer.

NOTE. From the point where the line to Galesburg leaves its easterly direction to turn northerly, an extension is projected to the Illinois river. This will be about 30 miles long, terminating opposite Meredosia, where it connects with the main line of The Great Western Road, which extends from thence east through the capitals of Illinois, Indiana, Ohio, &c. The construction of this part of the line was begun as a State work about fifteen years ago, and abandoned after a large sum had been expended in the graduation. The company will be ready to negotiate for its construction as a separate work.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Watson's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, HENRY SIZER, Agent, Cincinnati Ohio.

Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

LITHOGRAPHY.

PUBLISHERS, Civil Engineers, Machinists, and others requiring Lithographs, plain or in colors, can depend on the high finish of their designs, along with promptness and dispatch.

DAVID CHILLAS,
50 South 3rd Street,
Philadelphia.

May 1st, 1853.

ELLET

ON THE

Mississippi and Ohio Rivers.

THIS WORK contains plans for the protection of the Delta of the Mississippi from inundation, and investigations of the practicability and cost of improving the

NAVIGATION OF THE OHIO RIVER,

BY MEANS OF

RESERVOIRS;

and an appendix on the Bars at the mouths of the Mississippi, by,

CHARLES ELLET, JR.,
Civil Engineer.

1 Vol., 8 vo., price \$3.

NOTICES OF THE PRESS.

From the Scientific American.

"We hope to see the plans of Mr. Ellet carried out. We believe them to be not only feasible, but eminently ingenious and practical." "If carried out they will be the means of benefitting all the country watered by the tributaries of the Mississippi, and that noble river itself to an amount far beyond our ability to compute at present."

From the Cincinnati Railroad Record.

"The question then arises whether the equalization of the waters can be accomplished? If so, can it be done at a moderate cost? Both these questions must be answered in the affirmative." "The demonstration of this has been made by Mr. Ellet in his book, so complete, that if the work be never done, this memoir, at least, will remain a monument to the genius and labor of its author, and to the skill of American Engineers."

From the Journal of the Franklin Institute.

"This book, which we look upon as certainly one of the most valuable contributions which has yet been made to Civil Engineering in this country, consists of two elaborate memoirs on the Mississippi and Ohio rivers."

"It will be seen that Mr. Ellet has taken the most comprehensive view possible of this subject, and has treated his work with great ability."

From Appleton's Mechanic's Magazine.

"This work contains a larger amount of facts bearing on the past, present, and probable future of the Mississippi valley, and will be intensely interesting to the general reader, in that great and growing section of our country. It investigates the causes of freshets, the reasons for their gradual and certain increase in height, as the country becomes settled and drained, and points out what is in his opinion the best and only method of effectually protecting the valuable lands on the lower Mississippi from threatened destruction, and of maintaining, to some extent, an equal flow of water in the channels of great rivers throughout the year."

From Hunt's Merchant's Magazine.

"Mr. Ellet has furnished a fund of knowledge and information in this work which must command the attention of professional readers."

"In making these surveys, Mr. Ellet has introduced a new system of civil engineering which must increase in interest as it becomes more fully developed. His views are supported by irresistible arguments and clear reasoning. His calculations are made with great care, and the diagrams illustrate his subject perfectly."

Lately published by,

LIPPENCOTT, GRAMBO & Co.,

Philadelphia,

And for sale by,

D. S. APPLETON & Co., } New York.

and G. P. PUTNAM & Co., }

Oct. 15. 3t

N. York and N. Haven R. R.

NOTICE OF SUMMER ARRANGEMENTS,

Commencing Monday, May 9, 1853.

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation to New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk, and Bridgeport.	9.35 A. M.—Express from New Haven, stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation to New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Supt.

New Haven, May, 1853.

STATE OF NEW YORK—SECRETARY'S Office, Albany, August 18, 1853.—To the Sheriff of the County of New York.—Sir. Notice is hereby given, that at the General Election to be held in this State on the Tuesday succeeding the first Monday of November next, the following officers are to be elected, to wit:

A Secretary of State, in the place of Henry S. Randall;
A Controller, in the place of John C. Wright,
An Attorney-General, in the place of Levi S. Chatfield;

A State Engineer and Surveyor, in the place of William J. McAlpine;

A State Treasurer, in the place of Benjamin Welch, Junior;

A Canal Commissioner, in the place of John C. Mather;

A State Prison inspector, in the place of William P. Angel;

Two Judges of the Court of Appeals—one in the place of Charles H. Ruggles, and one in the place of Hiram Denio, appointed to fill the vacancy occasioned by the resignation of Freeborn G. Jewett;

A Clerk of the Court of Appeals, in the place of Charles S. Benton;

All whose terms of service will expire on the last day of December next, except that of Freeborn G. Jewett, which will expire on the last day of December 1857.

Also, a justice of the Supreme Court for the First judicial District, in the place of John W. Edmunds, whose term of office will expire on the last day of December next;

Also, four Senators for the Third, Fourth, Fifth and Sixth Senate Districts, in the places of William McMurray, Obediah Newcomb, James W. Beekman, and Edwin D. Morgan, whose terms of office will expire on the last day of December next.

COUNTY OFFICERS ALSO TO BE ELECTED FOR SAID COUNTY,

Sixteen members of Assembly;

Two Justices of the Superior Court, in the place of John Duer and Robert Emmet;

A Judge of the Court of Common Pleas, in the place of Charles P. Daly;

A District Attorney in the place of N. Bowditch Blunt.

Two Governors of the Almshouse, in the places of Richard S. Williams and Isaac Townsend;

All whose terms of office will expire on the last day of December next.

Yours, respectfully,

HENRY S. RANDALL,

Secretary of State.

The above is published pursuant to the notice of the Secretary of State and the requirements of the statute in such case made and provided.

JOHN ORSER,

Sheriff of the City and County of New York

Valuable Works on Railroads, Railway Engineering, Steam Engines, &c.

LARDNER'S RAILWAY ECONOMY, 1 vol. \$2 00
 THE STEAM ENGINE, STEAM NAVIGATION, ROADS AND RAILWAYS, Explained and Illustrated by Dr. LARDNER, 8th Edition, revised and improved..... 2 00
 TREDGOLD ON THE STEAM ENGINE, 3 vols., 4 to., 1/2 calf..... 50 00
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 TRAUTWINE ON EXCAVATIONS AND EMBANKMENTS..... 1 00
 Imported and for sale by JOHN WILEY, 167 Broadway, New York.

Henry I. Ibbotson,

MANUFACTURER OF

FILES AND SAWS,

Warranted of superior quality.

Office and Warehouse, 218 Pearl St., New York.

Machinists' Tools.

A SUPERIOR CLASS,

DESIGNED particularly for Railroad work, manufactured by L. B. TING & CO., (late ALDRICH, TING & Co.)
 October 7, 1853. LOWELL, MASS.

SIMON DRAPER, 46 Pine St., offers for sale a variety of Railroad Bonds and Stocks; also, State, City, Town and Country Bonds, among which are:

State of Pennsylvania 5 per cent. coupon Bonds, \$1,000 each, coupons payable Feb. 1 and Aug. 1, in Philadelphia, mature 1877.

State of Georgia 7 per cent. coupon Bonds, \$500 each, coupons payable Jan. 1 and July 1, in Savannah, mature 1861.

State of Wisconsin 12 per cent. coupon Script, for improvement of Fox and Wisconsin Rivers, whole issue \$75,000, coupon payable Jan. 1, in New York, mature 1862.

State of New York 5 per cent. Canal Certificates, interest payable in New York.

City of Troy, N. Y., 6 per cent. Bonds, whole issue \$500,000, Bonds \$1,000 each, coupons payable Jan. 1 and July 1, in New York, mature 1867 and 1872.

City of Newburg 6 per cent. Bonds, whole issue \$100,000, coupons payable March 1 and Sept. 1, in New York, mature 1873.

City of Racine, Wis., 7 per cent. Bonds, whole issue \$300,000 bonds \$500 and \$1,000 each, guaranteed by the R. J. and Mississippi Railroad, and convertible into its stock, coupons payable Jan 1 and July 1, in New York mature 1872.

First Mortgage Convertible 7 per cent. Bonds of the Buffalo, Corning and New York Railroad, whole issue \$550,000, coupons payable in New York, April 1 and Oct. 1, mature 1867.

First Mortgage Convertible 7 per cent. Bonds the Western Vermont Railroad, whole issue \$400,000, coupons payable in New York Jan 1 and July 1, mature 1861-71.

First Mortgage Convertible 7 per cent. Bonds of the Columbus, Piqua and Indiana Railroad, whole issue of \$600,000, coupons payable in New York Jan. 1 and July 1, mature 1862.

First Mortgage Convertible 7 per cent. Bonds of the Mississippi and Rock River Junction, whole issue \$400,000, coupons payable in New York Jan 1 and July 1, 1863.

First Mortgage Convertible 8 per cent. Bonds of the Milwaukee and Mississippi Railroad, whole issue \$600,000, coupons payable in New York Jan. 1 and July 1, 1862.

First Mortgage 7 per cent. Bonds, Corning and Blossburg Railroad, whole issue \$150,000, coupons payable in New York May 1 and Nov. 1, mature 1873.

First Mortgage 7 per cent. Bonds, Toledo, Nowwalk and Cleveland, whole issue \$525,000 coupons payable in New York Feb. 1 and Aug. 1, mature 1863.

First Mortgage 7 per cent. Bonds, Mansfield and Sandusky, whole issue \$730,000, coupons payable in New York Jan. 1 and July 1, mature 1860.

First Mortgage 7 per cent. Bonds Vermont Valley, whole issue \$386,000, coupons payable in New York April 1, Oct. 1, mature 1861.

First Mortgage 7 per cent. Bonds Troy and Bennington Railroad whole issue \$100,000 coupons payable in Troy, New York Jan. 1 and July 1, mature 1862.

First Mortgage 7 per cent. Bonds New Jersey Central Railroad, whole issue \$1,500,000, coupons payable in New York Feb. 1 and Aug. 1, mature 1860-70.

First Mortgage 7 per cent. Bonds, Brunswick Canal Co., whole issue \$200,000, coupons payable in New York Jan. 1, July 1, mature 1857.

Also, Second Mortgage Bonds of many of the above Companies, and 7 per cent Bonds, Saratoga and Washington Railroad, whole issue \$340,000, coupons payable in New York, mature 1862.

7 per cent Bonds Troy and Boston, whole issue \$300,000 coupons payable in New York April 1 and Oct. 1, mature 1864.

10 per cent. Bonds Mansfield and Sandusky Railroad Co., whole issue \$170,000, coupons payable in New York April 1 and Oct. 1, mature 1855-57.

7 per cent. Mortgage Bonds of the Atlantic Steamship Co., whole issue \$700,000, coupons payable in New York, mature 1855.

8 per cent. Convertible Bonds of the Michigan Central Railroad Co., whole issue \$2,459,500, coupons payable in New York April 1 and Oct. 1, mature 1860.

TYRES.

LOCOMOTIVE AND CAR WHEEL TYRES, from the Manufactory of the celebrated and well known Iron Works of the LOW MOOR CO., in England, are furnished by the subscriber, Agent, by direct importations, ready Welded, Blocked, and Rolled, from only ONE MAN and with only ONE WELD, at a cost much below that of any other stamp.

Importations through the last year of nearly 3000 Single-welded Tyres, which are now found running on the important Railways, have rendered them in almost exclusive use, and their performance of over 20,000 miles each, have elicited the highest recommendations of their superiority.

All work of this Company is warranted to give satisfaction. Sample Tyres may be seen at the Crystal Palace, New York, and at my Warehouse, 9 Liberty Square, Boston.

W. BAILEY LANG,
 24 BROADWAY, N. Y.
 9 LIBERTY SQUARE, BOSTON.

New Works on Civil Engineering.

THE Field Practice of laying out Circular Curves for Railroads.—By JOHN C. TRAUTWINE, Civil Engineer—2nd edition in pocket-book form.

A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates.

Price One Dollar each—postage on the Curves Three Cents—and on the Excavations and Embankments, Six Cents.
 For sale by WILLIAM HAMILTON,
 Hall of the Franklin Institute, Philadelphia.
 May 4, 1853.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WIGHTMAN, manufacturing Chemists, Philadelphia.
 Jan. 20, 1849.

Railroad Iron.

THE undersigned being appointed Agent to Messrs. Guest & Co., the proprietors of the Dowlais Iron Works, near Cardiff, South Wales, is duly authorised to contract for the sale of G L Rails on the most advantageous terms.
 RICHARD MAKIN,
 April 22, 1852. 24 Broadway.

Office L. & U. M. R. R. Co.,
 Lawrenceburgh, Oct. 11, 1853.

NOTICE is hereby given that at a meeting of the Board of Directors of the Lawrenceburgh and Upper Mississippi Railroad Company held on the 3d day of October, 1853, the following resolutions were adopted, viz:

Whereas, the principal places designed to be connected by the diversion and extension of the Lawrenceburgh and Upper Mississippi railroad from its earlier bearings were the cities of Indianapolis and Cincinnati, and whereas, under its present title such leading object of the road is not as distinctly indicated as is desirable for general information.

Therefore: Be it resolved by the Board of Directors of the Lawrenceburgh and Upper Mississippi Railroad company that the corporate name of the said company be, and the same is hereby changed, and the said company shall from and after the first day of December next be known by the name and style of "THE INDIANAPOLIS & CINCINNATI RAILROAD COMPANY," and as such shall hold, exercise and enjoy all the privileges and rights exercised and enjoyed, and be subject to all the engagements, contracts and restrictions incurred by said company under its former name, according to the provisions of the General Law of the State of Indiana, authorising Railroad Companies to change their names.

A true copy, WM. G. DUNN, Secretary.
 3t 43

Notice to Contractors.

OGDENSBURG, CLAYTON AND ROME RAILROAD.

THE OGDENSBURG, CLAYTON & ROME RAILROAD COMPANY will receive proposals at their Office in the Village of Rome, until the 24th day of October next, for the construction of their railroad from Rome to Ogdensburg, to be completed as follows:

The Road between Rome and Boonville by the 1st day of August next. Between Boonville and Denmark by the 1st day of October, 1854. Between Denmark and Philadelphia by the 1st day of May 1855. Between Philadelphia and Ogdensburg by the 1st of November, 1855.

The proposals will be received for the construction of the whole Road, including Lumber Ties and all other materials, with or without the Rails, in one contract, or in short sections, at the option of contractors, or offers will be received for furnishing the Lumber, Ties, and other materials separately, either for the whole Road or for sections.

The Maps, Profiles and Plans of the Road, together with specifications of the work and materials will be ready for the inspection of Contractors at the office, on or before the 10th day of October and Engineers will then be ready to show the line of the Road to persons desirous to contract.

By Order of the Executive Committee,
 HENRY A. FOSTER, President.

R. S. DORT, Secretary.
 Sept. 12, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST MANNER, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1821.

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The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, October 29, 1853.

Railway Equipments.

The English railways have adopted some very important improvements in their equipments, which it is for the interest of our railroad people to examine. In axles particularly, and in the method of manufacturing them, we believe the English forges have gone to the perfection of workmanship. Always careful in the selection of their material, where furnished for such specific purposes, they have carried out the principle of fagotting their axles to the greatest necessary extent. For instance at the Brunswick Iron Works, Wrentham, England, each axle is made of from fifteen to twenty faggots, each faggot being made from eighteen pieces of iron laid in a pile, and drawn out in a segmental form. Here are from three hundred to three hundred and sixty pieces in one axle, each of which is purposely prepared to fit to the rest. The Hudson River road, who have taken much pains in the selection of their equipments, have some of these axles in use, all of which will probably wear out before they break or fail in any respect. Such a process of manufacture is an improvement of the most important

kind, not the result of an exercise of ingenuity merely, but of a faithful adherence to the correct principles of such work, viz: a thorough and intimate blending of the material equally strong in any direction. By this, one great end of the manufacture of iron is attained, which is *uniformity* of material and structure, without injury to the original stock.

The same establishment referred to above, manufacture a hollow axle of the most perfect description, and by a process which would surprise even those accustomed to working in iron. A hollow cylinder from two to three feet long, a foot in diameter, and three or three and a half inches thick, is formed from faggots of Z shape, lapped upon each other. These are first welded throughout the thickness of the cylinder, and afterwards drawn out by hammering the *outside* only. The principle of the arch, by which each faggot sustains a place in the cylinder and contributes to the strength of the whole, gives this result, that hammering only the *outside* reduces the interior in the *same proportion*. For instance, the original cylinder of twelve inches outside and seven inches inside diameter, becomes reduced to four and a half inches outside, and two and a half inches inside diameter, without having any spindle or core in the center of the axle. And the uniformity of thickness attained by this process is remarkable. We have seen a section of one of these axles, finished by this process, in which throughout its length, the thickness was as uniform as if the interior had been formed on a straight and polished spindle. After the tube has been thus drawn, throughout its length, a pin is placed in each end and the journals hammered down to the proper size. The cross section of these axles shows the shape of the faggots, like double angle irons, overlapping and forming the cylinder. The lightness, strength and uniformity of structure and material of axles made by such a process is another great improvement.

The same works manufacture also a tire for engine and carriage wheels, in which the tread for a depth of more than an inch is made from extra double refined Russia iron, and is nearly as hard as steel. These tires weld equally as well as ordinary tires and the tread does not laminate and separate from the rest, as the two descriptions of

iron weld together with facility. The extent and character of the Russia Iron tread is well shown in a section of one of these tires by rubbing oil of vitriol upon it, when effervescence immediately commences upon the softer part of the iron or inner side of the tire, and the weld is plainly distinguishable. Such tires are especially reliable from their hardness and uniformity.

The self-adjusting switches made by split or scarfed rails with steel edges are also much used by some of the English roads.

Another improvement which has been adopted extensively in England, to obtain the continuous character of the compound rail without involving an entirely new superstructure, is the method of bolting side strips, 20 inches or two feet long, on each side of the rail, through and through, at every joint. This has been called *fish jointing*, from its resemblance to *fishing* a spar at sea. The results attained by this process on the Eastern Counties line, induced the London and North Western, and the Midland railways to purchase the right for their entire lines, and the Permanent Way Company, who hold the right for the improvement, are introducing it on many of the other lines in England.

None of the improvements which we have noticed are experiments, made only to acquire a short lived fame, but are occupying a prominent position in the equipments of English roads. The improved forms of axles, tires, and rail connections which we have noticed are generally adopted by the Great London and North Western and Midland railways, two lines whose united lengths are 1051 miles, all double track, and whose engines numbering 780, are of the greatest power and weight. The demands for the great first-class travel in England, have perfected the rolling stock and equipments beyond any thing that has been introduced into our own country.

We are happy to learn that the proprietors of the greater part, if not of the whole of these improvements are now represented here through the agencies of the Brunswick Iron Works, the Permanent Way, and other companies, and that these equipments can be generally supplied at about the cost of our ordinary equipments. The address of the Brunswick Iron Works Agency will be found in our advertising columns.

"Novelties," New and Old.

"NOVEL LOCOMOTIVE.—There has just been completed at South Boston, a locomotive called the "Texas", constructed on a most novel design, and intended, it is thought, to work an entire change in the manner of making locomotive engines. It weighs about thirteen tons with the tender which is connected with it, the boiler and tank being placed on the same frame. It has but four wheels, and these are hollow drivers, and are placed one pair in front of the boiler, and one pair under the tank. The cylinders are 12½ in. diameter, and are outside connections. The power, instead of being applied directly to the drivers by connecting rods as is usual is applied to the top of an upright beam placed just in front of the fire box on either side of the boiler. From the top of this beam, which moves about 15 deg. on a heavy pivot, runs a rod to the back driver, and from the bottom runs a rod to the front driver. The boiler sets quite low, while the tank hangs below the wheels. The link is also of most novel construction, and is said to be a most important improvement, the link working within the block, instead of the block within the link. As no patent has been taken or is intended to be taken leave has already been given other manufacturers to adopt this link, and it will probably come into general use.

"The advantages derived by the novel construction of the locomotive, are the ease with which great power can be applied, and the great gain made in bringing the whole weight of the engine and tender to aid in drawing a heavy load. It is said that a thirteen ton engine, built on the new model, can do the same work as a twenty ton engine, built so that the power is applied to the drivers at the fire box. The result will of course be a great diminution in the expense of procuring motive power for our railroads. The design as we have before remarked is wholly original, nothing of the kind ever having been attempted before.

"The locomotive just completed is for a road in Texas. There is also in process of construction four others after the same model, intended for a road in Pennsylvania.

"On Saturday, with a view of testing the capabilities of the engine, "Texas" was attached to a heavy freight train consisting of fourteen long cars. It drew them with the greatest ease from South Braintree to Boston making the time allotted to the train to a second. This train, which is one of the heaviest on the road, is usually drawn by a twenty-five ton locomotive. The result of the experiment is deemed conclusive that the locomotive will prove in every respect successful and that a twelve ton engine can when built after the new plan, do the work of a twenty ton engine of the old model."

The above will do very well for a novelty—, but as "an improvement, or as likely to work an entire change in the manner of making locomotives" its claims deserve no attention. It possesses the novelty of complication, besides the disadvantage of an extravagant length of wheel base; the entire weight of the engine being on two pairs of drivers 16 feet apart. The four engines of this kind, for the Cumberland Valley Railroad, in Pennsylvania, will probably encounter some sharp curves, which, but for the protection afforded by the chilled driver, would subject the flanges to very severe wear.

The tank-engine, or combined engine and tender, is an arrangement in no ways demanded for the working of American roads; except in the case of a very few, running very light trains. The purpose of the tender is to *relieve* the engine of excessive weight, while the *weight* of the tender neither has nor can have anything to do with drawing the load, even if acting in connection with the drivers. To load the engine with this weight implies a fear that the adhesion of the engine will not equal its

ordinary traction, or steam power, while this fear ought to be forgotten so long as the truck frame is in universal use. It is notorious that the majority of our most powerful and efficient engines employ but from two thirds to three fourths of their adhesion weight for propulsion, the rest being carried about on a truck.

"Substitute for the Turntable.—Joseph Dunn, of Durham, England, is now exhibiting at the Crystal Palace, a model of railroad track, car and switches for reversing locomotives. The *Scientific American* describes it as having tracks, branching out from the main track, and at suitable distances from each other, meet in a single track, the length of locomotive. The car passes out by one track and returns by the other reversed. The switches are placed near each other, so that they may be operated by a single man, and are kept open for the main track by springs, except when the reversing is made. This plan is new to many of our readers and will readily recommend itself for efficiency and cheapness."

This is a particularly antiquated idea, and while its principle has been long understood, it cannot be generally used on account of the time and room which its operation requires. For an engine house holding from 12 to 20 locomotives it would cost more than a good turntable, while the complication of its tracks, and the endless intricacy of the movements in getting through it would entirely preclude its use. The engine house of the Baltimore and Washington road at Washington is the only instance we have ever seen of its application for the express purpose of turning engines, while its use is there confined to but two or three locomotives.

o Railway Axle Lubrication.—Mr. W. Bridges Adams, of London, lately read a paper before the Birmingham Institution of mechanical engineers, in which he alludes to the ordinary mode of greasing practised in England, and describes a box invented by himself as an improvement, which is essentially the same as the Lightner Box so generally in use in our own country.

India Rubber Springs.—Some of the English Railway engineers and managers are just giving attention to the merits of India rubber springs for engines and carriages. In a paper read before an association of engineers in June last, Mr. William C. Craig, of Newport, Monmouthshire, called attention to the results he had derived from the use of India rubber in place of steel springs, upon a rough tram road, with engines of great weight and power. It was found that the engines and cars were subjected to much less concussion from the deflection of the rails, and that great saving of dead weight was made. The form of spring used was identical with most of those in use in America, being a cylinder of prepared rubber confined with bands and caps on the outside, and having a spiral spring or washers in the inside. Mr. Craig has applied, and recommends, a hollow cylinder of India rubber closed with iron ends and containing water or other fluid, which he calls a "hydro pneumatic spring." The evaporation of water, its liability to freeze in winter, and the possible effects of long contact of rubber with any fluid, when made under a considerable pressure, might operate against a spring of this description. The only object proposed by the improvement is the saving of a portion of the rubber. The saving which attended the use of India rubber springs upon the Western Valley line of the Monmouthshire Railway and Canal Company was found by Mr. Craig to be at

the rate of nearly £500, or \$2400, per annum, for a stock of only fifteen engines! This sum was upon repairs of springs alone, including the necessary connections of the springs with the engine frames.

Clinton Line Railroad.

The Clinton Line and Clinton Line Extension Railroad Companies, whose advertisement invites the attention of Contractors in another column, are constructing a link in the great interior chain of roads across the country from East to West. The two united roads extend from the Ohio and Pennsylvania State Line in Trumbull county to the Mad River road, and are together 150.7 miles in length. Of this line 132.4 miles are straight. Of the curved line, the minimum radius of curvature is 1,910 feet for four tenths of a mile, which, however, may be improved; the next is 2,865 feet for 3.2 miles; the next 3,820 feet for 4.3; the balance of the curved line is 6.5 miles of 5,730 feet radius and 3.9 of 11,460 feet. The gradients nowhere exceed 40 feet going East; the line surveyed presents one grade of 45 feet for 4.7 miles going West, which may be reduced however to 40 feet by heavier work, if not avoided by an improved location. The connections of this line give it the most commanding character. Eastwardly, it connects with the New York and Erie by the Meadville Branch and also with the Catawissa and New Jersey Central by the Ridgway and Williamsport line. Both of these Pennsylvania connections are, it is understood, in a way to be completed at an early day. Fifty five miles from the Pennsylvania line, the Clinton line at Hudson, its western terminus, receives the Cleveland, Zanesville and Cincinnati railroad opening a line now nearly completed to Cincinnati and, also, intersects the Cleveland and Pittsburg road favorably for commanding the Cleveland business to New York and Philadelphia. About 30 miles from Hudson it meets the projected short line from Cincinnati and 54 miles from Hudson it intersects the Cleveland, Columbus and Cincinnati road. At its proposed terminus on the Mad River road it receives a road in progress west to Fort Wayne, where the continued line receives and, also, meets a line to Chicago and another to Springfield and St. Louis both in progress, another in project to the mouth of the Platte River. The surveys show that the line from a point about 30 miles west of Hudson to the Mississippi river is almost exactly straight. The whole when completed, it is thought, will present one of the most remarkable lines of railroad in the country, whether length, working character or command of business be regarded. It is said that the various parts are all so far provided for as to warrant the expectation that the entire chain to the Mississippi river will be completed in three years at farthest, while the portions through Ohio and Pennsylvania will have connections with the great centers of trade in the West at a still earlier date.

English Railway Traffic.

We give in this number of the Journal, a very interesting statement of the receipts of the English roads, for the weeks ending June 19th, 1852 and June 18th, 1853, and reduced into American currency.

It has been prepared by a gentleman of this city, who has spent considerable time in England, and who has given much attention to the operations of their roads.

Weekly Returns of Railway Traffic. June 18th, 1853.

	Miles opened.		Receipts.			Miles opened.		Receipts.	
	1852.	1853.	1852.	1853.		1852.	1853.	1852.	1853.
Aberdeen.....	72½	72½	\$7,342	\$7,876	Amount bro't up	3,369¼	3,510	\$775,472	\$899,618
Belfast & Ballymena.....	87¾	87¾	3,071	3,427	London & South Western.....	244½	251	53,013	66,911
Birkenhead, Lancashire & Cheshire junction	32	32	7,156	8,782	Londonderry & Enniskillen.....	24½	34½	1,218	1,787
Blackburn.....	—	—	—	—	Manchester, Buxton & Matlock junct.	—	—	—	—
Bristol & Exeter.....	84½	84½	22,293	22,800	Manchester, Sheffield & Lincolnshire	167¾	167¾	29,449	35,102
Caledonian.....	189¼	189¼	38,720	45,000	Manchester South junction.....	—	—	2,911	2,911
Chester & Holyhead (including Mold).	94¼	94¼	14,324	19,378	Ottrincham.....	—	—	2,822	—
Cork & Brandon.....	10	20	773	800	Maryport & Carlisle.....	—	—	3,178	2,924
Cork, Blackroch & Passage.....	—	—	947	769	Midland.....	498¾	498¾	100,467	105,618
Dundalk & Enniskillen.....	20	20	782	844	Midland Great Western (Ireland)....	126½	126½	10,695	11,453
Dundee & Arbroath.....	—	—	2,316	2,524	North British (including Dalkieth Branches).....	149	149	14,929	16,542
Dublin & Drogheda.....	53	53	4,609	5,756	North Staffordshire.....	—	—	—	—
Dublin & Kingstown.....	7¾	7¾	3,671	5,120	North Western.....	46½	46½	3,658	4,486
Dundee, Perth & Aberdeen.....	31	81	3,004	3,702	Oxford, Worcester & Wolverhampton	—	45½	—	7,622
Dutch Rhenish.....	57¼	57¼	5,671	5,026	Paris & Orleans.....	493	577	—	—
East Anglian.....	67½	67½	3,013	3,427	Paris & Rouen.....	82	82	33,222	37,373
Eastern Counties (including Norfolk)...	322	328	67,542	74,116	Paris & Strasbourg.....	—	392	—	—
East Lancashire.....	79	81½	17,858	20,218	Rouen & Havre.....	59	59	12,871	15,524
Eastern Union.....	94½	94½	9,889	11,129	Scottish Central.....	50	50	8,902	9,334
Edinburgh & Glasgow.....	89¼	89¼	17,178	19,471	Scottish Midland junction.....	32½	32½	2,747	3,191
Edinburgh, Perth & Dundee.....	70	78	9,876	11,320	Shrewsbury & Birmingham.....	29½	29½	—	—
Glasgow & South Western.....	174¾	174¾	18,498	21,387	Shrewsbury & Chester.....	48	48	3,276	8,076
Great Northern.....	223¼	283	50,973	69,449	Shropshire Union.....	30	30	2,924	2,969
Great Southern and Western (Ireland)	188	188	22,191	25,124	South Devon.....	57¾	57¾	9,687	10,147
Great Western.....	276½	283	50,973	69,449	South Eastern.....	249	289	57,178	72,236
Kendal & Windermere.....	10¼	10¼	942	1,018	South Wales.....	100½	131	7,049	15,017
Lancaster & Carlisle.....	90	90	21,671	23,253	South Yorkshire.....	77	77	4,907	8,769
Lancashire and Yorkshire.....	260	260	78,836	83,556	Toncaster & Goole, Stockton & Hartlepool	—	—	12,450	13,111
Liverpool, Crosby & Southport.....	16½	16½	2,938	2,702	Taff Vale.....	38	38	3,747	5,053
London & North Western.....	540½	553½	203,351	223,640	Ulster.....	36	36	2,133	2,387
London & Blackwall.....	5¾	5¾	5,102	6,751	Waterford & Limerick.....	50	68	1,573	2,756
London, Brighton & South Coast.....	173¼	173¼	41,036	52,604	West Cornwall.....	16¼	25	10,178	9,173
	3,369¼	3,510	\$775,472	\$899,618	Whitehaven junction.....	12	12	1,044	1,044
					York & North Midland, York, Newcastle & Berwick, Leeds Northern..	621	652	97,116	113,782
						6,708	7,515½	\$1,265,871	\$1,485,004

Amount per year.....1852 RECEIPTS. 1853.
\$66,825,292 00 \$77,220,208 00

Amount per week.....1852 RECEIPTS. 1853.
\$1,265,871 00 \$1,485,004 00

The English and French Railway System.

From Herapath's Journal of Oct. 1st.

Generally speaking, the English and the French systems adopted in the construction of railways are widely different. The English has failed of success; the French has succeeded. Yet there is more traffic in England than in France, and there is no reason for greater outlay.

In speaking of the success of railways, we mean their success as regards the shareholders' property invested in them. The public interest, however, is not neglected in France; on the contrary, it is served quite as well there as here—perhaps better; since the accidents on French roads are fewer, the regularity of the trains is greater, the fares are lower and the speed is not much less. On this point opinions differ. Some think greater speed alone shows greater advantage to the public; others think security, regularity, and lower fares advantages which more than counterbalance the single advantage of dashing along at a frightful pace. We confess we are fond of speed. It is pleasingly heroic to do 60 miles an hour, and there is a business advantage in it. But our feelings are, nevertheless, in favor of preserving our lives, and saving our pockets, when these are sacrificed to attain high velocities. If the choice were offered us of travelling from A to B at 60 miles an hour, endangering our lives and drawing heavily on our pockets, or to perform the same journey at the rate of 40 miles an hour with no risk of accident and at a smaller cost, we should choose the latter. We prefer safety and regularity to speed; low fares to high fares—when the companies derive the same profit from them.

The English railway system, in point of the method adopted in constructing the lines, differs from the French mainly in this respect—the French railway companies have only leases of

their lines, while the English have theirs granted to them in perpetuity. The difference is very similar to a man renting the house he inhabits, and living in his own house, the former representing the French system, the latter the English. Which of the two is better? As regards house property it is proverbial, which is better. The tenant spends his money carefully; if he has to do repairs, he is very careful to do no more than is necessary. On principle he will not be extravagant. If he indulges in luxurious mendings and fanciful makings—"improvements"—the landlord or next tenant, not he, presently comes in to enjoy them, should they be capable of affording any enjoyment, and not be—as however they usually are—ridiculous attempts at taste and improvement. On the other hand, the man who occupies his own house generally wastes money in continually making improvements. He will build up, and he will pull down; he will alter and amend; he will have this and that—all because it is his own house, and what money he spends, he spends as it were on himself. You frequently hear a man give as a reason for going to some heavy expense on his house, that the house is his own freehold property—his in perpetuity—and that what money he spends on it he can always enjoy, forgetting that though the common law vests property in men for ever, there is a divine law which gives only a lease of life, and sometimes a very short one, frequently the lot of the best of us. The law of society might secure a man in the right to property in perpetuity, but undoubtedly, at the end of a few years, more or less numerous, the Almighty will deprive him of the enjoyment of it. However long the period of legal right to possession, life is short.

We believe the owners of railway property are actuated by the same motives as the owners of houses. When the railway is their own in perpe-

tuity, they spend in improvements with a lavish hand. They regard what they call the permanent condition of their property, and commit the most absurd mistakes. Looking to catch the two birds in the bush, they let the one in hand fly. It is a fact, forcibly illustrative of our position, that one of the great English railway companies spent an enormous amount of additional capital on their line, with the view of obtaining perpetual security against competition, vainly imagining that extravagance would add to the security of a railway property. Security is a sad stumbling-block to the success of English railway companies. The French, on the contrary, enjoying only leases of their railways, with provision for redeeming their capital at the end of the leases, turn their whole attention to serving the public fairly, and getting immediately as much profit as possible from the lines. Necessarily they will not spend more capital than is requisite, nor will they lose time and incur heavy expenses in fighting other companies. They are only tenants for a time. If they lose time they lose money by not making the gains they could. If they spend more capital than is necessary, the ultimate owner of the railway—the government—will reap the benefit, if any benefit arise from lavish capital expenditure.

The French plan of leases induces Directors, 1st. To get all the profit for the time being they can; and 2d. To save capital expenditure, since they themselves have to replace the capital spent by means of a sinking fund provided out of the revenue earnings.

The English plan of granting perpetual possession to railway companies seems to have an opposite effect. Directors sacrifice present gains with a view of acquiring perfect security for the property, and the usual means adopted to gain this very doubtful end are to enter upon long and expensive parliamentary contests, to sink enormous sums of

capital in the formation of their lines, and to amalgamate with other companies; all dividend depressing circumstances, and yet we doubt whether the object in view, namely, *security*, is not rather impaired than furthered, for when a line has become exceedingly expensive, and its company involved in embarrassing engagements, will not new companies spring up to do the work for the public cheaper, and secure for themselves higher dividends?

Exhibit of the Condition and Prospects of the Cleveland and Mahoning Railroad Company.

CHARTER.

The Cleveland and Mahoning Railroad Company was chartered by the Legislature of the State of Ohio, March 21, 1851, by the passage of an act repealing a previous law, and was duly organized September 20th of the same year. The franchises, powers, privileges, and obligations of the Company, are defined in the general Railroad Law of Ohio, of Feb. 11, 1848, and its amendments, being the law under which nearly all the railroads of Ohio, constructed since its passage, have been built.

The Company are thereby invested with all the necessary and ordinary powers and franchises of Railroad Companies. The amount of capital stock authorized is \$1,500,000, with a power of increase vested in the stockholders; and the Company is authorized to borrow money on the Credit of the Corporation, to any amount not exceeding its authorized capital stock; to issue bonds therefor at a rate of interest not exceeding seven per cent. per annum, and for securing payment thereof, to pledge the property and income of the Company—to sell such bonds, either within or without the State, at such prices as in the opinion of the directors of the Company will best advance its interests; and making such sale or sales (if at a discount) as binding for the respective amounts thereof as if said bonds were sold at their par value. The Charter of the Company in Ohio was re-enacted in Pennsylvania, with some additions, by law dated February 11, 1853, and the powers and franchises of the Company in both States are substantially the same.

THE LINE OF ROAD.

The road which the Company are constructing, as authorized by the above-mentioned Charters, extends from Cleveland in the State of Ohio, through the Mahoning Valley to a point near the junction of the Mahoning and Shenango rivers, in the vicinity of New Castle, Lawrence county, Pennsylvania, a distance of 85 miles in the most direct practicable route from Cleveland to Philadelphia, Pittsburg, and Baltimore. It is a very direct road, stretching across the table-lands lying between the Harbor of Cleveland and the head-waters of the Mahoning, in nearly a straight line, and then descending the river valley upon an almost entirely level route, with long tangents and curves of large radii. The maximum grades upon the line going West, are 21 feet to the mile, and going East are 16 feet to the mile, except seven miles on leaving the Lake at Cleveland, where grades of 60 feet per mile occur; but being in the immediate vicinity of the principal station, and in favor of the heavy coal and iron trade from the interior to the Lake, will not be any serious difficulty in operating the road. The road will be constructed in the most substantial manner. The masonry is all being built on a double track—while oak ties 7 by 9 inches, of which a large quantity are now delivered on the line, and a rail of 60 lbs. per yard will be used in the superstructure. With the exception of about fifteen miles towards the Western extremity, gravel or ballasting will be abundant. Sixty-seven miles of the road is under contract, and progressing with a good degree of rapidity, and the whole is to be prepared for the iron in May next.

CONNECTIONS AND THROUGH TRADE.

Eastwardly. At its terminus near New Castle, the Cleveland and Mahoning Railroad will connect with a branch of the Ohio and Pennsylvania Railroad, which, it is understood, is about to be con-

structed from the New Brighton station, on that road, up the valley of the Beaver, or Lower Mahoning, to New Castle, in default of which the Mahoning road will be extended to the same point, thus forming a railroad line from Cleveland to Pittsburg, upon the shortest and best possible route, 131 miles from city to city, with great advantages as against any other route in grades and curvatures. At the same point, near New Castle, it will connect with the North Western (Pennsylvania) railroad, from New Castle to Blairsville on the Pennsylvania railroad—a road of which the surveys are just approaching completion, and which, there is no reason to doubt, will be constructed by the Company organized for that purpose, with the assistance of the Pennsylvania railroad and the City of Philadelphia. The Cleveland and Mahoning railroad, in connection with the North Western and the Pennsylvania railroads, will form a line from Cleveland to Philadelphia, 472 miles long, being 22 miles shorter than the line through Pittsburg, and having the advantage of an unbroken gauge, and no trans-shipment the whole distance. The same route, in connection with the Baltimore and Susquehanna railroad, furnishes a line from Cleveland to Baltimore, 66 miles shorter than the line, via Wheeling and the Baltimore and Ohio railroad, and 48 miles shorter to Washington City than the same route.

Westwardly. At Cleveland, the Cleveland and Mahoning railroad will connect with the great system of railroads terminating at that point—the Cleveland and Columbus line to Cincinnati—its Bellefontaine branch to Indianapolis and St. Louis, and the Toledo and Norwalk. It will terminate on the same ground with the Junction railroad, now part of the Cleveland and Toledo railroad, of the same gauge, via Swanton and the Northern Indiana railroad to Chicago, thus forming a continuous line of an unbroken gauge, and shorter than any other route, either constructed or projected, from either Philadelphia, Baltimore, or Washington, to Chicago, and all the emporiums of lake commerce east of it. The line, taken together, is also far superior in character to any other route that can compete with it for any portion of the same trade, and is the longest and most magnificent unbroken line of railway communication in the United States. With these advantages, it must always be the great commercial avenue between all the Atlantic cities south of New York, and the basin of the Lakes. For the passenger trade of New York, the Mahoning road will ultimately open a new channel, which will form an alternate line to the great Lake Shore route, which now controls the traffic almost exclusively. A route is undertaken from Dauphin Bridge, or a point in that vicinity, on the Pennsylvania railroad, via Allentown to Easton, and thence by the New Jersey Central, to New York; thirty-two miles only are required to finish this line from New York to Dauphin—a good Company in New York City have it in hand, and it will be completed at an early day. Two routes are also being surveyed from Warren, Ohio, on the line of the Mahoning road, one via Franklin, Penn., to Williamsport, and thence, via the Catawissa and New Jersey Central road, to New York; the other via Meadville and Little Valley, and thence via the New York and Erie road to New York. On these two last routes, large local interests are concerned, both in Pennsylvania and Ohio, and they are so demanded for local accommodation, as well as with a view to the through traffic of the country, that no doubt is entertained that one, if not both of them, will be built. The route, by the Pennsylvania railroad and Easton, and still more, the route via Williamsport and Easton, (if built) will shorten the distance between Cleveland and New York about 100 miles, as compared with the lake shore route, and although less favorable in point of grades and curvature, than the New York Central Line, is more favorable in both those respects, than the New York and Erie. Whether the great saving in distance will fully counterbalance the difference in character as compared with the New York Central, may be left to the future to determine. One thing may be taken for certain,

that the Mahoning road will furnish, by these connections, the great alternate line from Cleveland to New York, in distance about 100 miles shorter, unembarrassed by transshipment or changes of gauge and superior in grades and curvature to the New York and Erie road. Any east and west road, which might be projected, running south of Cleveland, is immediately driven into rough and difficult country, and must make a detour to return to the more Western Lake cities. It is also certain that no road can ever leave Cleveland between the Lake Shore road on the North, and the Mahoning road on the South. The stone quarry ridge, the deep valley of the Chagrin, and the precipitous hills by which it is bordered, all of which must be crossed at right angles, render the whole intermediate country, for 30 miles east of Cleveland, entirely impracticable for such a road. In other words, the position of the Mahoning road, as the only alternate line with the Lake Shore, from Cleveland and the Lakes west of Cleveland to New York, is assured by the natural features of the country. It is the only line that can divide with its great rival the harvest, which is fast swelling beyond the capacity of a single road. A road, called the Clinton Line, is also projected, and a portion of it under contract, crossing the Mahoning road about 26 miles from Cleveland, and running towards the south line of Ashtabula Co., which will bring the business of that region upon the Mahoning road, and be a valuable feeder to its trade.

But the most important connection for business with the Mahoning road, is the sail and steam marine of the Lakes themselves. Leaving the Harbor of Cleveland, at right angles to the Lake Coast, and on the most direct and easy route to all the Atlantic cities south of New York, if not ultimately to New York itself, it is destined to become the most important channel of trade between those cities and the whole Lake Basin. The Company have secured about 20 acres of very valuable lands, directly at the piers, having in all a river front of about 1500 feet, and a lake front of nearly half a mile, thus enabling themselves to provide accommodations for the most extensive trade between the cars and vessels in the harbor. The amount and value of that trade is best ascertained by the official returns to the Government of the United States. In a communication from the Secretary of the Treasury, of date, August 25, 1852, occur the following statements respecting the Lake trade:—

"During the year, 1851, the commerce, foreign and coastwise, was estimated at \$326,593,335, transacted by means of an enrolled tonnage of 77,061 tons of steam, and 138,914 tons of sail, or an aggregate licensed tonnage of 215,975 tons. In the prosecution of this commerce, it would appear, as nearly as can be ascertained, that there was entered an aggregate at all the lake ports together of 9,469,506 tons during the season, and cleared at the same ports, 9,456,346 tons.

"The amount of grain alone which was transported during the season of 1851 (which was a year of short crops), amounted to 1,962,729 barrels of flour, and 8,119,169 bushels of wheat, (amounting to what equals an aggregate of 17,932,807 bushels of wheat;) 7,498,264 bushels of corn; 1,591,758 bushels of oats; and 360,172 bushels barley: in all 27,382,801 bushels of cereal produce."

Comparisons are, however, sometime more satisfactory than figures. We therefore extract from the same report, that the yearly average of the whole foreign commerce of the United States, including exports and imports, from 1848 to 1852, exclusive of specie, was \$332,007,232, being only two per cent. greater than the trade of the lakes in 1851. The lake commerce is also compared in the same report with the whole river commerce of the country, for the year 1851:

	TONS.	VALUE.
Lake commerce, exclusive of \$12,119,877 Canadian and Foreign.....	8,971,126	\$814,473,468
River commerce.....	4,066,800	389,602,744

Being about equal to all the commercial exchanges taking place upon the almost unbounded river navigation of the whole interior of the United States. All the seaboard cities of the United States, south of New-York, especially Philadelphia and Baltimore, must have their cheapest and most direct avenue to this immense trade over the line of the Mahoning road to the harbor of Cleveland. That city is situated at the most southerly bend of lake Erie, and the trade of the whole lake basin (lakes Ontario and Champlain excepted), in its transit Eastward, enters her harbor or passes directly in front of her piers. From that point the coast of Lake Erie runs nearly parallel to the coast of the Atlantic, not towards it, and of course scarcely diminishes its distance from the Atlantic cities. At Erie, for instance, at a distance of 95 miles from Cleveland, you have approached Philadelphia only 26 miles, and have not diminished your distance from Baltimore—as you go further East the odds increase. In other words, the great thoroughfare from the lakes, with their commerce already equal to the whole foreign commerce of the country, to Philadelphia and Baltimore, must leave their shores at the city of Cleveland, and by the line of the Mahoning road. Its grounds for hereafter dividing the New-York with the Lake Shore line, having been already stated, and it may be left to the future to determine how sufficient they may prove.

LOCAL TRAFFIC.

Although the preceding exhibit of the probable through-business of the Mahoning railroad is sufficiently gratifying, still it is with especial satisfaction and confidence that we refer to its prospects of local trade—the most certain and unfailing support of every road. The region lying between the Lake Shore road, on the northeast, and the Ohio and Pennsylvania, and Cleveland and Wellsville roads on the southwest, is nearly an equilateral triangle with the apex at Cleveland and the base about 80 miles broad upon the East line of the State. Through the heart of this region runs the Mahoning river, and in its valley have grown up all the important centres of the local trade. It so happens therefore, that the Mahoning railroad following the river runs through, or in sight of, every town in this whole area—(more than half as large as the State of Connecticut), containing 500 inhabitants, excepting Chagrin Falls and Newton Falls, and within 4 miles of each of these, commanding a larger town and village population than any railroad terminating at Cleveland. The population of the whole State of Ohio, cities included, is less than 50 per square mile by the census of 1850. The population of the township through which the Mahoning road will run, is 64 per square mile—Cleveland, which is the only city, excluded. No portion of the State of Ohio is more crowded with towns, manufacturing establishments, and cultivated farms, and none richer in the sources of a heavy local freight and passenger trade.

PASSENGER TRAFFIC.

The data for a particular estimate may perhaps be found in the following manner. Eight regular stages, with occasional extras, are now running daily each way from towns on the line of the Mahoning railroad to Cleveland, and to stations on the Cleveland and Wellsville, and Ohio and Pennsylvania railroads, to accommodate simply the local passenger travel of these towns to Cleveland and Pittsburg. At least an equal amount takes private conveyance.

We estimate eight stages daily, at seven passengers each way per day 112
Travel by private conveyance same 112

Equal to 112 through passengers 224

If we estimate that this amount will be doubled by the superior facilities afforded by the railroad, making an amount of local travel equivalent to two hundred and twenty-four through passengers per day, we are undoubtedly entirely within the mark which the experience of other roads would justify.

COAL TRADE.

The most important single item in the freight business of our road upon its first opening, will probably be coal. The line of the road will pass through the whole coal field of the Mahoning, in the most favorable position to receive the product of all the beds now worked, or which shall be hereafter opened in that valley. The amount of that trade is now large, and is rapidly increasing. In 1849 the amount cleared upon the canal at Youngstown and Warren was 751,837 bushels; in 1850, 1,889,901 bushels; in 1851, 1,946,225 bushels; and in 1852, 2,306,182 bushels. For 1853, the returns of course are not received, but it is known that a large increase (not less than 20 per cent.) is taking place upon last year. This coal is all destined for the Cleveland market, and amounts to more than one half of the whole quantity delivered at that point.

It is now transported one hundred miles by canal, and pays twenty cents toll per ton. The Ohio canal coal, which is as yet its only competitor in the Cleveland market, is transported a distance of about seventy miles, and pays from ten to twelve cents toll per ton.

The difference in the cost of delivery by the present modes of conveyance is thus made about 50 cents per ton against the Mahoning coal. Its selling price in market is regularly about 50 cents per ton greater, and yet in the face of such odds in cost and price, it has regularly furnished the Cleveland market with more than one-half the whole supply, thus practically demonstrating the fact which is well understood in Ohio, that the Mahoning or Brier Hill coal is of the best quality yet discovered in the State.

The Mahoning railroad will enter this coal region in a distance of 58 miles from Cleveland, and will pass through it about 16 miles, in the immediate vicinity of all the beds yet worked, just below the level at which the coal is found, and in the most favorable position possible to receive it upon the line. It will pass thence to Cleveland, over grades not exceeding at any point twenty-one feet to the mile, and be delivered on the Cuyahoga river, with abundance of room on the river for the handling and shipping of the coal.

The road will have the advantage in distance as compared with the canal, of about 35 miles. The canal is a very imperfect one: the road will be a first class railroad, with grades and alignment of the most favorable character, and with the most abundant facilities for handling the article at its termination.

Under these conditions there can be no doubt that the road will control the coal trade to as great an extent as the demands of other business upon its capacity will permit.

The lowest cost at which the coal is ever delivered on the dock at Cleveland, exclusive of tolls and inclusive of the cost of unloading the boats, is \$1 15. The present cost is \$1 30.

If, therefore, the tolls could be entirely remitted on the canal (which, of course, is impossible,) the cost of delivery would still amount to a rate of two cents per ton per mile by railroad, a higher rate than any coal bearing road in the United States now charges. There can be certainly no doubt of the result.

If it be admitted that the road can control the transportation of the coal, this article of trade will alone, in a short time, tax a single track to its utmost capacity.

With the same rate of increase which has governed the production in the Mahoning Valley for the last four years (and with the additional facilities offered by the road, it cannot be doubted that the ratio of increase will continue), it will amount in the year 1856 to 250,000 tons, or 800 tons per day during the whole year, and would alone justify the construction of the road from Cleveland to the coal region.

It is proper to add, that the North Western railroad from New Castle to Blairsville, will run for a great portion of the distance through coal fields of the finest description of the character known in the western markets as Pittsburg coal.

They have been as yet but partially developed for want of means of transportation, but the furnaces in that region, and the trade for domestic purposes, has caused the beds to be examined sufficiently to demonstrate their extent and quality. They will undoubtedly furnish as soon as the North Western road is completed, a very large business to the Mahoning road in that particular, and very valuable variety of western coals.

IRON TRADE.

The Mahoning Valley has, within a few years become the centre of a large iron trade, which is rapidly increasing. The present production is as follows: one furnace at Niles, four at Youngstown, one at Lowell, and eight near New Castle, are delivering their pig iron at that point. These furnaces, with few exceptions, are stone coal furnaces, and now making about 8 tons each per day, or more than 100 tons per day in all. This is an increase of 100 per cent. since last season, and other furnaces are going up which will largely increase it next year. A new furnace, for instance, will be completed within ninety days at New Castle, which is expected to turn out fifteen tons of metal per day. There are four rolling mills in the valley, two of them very large establishments. At one of them are now being made the rails for the second track of the Cleveland and Columbus railroad. These furnaces and mills are most of them in the immediate vicinity of the road, and will contribute their whole product to swell its business over nearly its entire length, as the great market for the iron is upon the lakes, through Cleveland.

If the expectations now entertained of lake Superior iron ore are realized, a large business must also be done in that article, which may be looked upon as likely to furnish back-loading to coal cars, to be worked with Mahoning coal. This article, however, cannot be commanded till the Saut Ste. Marie canal is completed. Meantime a trade is growing in Lake Champlain ore, an ore of the same general quality of the Lake Superior. Last year, about 3000 tons were carried from Cleveland to the Mahoning Valley and Pittsburg. This year, the quantity will probably exceed 8000 tons, and for the coming year, contracts are already made for a much larger quantity. The Lake Superior ore, when accessible, will be delivered at Cleveland for much less money, and the trade is, beyond any question, destined to an immense increase.

AGRICULTURAL PRODUCE.

In the ordinary articles of agricultural produce, which form almost exclusively the export trade of other Ohio railroads, our road may anticipate a business of the most gratifying character. It runs through the most densely settled and richest portion of northern Ohio, and a region at least equal to any other in the amount and value of its agricultural exports.

The amount of cheese alone, received and shipped at the single port of Warren, has sometimes run up to more than four thousand tons in one season. The amount received at Aurora and Garrettsville is also very heavy, and will be greatly increased upon the construction of the railroad.

The amount of flour manufactured for export by the mills immediately upon the line at Warren, Glard, Youngstown, Poland, Lowell, New Castle, and Mahoningtown, amounts, during the season of navigation, to 350 barrels a day.

In the great variety of other articles of agricultural produce, too miscellaneous to be enumerated, and in the return trade of merchandise necessary for the convenience of a manufacturing and agricultural population, we can safely say that the line of road will have, immediately upon construction, a trade equal to that enjoyed in the same description of traffic by any road of equal length in northern Ohio.

With these explanations, we submit an estimate of the business of the road, based upon its trade alone—the data for which are within our immediate observation—without assuming any thing whatever from through business.

SUMMARY AND ESTIMATE.

Local passenger travel equal to (say) 200 through passengers (100 each way) daily, at 3 cts. per mile.....	\$159,680 00
150,000 tons of coal, ore, plaster, &c., at \$1 20 cts. per ton for 65 miles, including rent of coal-yards and docks, furnished by the company..	180,000 00
80,000 tons of iron at \$2 per ton....	60,000 00
15,000 tons of local miscellaneous freight, agricultural produce, merchandise, lumber, &c., &c., at (\$2 50) per ton.....	37,500 00
	\$437,180 00
Deduct 40 per cent. for expenses....	174,852 00
	262,278 00
Equal to 13 percent. from local traffic alone, on a cost of \$2,000,000.	

COST OF THE ROAD.

The cost of the road completed in running order, ballasted and stocked with cars and machinery, and provided with depots, calculating iron at \$70 per ton, is estimated by EDWARD WARNER, Esq., principal Engineer at \$1,746,966, as follows, viz:

Graduation, masonry, and bridging 85 miles.....	\$597,966
Iron.....	765,000
Right of way.....	85,000
Depot grounds and buildings, and water stations.....	125,000
Engineering and superintendence.....	24,000
Equipment of cars and locomotives for the first year, exclusive of coal cars and engines.....	150,000
	\$1,746,966

The Tunnel through the Alps.

The June number of the London Builder contains the following description of the *Chevalier M. Maus* plan for forming a tunnel through the Alps, and of his tunnelling machine.

The line of communication selected by M. Maus skirts the southern side of the Mount Cenis, following the valley of the Dora, and passes by the towns of Susa, Oulx, Bardoneche, &c., thence by means of a tunnel under the ridge of the Alps, it proceeds to Modana, a town situated in Savoy, on the west of that extensive chain of mountains, by a route only 80 miles in length; while the existing public thoroughfare over the Mont Cenis pass is nearly 40 miles, so that a saving of about 10 miles would be at once effected between Susa and Modana; and the time required to travel between these two places would, in the event of this project being put into execution, be reduced from eight hours (the time which the mail takes to go by the present road) to one hour and a half, a very moderate calculation for the railway—being only at the rate of twenty miles per hour.

Thus the portion of the great Savoy trunk line of railway, projected by M. Maus, would commence, on the Italian side, at the town of Susa, near the confluence of the Dora with the Cenis, a rapid stream that takes its rise in the Mont Cenis, and would form a continuation of the Turin and Susa railway, now in course of construction; the line would then pass to the right of the village of Gioglione and over the high grounds of Chaumont (where the mountainous character of the country involves the necessity of two tunnels, which are, however, of minor importance, the one being about 3040 yards in length, and the other only 330. A short tunnel will likewise be necessary at the Fort of Exilles, in order to avoid some of the outworks, and farther on another tunnel, which, however, will be only 2280 yards long.) We thus arrive at Salbertrand, situated ten miles from Susa and nearly 1670 feet above its level, which gives for this portion of the line an average ascending gradient of 1 in 81. Beyond this, passing Oulx, Savouze, Beaulard, and even for some

way farther on than Bardoneche, the surface of the country is remarkably uniform, and will not present any difficulty: the length of this section is about eleven miles, and its average rate of inclination 1 in 57. The remaining nine miles is a descending gradient of nearly 1 in 57, likewise. And here the line obtains a passage beneath the Alpine ridge by a tunnel of about eight miles in length, at a depth of 5248 feet, or as nearly as possible a mile below the surface of the pass.

The three principal gradients above mentioned being divided into others, to suit the nature of the ground, the rates of inclination on some portions of the line will be steeper in certain cases than those named, but in no instance will they exceed 1 in 28. Throughout the whole length of the principal tunnel the gradient will be 1 in 53.

M. Maus estimates the cost of the work as follows:—

For forming a heading with a machine invented by him for the purpose....	£180,000
For increasing the size of the heading, so as to form a tunnel in the usual manner through a lias rock, containing scales of mica and grains of quartz, of so compact a nature as not, apparently, to require any facing in masonry.....	370,830
	£550,830
For the remaining portions of the line forming approaches north and south of the proposed tunnel, viz:	
Cost of land.....	26,019
Earthwork.....	181,366
Bridges, culverts, &c., including the several shorter tunnels above alluded to.....	468,448
Rails, chain, sleepers, &c.....	171,969
Total.....	£1,398,682

Say £1,400,000 altogether in round numbers.

As the projector considered that the great difficulty in the way of carrying out this bold conception would be the amount of time and labor which, according to our present system of conducting such operations, it would necessarily require, he has contrived an excavating machine, for facilitating the labor, and which, at the same time, is calculated to expedite in a very great degree the execution of this and similar works, and from the success which has attended the trials he has already made with it, he states that he has no hesitation in fixing five years as an amply sufficient period for the completion of the projected tunnels, working at both ends at the same time, although without shafts, which the height above renders impossible.

The excavating machine consists of a frame, in which are set a number of very broad chisels, having projections on their face, acting somewhat after the manner of the hammer used by masons to restore the rough surface to the granite pavement in London when worn smooth by the traffic.

The chisels are so arranged as to cut into the face of the rock, at the extremity of the heading, five horizontal grooves, and two vertical channels bounding the former, and at right angles thereto. These grooves or channels are run into the other, and serve to insulate four rectangular blocks of stone, which will then remain attached only by one of their planes to the solid mass of the mountain rock, from which they may readily be separated by wedges, driven with heavy hammers into the grooves.

These blocks will be about seven feet long, three feet wide, and eighteen inches in thickness.

The machine acts only upon half the width of the heading at a time, so that while it is at work cutting the grooves, which separate the blocks of stone at one side, the workmen are engaged in removing those already cut in the other half-width of the heading.

When the machine and the laborers have each completed their tasks, they mutually change places. The machine again sets to work to shape out new blocks of stone, and the workmen proceed to

detach those which have just been cut, beginning by inserting the wedges at the top of the heading, and proceeding downwards; by thus prizing the stones, they are easily separated from the rock, after which they are placed on trucks, and conveyed to their destination, so that the space is again left clear for the machine to recommence its operations.

The excavating machine cuts the channels in the rock, by means of several series of chisels placed one beside the other, in straight lines; these lines of cutting tools are so arranged as to be capable of a slight lateral motion in the direction of the grooves after every stroke; the object of this is to bring the chisels to bear upon all the spaces lying between the several cutting tools situate in the same line, so as to produce not a succession of holes, but a continuous channel similar to a very wide saw cut.

The lateral shifting of the lines of chisels, which takes place alternately from right to left, and from left to right, is caused by a corresponding motion given to the frames in which they are fixed. Each chisel is driven against the rock by a spiral string coiled round it, and which produces an effect similar to that caused by the muscles of a man in the act of throwing a javelin. This spring, driving the chisel forcibly against the rock, obliges it to act efficaciously, notwithstanding the slight inequalities at the bottom of the channel, arising from a want of uniformity in the resistance of the stone.

When the machine is in operation, the several lines of chisel are all drawn back simultaneously, by means of a species of cam, or movable bar, which acts against projections formed on the cutting instruments. This, by forcing back the chisels, and thus compressing the above mentioned springs, leaves them in a position to exert a strong percussive force as soon as the pressure is removed. This is effected by suddenly raising the bars, by means of an inclined plane, situated at the proper place for the end of the stroke. As soon as the blow has been struck, the springs are again immediately compressed, as before, and the process is continued until grooves have been worked to the requisite depth into the solid substance of the rock.

Although all the chisels in each row are similarly acted upon by the movable bar, they are nevertheless, completely independent one of the other, so that they may each be removed at pleasure, without interfering with the motion of those adjacent, or even suspending the operations of the machine; and if it be observed that one or other does not act efficiently, such may be removed, and new chisels substituted in their stead, without causing any delay or cessation.

The back and forward motion of the bar, which performs the functions of a cam, by pushing against the projections with which the several chisels are furnished, is caused, through the intermediation of rods and cranks, by two rotary drums, which themselves are made to turn by an endless rope, communicating with a water wheel, or other suitable motive power, situated at the entrance to the heading. The apparatus is arranged so as to enable the chisels to strike 150 blows in a minute.

The machine, at the same time, sets in motion a pump, which forces a constant supply of water into a reservoir, the upper part of which is filled with compressed air. By this means, the water is driven out in jets, through small pipes placed between the chisels, and is thus made to play upon the grooves, where it performs the double office of preventing the cutting instruments from getting heated, and removing the dust and chips of broken stone, which would otherwise accumulate in the grooves, and thereby prevent the effective working of the excavator.

The manner in which the engineer proposes to provide for a proper supply of fresh air during the progress of the work is by means of a tubular ventilator, which he intends to lay along the bottom of the gallery. At given intervals throughout its entire length, according as they may be found

necessary, he would insert fans, which he suggests might be placed on the spindles or shafts of the rollers or sheaves over which the endless rope is made to pass, so that they could constantly be worked with very little additional expense. These fans would force the air from one chamber of the tube into that immediately succeeding it, and as the ventilator would be made air-tight throughout its whole length, and only open at its extreme ends, so that the air introduced through the tube may pass out through the heading, he considers that a constant current of pure air would thus be continually maintained in the tunnel, which, by its uninterrupted circulation, would cause incessant, successive displacements as to prevent any possible accumulation of noxious gases or unoxygenated atmosphere.

Amoskeag Locomotive Works.

The Boston Journal contains an account of the extent of these works, situated at Manchester N. H., from which we have the following:

60 locomotives are manufactured every year, averaging a price of \$8500 each, or \$480,000 in the gross. These locomotives weigh from 20 to 30 tons each, and are furnished for home use, but principally for Western railroads. Besides these, the company annually manufactures cotton machinery sufficient for a mill of 20,000 spindles. Turbine wheels are also a principal feature of which they produce a large number and variety every year, ranging in power from that of 20 to that of 300 horses. Several other branches of manufacture are carried on, embracing some 48 details; but these are subsidiary to those already enumerated. The machine department comprises three shops, and one foundry, also a boiler and tank shops, and to these are attached such buildings as the several operations require for stock, storage, &c. There are 63 tenements belonging to the company, which are occupied as boarding-houses for the men in their employ. These latter number some 500, and include some of the smartest and most respectable of the citizens of Manchester.

There is consumed at the works, every year, 2000 tons of pig iron (one-half of which is Lowmoor manufacture), 800 tons of bar iron and steel, 100 tons of copper, 40 tons of brass castings, 250 tons of boiler iron, 600 tons of Lehigh coal, 600 tons of Cumberland (English) coal, 4000 bushels of charcoal, 4000 gallons of oil, and 700 cords of wood.

The average sum paid as wages, per month, is \$12,000, which among the workmen, is distributed at the rates of from \$40 to \$75 per month. Some men average more than the latter sum.

The principal articles manufactured are locomotive and stationary steam engines, boilers, cotton and woollen carding, spinning and weaving machinery, heavy tools, turbine wheels and mill work generally; and heavy castings are furnished by the company to order. All these branches are under the direct inspection and management of O. W. Bayley, Esq.

Reading Railroad.

We learn from the Schuylkill Miner's Journal that this Company are relaying a portion of their track with new rails. Some four miles, between Reading and Birdsboro', have been laid with a newly invented English rail, which requires no wooden sills, but is placed upon a bed of broken stone, and secured by wrought-iron ties extending across the track at the joints of the rails, say about eight feet apart. The rails are made with very broad flanges at the base, somewhat in this shape—, thus spreading upon the ground, and intended to support themselves without the aid of sills.—They have been laid as an experiment, and the heavy tonnage of the road will doubtless put them to a fair test. If found to answer, their adoption will save a large item of cost, in the matter of wooden sills.

As the Company proceed with relaying their road—which is done as fast as the old rails become worn to any extent—a larger space is left between the two tracks, so that, in time, wider passenger cars than those now in use may be placed upon the road. At present the cars are as wide as they can

be made, to pass each other with safety upon those portions of the road which have not yet been renewed.

Pacific Railroad of Missouri.

From the Western Journal we learn the present subscriptions to the stock of the company building this road, are as follows:

Subscriptions at and between St. Louis and Jefferson city.	
City of St. Louis, in bonds at par, twenty years to run.....	\$500,000
County of St. Louis.....	200,000
Franklin County, (declined on account of its terms).....	50,000
Osage County, on condition of taking Union Ridge line.....	8,000
Osage County, on condition of taking Southern line.....	5,000
Private subscriptions of Franklin Co.....	40,000
Individual subscriptions in St. Louis.....	605,000
Private subscriptions in Gasconade Co.....	16,700
Private subscriptions in Cole Co.....	11,600
	\$1,436,300

The subscriptions of stock west of Jefferson City are as follows:

Jackson County, on condition that road is to pass through County, money to be expended in County after road is completed to County line.....	\$100,000
Johnson County, conditions as above, payable in bonds at par, $\frac{1}{2}$ in 10, $\frac{1}{2}$ in 15 and $\frac{1}{2}$ in 20 years.....	100,000
Morgan County, road to run through Co. on Southern survey.....	25,000
Pettis County, in bonds at 20 years, provided road runs through County within 5 miles of Georgetown, and bonds not to be sold till road has reached County line on east or west side.....	100,000
Lafayette County, if road runs through County and city of Lexington.....	300,000
Cooper County, in bonds at 20 years road to run through Boonville and Lexington.....	250,000
City of Boonville, if the city charter be amended to give power to subscribe in 20 years bonds and road to run through Boonville.....	50,000
Moniteau County, road to run through town of California, payable in bonds and other conditions. Objectionable.....	50,000
Pettis County, for inland route and provided the \$400,000 are raised.....	150,000
Moniteau County, do. and in lieu of previous subscription.....	75,000
Johnson County, inland route and provided the \$400,000 are raised.....	50,000
Cole County, rejected, very objectionable	50,000
Cass County, do. do.....	75,000
Private subscriptions in Moniteau and Cooper Counties, provided road is located on inland or Georgetown route....	8,600
Do. in Pettis and Cooper County, on like terms.....	8,100
Do. in Moniteau County, on like terms....	1,400
Asa Finlay, Marshall, Saline County, if on Boonville and Lexington route.....	5,000
Private subscriptions in the township of Kansas, west of Big Blue, provided road runs through said township, and provided no payment is required till road is commenced in said township.....	31,800

The subscriptions west of Jefferson city, not rejected on account of the conditions upon which they are made, amount to \$1,251,900, of which nearly \$550,000 are conditioned upon taking the Southern, or Pettis and Johnson County route. The interior route, via. Johnson County is 163 miles from Jefferson city to the Kansas, and will cost \$25,000 per mile. The Boonville and Lexington route is 166 miles in length and the cost

per mile will be greater. Agents are appointed to obtain the right of way on both routes.

The population and revenue of the counties along the river route is as follows:

Counties.	Population.	Revenue. 1852
St. Louis.....	121,853	\$88,754 79
Franklin.....	11,193	4,608 78
Gasconade.....	5,740	1,086 61
Osage.....	5,914	1,493 69
Cole.....	5,597	2,347 15
Moniteau.....	5,572	1,535 66
Cooper.....	12,742	6,154 72
Saline.....	9,096	4,249 88
Lafayette.....	14,511	10,165 66
Jackson.....	13,914	7,009 43
	206,132	\$127,406 27

With reference to the subscriptions made it is believed that they will be largely increased. It is quite probable that St. Louis city and county, to whom this work must become of the greatest importance by reason of the trade it will develop and bring to them, will raise their corporate subscriptions to \$1,500,000, or \$850,000 more than the present amount. This, with the present private subscriptions, will amount to \$2,105,000, which with the State credit of \$3,000,000 will leave a balance of \$3,128,000 to be supplied by the counties along the line; the entire cost of the road by the river (Boonville and Lexington) route being estimated at \$8,233,000.

Of the routes west of Jefferson city the Johnson county route is that contemplated in the charter of the company, although they are not bound to it except in the event of receiving a definite amount of aid from the people on the line. The Boonville and Lexington route, although longer and more expensive, will receive the support of a larger population and capital. The Johnson county route was the one indicated in the charter, with the condition that the people and counties interested should raise their subscriptions \$400,000 above the amount subscribed at the time of passage of the act, and that the terms of right of way shall be equally as favorable as on any other route. If these conditions are not fulfilled previous to Dec. 25th, 1853, the company are authorized to select any other route. The same act extends the credit of the State an additional million of dollars, making \$4,000,000 as the total amount of State means granted in aid of the work.

Louisville and Memphis Railroad.

The Hopkinsville Convention met on the 3d inst. The reports of engineers were heard. They reported the distance to Hopkinsville from Louisville at 150 miles, and from Hopkinsville to the State line 19 miles—whole distance from Louisville to the Tennessee line 169 miles. Whole cost for 169 miles, \$3,718,000. Cost per mile, built and equipped for use, \$22,000. Grade of the road on two practical passings of Muldro's Hill, 40 feet and 95 feet to the mile—curves one mile—plenty of coal—bituminous char, and camel coal, so fine it leaves no stain upon a white handkerchief, and will light and burn as does a star candle. Money to build it will be raised by the subscription of the counties, the city, and individuals along the line. Members from the coal fields are willing to put in mortgage all, and subscribe half their lands, if required, to make the road.

The Louisville Times says:

“Memphis will maintain her 5 feet gauge and join the straight road at the State line, a distance of 185 miles, making the whole distance from Louisville to Memphis 353 miles. The straight road gains near 33 miles less than the Louisville and Nashville road, branched at Bowlinggreen to Hopkinsville, on which is not a bushel of coal or

poand of iron. From Hopkinsville the straight road has direct connection over the Henderson road to Nashville, which is all under contract and in progress. The contractors taking \$1,000,000 pay in the stock of the company, which contract is thought to be attainable by the Louisville and Memphis road."

American Railroad Journal.

Saturday, October 29, 1853.

Share and Money Market.

The stock market exhibits more steadiness at this writing than at the date of our last issue. The fluctuation prevalent in the leading fancies at that date continued during the week, and on Saturday settled into an extreme depression. Pending this state of things, some large sales were effected at better rates than had been anticipated, principally for the account of some of the heaviest operators, and on Monday more confidence was apparent at the meeting of the Board, which has been maintained since with a decided improvement in prices. The transactions in some of the leading railway stocks during the week were at the following rates:

	Erie	Hudson	N. Y.	Del. & H.
Thursday.....	70	62½	107	51½
Friday.....	69½	61½	106¾	50
Saturday.....	70½	63	107½	50½
Monday.....	70¾	64½	107¾	50½
Tuesday.....	70½	65	108	51
Wednesday.....	71½	66	109½	52

The stocks of the favorite Western roads were pretty much kept out of market during the excitement and therefore have not participated in the fluctuations. In railway bonds nothing of interest has transpired.

The railway returns continue to show the most gratifying results. The advance in provisions and breadstuffs will tend to give them a heavy winter business and add to their earnings beyond all anticipation.

We annex the following, not heretofore given, for the month of September:

	1853.	1852.
Watertown and Rome.....	\$41,919	.....
Stonington.....	29,644	\$22,144
Vermont Central.....	80,000	64,340
Wilmington.....	94,000	71,428
Androscoggin and Kennebec.....	15,497	72,765

The total receipts into the U. S. treasury, exclusive of treasury notes, funded and trust funds, for the fiscal quarter ending Sept. 30th, were \$21,333,776, and the expenditures were \$15,081,383.

There is a better feeling in the money market, and it is thought that the crisis is past for the present. The last week was the most severe one since the commencement of the panic; but the safety with which the danger has been passed, by the mercantile community argues a strength in that quarter which will do much to hasten a reaction in the market. It is to be hoped that the return to a more easy and favorable state will be as rapid as was the contraction. What the effect of the war news by the Niagara will be, no one can tell. That the demand for, and prices of breadstuffs and provisions will be enhanced, there is little doubt. There can be no good reason why the amount of European capital, seeking safe investment in our internal improvements, should not also be increased by an Eastern war, which, while it may endanger the safety of European securities, cannot possibly affect those of our railways.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	82
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	86
Kennebec and Portland..... "	72	876,441	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	—
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,256	none	98½
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord..... "	35	1,485,000	none.	1,485,000	305,805	141,836	8	107½
Cheshire..... "	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern..... "	82	3,016,634	.....	.....	328,782	163,075	5	46½
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	169
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan..... "	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	87
Rutland..... "	120	2,486,000	2,429,100	5,577,467	495,397	266,589	none	25
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	13½
Vermont and Canada..... "	47	1,509,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	100
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley..... "	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	94½
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	103½
Boston and Providence..... "	53	3,169,390	390,000	8,546,214	469,656	227,434	6	890
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	100½
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	46
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern..... "	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	92
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	106½
Fitchburg..... "	66	8,540,000	112,805	3,623,073	574,574	232,787	6	94½
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	904
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	174
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,495	162,109	66,900	4½	59
Western..... "	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99
Stonington..... R. I.	50	.....	467,700	.....	240,572	110,892	.....	63½
Providence and Worcester.. "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	.....	.....	.....	none	.....
Hartford and New Haven.... "	72	2,350,000	800,000	3,150,000	639,529	294,269	10	122
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill. "	50	.....	.....	In progress	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	99½
Naugatuck..... "	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	51½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	86
Buffalo, Corning and N. York. "	132	.....	.....	In progress	.....	.....	none	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progress	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	71½
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	66
Harlem..... "	130	4,725,250	977,463	6,102,935	681,445	324,494	5	51½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	274
New York Central..... "	504	22,858,600	2,111,824	24,974,423	.....	.....	.....	109½
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	28
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	181,000	849,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Boston..... "	32	237,690	100,000	829,577	Recently opened.	.....	.....	33
Troy and Rutland..... "	39	430,938	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,893,711	225,152	116,706	8	100
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,400	1,388,385	478,413	10	145
Morris and Essex..... "	45	1,022,420	128,000	1,220,425	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,215,720	603,942	316,259	10	148
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster. "	36	783,950	668,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading.... "	95	6,556,332	10,427,800	17,141,987	2,480,626	1,251,987	7	72½
Philad., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,829	887,705	888,501	5	78

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	92
Philadelphia and Trenton.....	"	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	"	47	.....	.....	.....	.....	.....	.....	102 1/2
Baltimore and Ohio.....	Md.	381	9,188,300	9,827,128	19,542,307	1,825,563	615,384	7	44
Washington branch.....	"	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.....	"	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange.....	Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	"	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	"	64	769,000	178,867	1,163,928	227,593	72,370	7	77
Richmond and Danville.....	"	73	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg.....	"	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac.....	"	76	1,000,000	503,006	1,531,238	254,376	113,266	7	105
South Side.....	"	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central.....	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	.....
Virginia and Tennessee.....	"	60	3,000,000	1,500,000	In prog.	.....	.....	none	98
Winchester and Potomac.....	"	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N.C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina.....	S.C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.....	"	140	1,004,231	800,000	In prog.	.....	.....	.....	.....
South Carolina.....	"	242	3,858,840	8,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	"	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western.....	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee.....	"	71	.....	.....	In prog.	.....	.....	.....	.....
South Western.....	"	60	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River.....	Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	"	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	"	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point.....	"	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern.....	Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia.....	Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.....	"	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky.	38	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.....	"	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	"	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh.....	Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, Painesv. and Ash.....	"	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.....	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	116 1/2
Columbus, Piqua and Indiana.....	"	46	.....	.....	2,000,000	.....	.....	.....	98
Columbus and Lake Erie.....	"	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton.....	"	60	2,100,000	500,000	2,659,653	321,793	200,967	.....	98
Cincinnati and Marietta.....	"	.....	.....	.....	In prog.	.....	.....	.....	72 1/2
Dayton and Western.....	"	40	310,000	550,000	925,000	.....	.....	.....	80
Dayton and Michigan.....	"	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton.....	"	36	.....	.....	.....	.....	.....	.....	70
Greenville and Miami.....	"	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro.....	"	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami.....	"	84	2,370,784	.....	2,634,157	526,746	314,670	10	119 1/2
Mansfield and Sandusky.....	"	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.....	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central.....	"	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi.....	"	.....	.....	.....	.....	.....	.....	.....	97
Ohio and Pennsylvania.....	"	187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley.....	"	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd.....	"	87	552,000	800,000	1,317,140	.....	.....	.....	.....
Xenia and Columbus.....	"	64	1,092,137	119,500	1,257,714	237,506	135,868	15	.....
Evansville and Illinois.....	Ind.	81	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central.....	"	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern.....	"	131	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine.....	"	83	.....	.....	.....	.....	.....	.....	105
Lawrenceburg and Ind.....	"	.....	.....	.....	In prog.	.....	.....	.....	82
Lafayette and Indianapolis.....	"	62	.....	.....	.....	.....	.....	.....	.....
Madison and Indianapolis.....	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Peru and Indianapolis.....	"	40	.....	.....	In prog.	.....	.....	.....	70
Terre Haute and Indianapolis.....	"	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.....	"	113	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central.....	"	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago.....	"	92	1,632,361	500,000	In prog.	473,548	286,152	.....	124
Michigan Southern.....	Mich.	315	2,499,410	2,629,000	6,480,246	592,187	293,046	.....	118
Michigan Central.....	"	282	4,000,000	4,067,398	8,614,193	.....	.....	.....	106 1/2
Pacific.....	Mo.	35	1,000,000	none	In progress	.....	.....	.....	.....

The statement of the Banks for the last week show a larger contraction of loans for that period than during any similar one since the adoption of present system of reports, on the 6th August last, as will be seen by the following comparative statement.

	Aug. 6.	Oct. 15.	Oct. 22.
Loans....	\$97,899,199	\$87,837,277	\$86,367,181
Specie...	9,746,441	11,350,152	10,303,253
Circulat'n.	9,513,053	9,466,744	9,889,542
Deposits...	60,579,797	59,168,774	55,748,739

It will be observed, that the loans have been curtailed in three and one half months, \$12,500,000, nearly \$2,500,000 of which was accomplished last week. The deposits for the week also fell off \$3,423,000. This latter large decrease is accounted for by the diminution of receipts by merchants from customers incident to the close of the season. In view of these facts, it is surprising that the effects of the late "panic" were not more disastrous.

New York and St. Louis.

The public will rejoice at the announcement that a continuous railway track is now open from this city to Alton, Illinois, on the Mississippi twenty miles above St. Louis. These two great cities are thus brought within about forty eight hours of each other, travelling time, and passengers are ticketed through from New York to Alton and St. Louis at the Michigan Southern railroad office in this city. We congratulate our friends at the West, that the "close of navigation" will present no obstruction this winter, to travel.

Evansville, Indianapolis and Cleveland Railroad.

At the late session of the Board, we learn, the Evansville, Indianapolis and Cleveland Straight Line railroad was permanently located from Union to Cleveland, on a straight line, and from Evansville, running down the White river valley on the East side of the river. The stock returned was \$882,482 00. Stock books remain open until the next February session. The road not being prepared, the letting was postponed until the first Monday in December next. Franklin Harden and William S. Turner were elected Directors to fill vacancies in the Directory. Henry C. Moore, late Chief Engineer of the Central railway, was elected Chief Engineer of this road, in the place of Wm J. Ball, resigned.

Land on the Terre Haute and Alton Railroad.

It will be seen by reference to the Mr. Rockwell's advertisement in this Journal, that he offers a farm for sale which is favorably located near the above road, and in convenient proximity to the Illinois central road.

Railroad Iron.

By an advertisement of J. H. Austin & Co., in to-days Journal, it will be noticed that orders for T rail are solicited from England. This is a good sign and gives room for hope that prices will recede, somewhat, now that the continental demand is less than the supply.

Collins Patent Ventilators.

We would invite attention of those interested in the ventilation of cars and engine houses, to the advertisement in another column of Messrs. Baker and Williams, 406 Market Street, Philadelphia. These ventilators are said to possess great merits, answering all the purposes intended.

Journal of Railroad Law.

THE EXTENSION CLAUSE OF THE CHARTER OF THE BELLEVILLE AND ILLINOISTOWN RAILROAD CO.

The construction of this clause by Judge Underwood, of Illinois, in the case of *Gregg & wife vs. the Belleville and Illinoistown Railroad Co.*, is entirely opposed, and it would seem, justly, to the powers claimed by the company. The cause will, however, probably be carried to the Supreme Court for further examination.

The case turns upon the construction and effect of the 17th section of the charter, which is as follows:

"Said company shall have the power to extend to, and unite its railroad with any other railroad now constructed, or which may hereafter be constructed in this state; and for that purpose full power is hereby given to said company to make and execute such contracts with any other company as will secure the objects of such connection."

Thus the only mode of extending the road is by contract. But can the extended road be constructed, equipped, and used before the completion of the main road from Belleville to Illinoistown? Or is such right to contract, limited? The meaning of a law must be gathered from all its provisions taken collectively. A corporation possesses only the powers expressly given, or necessarily implied, a salutary provision in this age of charters.

We subjoin the leading points of the decision:

1st. Until the construction of the railroad from Belleville to Illinoistown, the power to extend is not operative. The road must exist before it can be extended. The main road must not be used as a mere cover for the extended road.

2d. Can private property be taken for the extension against the owner's will? In regard to the main road power to condemn lands is expressly secured. Is it to be implied in regard to the extension?

The law will imply what power is necessary to carry out delegated powers, but nothing further. Private property can only be taken without consent, by virtue of express authority. *Gillenwater vs. Atlantic and Mississippi railroad Co.*, 13 Ill. R. 4—2 Kent's Com. 339.

3d. Can the company cross other roads "constructed or to be constructed" on the route to Alton? The power to cross other roads is given in constructing the main road from Belleville to Illinoistown, and is said to be implied, in regard to the extension. But the company can extend to one road and only one; when their road is so extended, the power to extend is exhausted. This view is confirmed by an examination of the charter.

4th. No private law, can by the constitution embrace more than one subject.

Does the charter in question embrace more than one subject? Does it authorize the construction of another and different road in addition to the road designated in the title to the act? A railroad from Belleville to Illinoistown is one thing—one subject, to which few persons would object to have embraced in a charter. While a railroad from Illinoistown to Alton is a different thing, a different object, relating to a different line of travel, and involving and affecting different localities and interests. In some respects and for some purposes they would be united. But for most objects of business,

trade and travel, they would be independent and separate roads, as much so as this road and the Ohio and Mississippi road. The extended part of this railroad, connecting with the Chicago railroad at Alton, would be the principal road, while the road covered by the title of the law, and provided for with such elaborate detail, would be a mere incident to the other. The road, when so constructed could no longer be embraced under a less title than the Belleville, Illinoistown and Alton railroad.

In the next place is this charter a private or local law? Railroad charters are private laws. They are contracts between the government and the company, which cannot ordinarily be affected by legislative interference. Their uses may in a certain sense be called public, but the corporations are private equally as if the franchise were vested in a single person. 2 Kent's Com. 272, 275; 1 Black. Com. 86 n. 21; Angel and Ames on Cor. 28.—The provision in the last section of the charter, that it should be "taken and received as a public law in all courts and places," only dispenses with pleading and proving the charter, that would be otherwise required, by the common law. 1 Greenl. Ev. Sec. 481. This does not make the charter a public law for any other purpose. Unless the law be regarded as private the legislature may hereafter modify or repeal it. *Richland Co. vs. Lawrence Co.* 12 Ill. R. 8. The constitution cannot be evaded, nor the rights of corporations destroyed by the declaration in an act that it shall be taken as public law.

It is also a local law. Its title, its extent, the county where it operates and its details are local; and in no sense can it be called a general law.

The supreme court of Georgia, under a somewhat similar constitutional provision, have held that so much of an act as is foreign to its title, is void. *Brothro & Kendall vs. Orr and others*, 12 Georgia R. 36, (Reported at length in the American Law Register for August, 1853.) A part of an act of the legislature may be rejected as unconstitutional and the residue held valid. *Edwards vs. Pope* 3 Scam. R. 470; *People &c. vs. the Auditor*, 12 Ill. R. 307. If, therefore, the 17th section of this charter authorizes the construction of a railroad from Illinoistown to Alton, then that power is unconstitutional and void in consequence of not being embraced in the title of the act passed.

If, however, the section admits of two interpretations, one of which brings it within, and the other presses it beyond the constitution, it is the duty of the court to adopt the former construction, because a presumption ought never to be indulged that members of the legislature meant to usurp any unconstitutional authority, unless that conclusion is forced upon the court by language altogether unambiguous. *United States vs. Coombs* 12 Peter's R. 76. Should the termini of this road be extended to and united with the termini of the other important lines that converge at Illinoistown, it could still be called the Belleville and Illinoistown railroad; and the 17th section will have a force and effect of real practical utility to this corporation. Any other construction is contrary to the title of the act and the scope of its provisions; against the well settled rules of construing such charters, and at war with the constitution of the State.

Thus Judge Underwood, in effect decides, that

if the extension clause be constitutional, it is only so in view of the prior completion of the main road.

THE RIGHTS OF LUNATICS UPON RAILROADS.

The 14th volume of Barboar's Reports of the Supreme Court of our State, contains the decision of the case of *Willets' vs the Buffalo and Rochester railroad company*, in which the plaintiff had been nonsuited by the circuit court, and now moved the court to set aside the nonsuit, and grant a new trial.

The action was brought by the father and administrator of his deceased lunatic son. He was journeying under his father's care from Utica to Buffalo, but at an intermediate point the father left the train to procure refreshments, and in consequence of his delay, the train proceeded without him, the lunatic son remaining therein, the conductor inquired for his ticket. He offered a hotel-card but had no other, and was upon the stopping of the train, ejected from the car, and in a few hours killed on the road, by a locomotive of the defendants. The father purchased two through tickets at Utica.

The court refused to set aside the nonsuit, or grant a new trial in this case, and, upon the evidence, we think justly. When the father bought a ticket for his lunatic son, he impliedly promised to take due care of him.

The following were substantially the considerations upon which the decision was founded.

If the deceased were sane he could not, if living, have sustained an action in a case of this nature. He would have been chargeable with negligence, and with having contributed to his own injury, and any negligence of the conductor would not have altered the case. If the deceased was sane, he was unlawfully on the road.

But deceased was not sane. And if the conductor, knowing this, had ejected the lunatic from the car, the company is liable for any accident which befel him. There is no evidence, however, that anything like notice of the insanity of deceased was given to the conductor.

It has been contended that the conductor was authorized by law to eject a passenger from the car only when he has refused to pay his fare, and that the fare of the deceased having been fully paid, he was entitled to remain. But the conductor had no knowledge of the fact that the fare had been paid. When a passenger is called on to show his ticket, he has a duty to perform. He has no right, in such a case, to sit in silence and motionless. The fares are usually paid by the passengers before coming into the cars, and seated as they are, promiscuously, it is impossible for the conductor always to recognize those who may have paid to him. A railroad company may establish reasonable rules for the conduct of their business, and these rules may be deemed an element in the contract between them and the passengers, and the violation of these rules may be regarded a violation of the contract. So an innkeeper, may insist upon common decorum from his guests, and may turn them out of his house if too noisy. *Story on Bailments* §476. In the case of the *Commonwealth vs Powers*, 7 Met. 601, A conductor was justified in ejecting from a car a very troublesome individual, who had been accustomed to importune passengers, and who had been duly forbidden to go into the cars. Yet in

this case the passenger ejected had bought a passage ticket. But the conductor, not having been notified of the fact, was exonerated from blame.

When lunatics or children travel upon railroads they should be placed in charge of some one able to protect them. And if their guardians are negligent in discharging such duty, they who have been entrusted to their care must suffer the consequences.

Motion denied.

For the Railroad Journal.

Breaking Ground on the Black River and Utica Railroad, in the County of Lewis.

The Black River and Utica Railroad Company have this day commenced the construction of their road in Lewis County, by breaking ground near this village. The day has been auspicious, having been one of the beautiful of the "Autumnal Indian Summer," and the ceremonies have passed off with a great degree of satisfaction and pleasure, not only to the officers of the company, but to the citizens of the county who were out in large numbers, and also a good delegation from the adjoining counties of Oneida and Jefferson, notwithstanding only two days notice of the meeting was given.

This is truly the dawn of a new era in the history of this beautiful and flourishing county, for its citizens have been anxiously looking for and expecting the completion of the Black River canal for the last twenty years, which was actually commenced seventeen years ago, and is now only completed some three or four miles into the southern borders of the county, and with the prospects of a railroad being built through their county, even before the canal is finished, a new impetus is given to the business prospects of its inhabitants, and they begin to realize that they are soon to be connected with other portions of the State and nation, by a new link in that iron chain which binds so closely together distant States and cities.

The Black River and Utica Railroad Company, was organized in the month of January last, to construct a railroad from the city of Utica to the village of Clayton, on the river St. Lawrence, passing through the counties of Oneida, Lewis, and Jefferson, a distance of 108 miles.

An efficient Board of Directors was appointed who selected the Hon. T. S. Faxon, of Utica, for President and the Hon. E. G. Merrick, of Clayton, for Vice President. The surveys of the road were immediately commenced under the direction of Daniel C. Jeune, as chief engineer, and was prosecuted with due diligence until the 11th of August when the whole road was put under contract, including the grading, bridging, masonry, furnishing the ties, and laying the superstructure, to Messrs. J. S. T. Stranahan, Samuel Farwell, Charles G. Case, James G. Lund and Josiah W. Baker, one of the most able and experienced firms of contractors in the United States, and to show their confidence in the value of the stock, they subscribed for said stock to the amount of two hundred and eighty thousand dollars (\$280,000) and take one fourth of the payments on their contract in the bonds of the railroad company.

Work was commenced on the first 16 miles of the road out of Utica about the 1st of September, and the amount of work done in that month, according to the engineer's estimate, was about

\$10,000. There are now about 500 men at work on this part of the road, and it is to be completed to a point near Trenton Falls, by the 1st of June next. The balance of work in Oneida county, (about twenty miles,) will all be commenced during this month and drove on rapidly to completion. A large force of men is to be put on about 4½ miles of the road from this place south, and kept on during the winter, as it embraces the heaviest work in this county. The whole line of road will be commenced early in the spring, and the road is to be completed so as to be brought into successful operation by the 1st day of July 1855.

The sub-contracts are made for the delivery of the ties on the whole road during the coming winter.

Contracts have been made for the delivery of the iron on the opening of navigation next year, for the first sixteen miles, and also for the engines, passenger, baggage, freight, and gravel cars for the same, to be delivered prior to June 1st 1854.

A branch line is now being surveyed from Philadelphia in Jefferson county, passing near the Rossie and McComb lead mines, near the village of Rossie, and thence to Ogdensburg, connecting with the river St. Lawrence near the extensive depot of the Northern Railroad. This branch will be about 42 miles, and the distance from Utica to Ogdensburg will be 128 miles, which makes a shorter route between those two places by some 10 miles than any other projected road. The termination of the Prescott and Bytown railroad in Canada, which runs into the celebrated Ottawa region, is directly opposite the connection of this branch with the St. Lawrence, and the Grand Trunk railroad through Canada will pass through Prescott on the opposite side of the St. Lawrence, so that this road will connect with two important Canada roads, as well as with the Northern railroad of this State. A connection will also be made with the Grand Trunk road at Kingston, from the terminus at Clayton, so that travel from the East or West on the Grand Trunk road can take this route from either terminus.

The Potsdam and Watertown railroad, now being built, crosses this road at Philadelphia 18 miles East of Watertown, which will make a valuable addition to the business of this road, as the R. and W. road runs through some of the most flourishing portions of St. Lawrence county, and the distance saved by taking the R. W. and U. W. road at Philadelphia will be from 18 to 20 miles in travelling to our great commercial cities.

This road with its branch will pass through 17 villages, and in close proximity with 33 other villages, which will be tributaries to the business of the road. It passes through 25 towns located in 4 different counties, which are generally well settled and improved by an industrious and intelligent class of inhabitants.

It opens a direct communication to some of the most important rivers in Northern New York, and those which afford the greatest facilities for water power for any purpose, or perhaps, any portion of the Empire State.

In connection with this road, another railroad is very soon to be built from Utica south to Blenheim, and this connects with the New York and Erie railroad, and by other roads with the

coal fields of Pennsylvania. It will make a direct route south to Philadelphia, Baltimore and Washington, and the State of New York will have a Central North and South as well as a Central East and West railroad.

I do not know of a railroad in contemplation in the State of New York, which will have superior advantages in its railroad, lake and river connections over this road, and its prospects for a large amount of business, when brought into successful operation, are certainly of a most flattering character. All vessels which navigate the bay of Quinte or the Rideau canal in Canada, can come directly to its wharves, at the beautiful harbor of Clayton, with perfect safety during the most severe storms which occur on the lakes or river, in the season of navigation, and the road must inevitably draw a large amount of business from these sources, as well as the business from the Great West through the lakes.

To parties of pleasure it holds out great inducements as it passes very near (within ⅓ of a mile) of the celebrated Trenton Falls, which are visited by thousands of people annually. After leaving Trenton Falls the traveller passes through a section of country of beautiful and picturesque scenery, and is landed by one termination in the midst of the "thousand islands," and by the other termination near the commencement of the rapids of the river St. Lawrence, and at either, is placed upon a great thoroughfare by steamboat, to the Falls of Niagara, or any other place on the lakes West, and to Montreal or Quebec or any other point on the St. Lawrence East.

Lowville, Lewis County, N. Y.)
October 17th, 1853. }

Inside and Outside Connected Engines.

The inside connection was resorted to in the early days of locomotive building as a remedy against the oscillations caused by the use of inclined outside cylinders and unbalanced drivers. The early engines were built also with a much less length of "wheel-base," or distance between centers of extreme wheels, than now, whereby any sinuous motion was manifested to a greater extent than when divided upon a longer bearing. By applying the power nearer the center of the axle, sinuous motion was reduced, but the horizontal and vertical motions, due to the action of the unbalanced forces of the piston and connections, remained in their full extent. After a time counterweights were suggested and it was soon found that they would operate beneficially upon all engines. By their aid the outside connection has become as steady as any other. Now that the sole merits of the inside connection is fully realized in its rival, there are no longer any reasons for its continuance. It must be admitted to involve very serious defects which are not found in the other arrangement.

First, is the crank, which involves a great weight, a large expense, much friction, and considerable danger, besides requiring a very large space in which to work. A crank shaft for a 23 ton engine, weighs 1600 pounds in the rough, and costs, in that state, from fifteen to eighteen cents per pound, besides occupying a lathe from six to seven days in finishing. When finished, it will weigh six hundred pounds more than a straight axle of equal strength, which excess is itself equal to the weight of the straight shaft. That is, it is

twice as heavy as is necessary. The crank wrists are twice the diameter of the crank pin of the outside connection, and as in the case of so large bearings, with the short leverage of a nine or ten inch crank, the power is not exerted wholly towards the center of the crank wrist, but is exerted on a large surface, it is apparent that much of it is absorbed in friction. An extreme illustration of this loss may be made evident by a trial to turn an eccentric by power applied through the rod. The liability of failure of the crank is also great, there being very few roads having an equipment of inside connected engines, but what have a number of cranks broken yearly. During the year 1852, we remember that out of fourteen crank engines in use on the Boston and Providence road, there were eleven cases of broken cranks. The renewal of a crank costs a large sum, besides the cost of the crank itself, and the expenses of finishing it, as it requires a considerable detention of the engine, and the labor of drawing off and on the wheels, re-setting valves, etc. Cases of failure of crank are very frequent on other roads, and serve to swell largely the cost of engine repairs. All the objections which we have enumerated against the crank, are endured on the majority of New England roads.

The space required for the crank is a very serious objection to it. It occupies a great deal of room laterally, vertically and horizontally. Laterally the two cranks, occupy from 29 to 30 inches of the length of the axle between the boxes, which distance does not exceed forty to forty-one inches, leaving but a short space in which to crowd the valve motion, and the demands for this purpose have always been a favorite point in the arguments for a broad gauge, when in reality it was the unnecessary arrangement adopted for the locomotive, and not the incapacity of the gauge that causes the difficulty. Vertically, the space demanded for the crank is a great objection, as the center of the boiler must be as high from the rails for a five feet wheel, inside connected engine, as for a six feet 6 inch wheel, outside connection. The crank limits, by from 18 inches to 2 feet, the diameter of the driving wheel; and in any case, upon a road having low bridges and station doors, limits the proper height of the chimney by from nine inches to one foot. The cylinders are placed at a distance of 24 inches between centers, in the usual plan of inside connection, whereby the curve of the under side of the boiler saves but four inches for the clearance of the crank, over what would be had by placing it directly under the center of the boiler. A ten inch crank with seven inch journals, and with the strap and key of the connecting rod, and the vertical allowance for the motion of the springs, will require a distance, therefore, between the center of the axle and the under side of the boiler, of at least fourteen inches. But the crank does not alone limit this height; the link motion, which all builders are adopting, requires on an inside connection, a still greater height, so that sixteen inches to 17 inches from the center of the driving axle to the under side of the boiler, is quite a common allowance of height. This is from ten to twelve inches more than the outside connection requires. Horizontally the crank limits the length of the furnace, which is especially injurious in cases where a powerful engine is wanted on a short wheel base. Ma-

ny of the engines built at the present day for western roads and destined to use green wood, have furnaces of from four to five feet outside length, the latter of which, with an inside connection would require a distance of nearly 7 feet between centers of drivers.

The crank engine also involves other objections. The offset frame required by it is not as strong, as simple and as cheap as the straight frame. The valve motion for an inside connection must always be crowded, laterally and vertically. The rocker arms must be short, and offset valve rods must be made. In cases of low-wheeled engines the cylinders occupy the room which should be devoted to the truck, and with a center bearing truck, there is not near room enough to get a proper depth and strength of truck frame, and at the same time to allow of a truck wheel of proper size. Again, the modern practice of builders of outside connections is to give from 22 to 26 inches stroke of piston for freight and passenger engines. This is generally approved of by railroad engineers and managers as making, with the larger wheel it allows, a steadier engine, and as reducing the wear of the machinery. But to increase the length of the inside crank from 9 or 10 inches, up to 12 or 18, would increase all the evils we have named, as it would require a heavier crank shaft and greater expense and friction, and at just as much danger of breakage, besides occupying more room, laterally, vertically, and horizontally.

As an application of our strictures upon this class of engines, we will notice the motive power of many of the New England roads, and especially of those running directly out of Boston, which assume to be equipped in first class style, and yet upon no one of which is there a modern and first class example of an outside connected passenger engine. Many of these roads have as good engines as can be expected in the use of crank engines, being of good proportions and workmanship. We instanced in a previous number the motive power of the Boston and Providence road, which for good construction and proportions will compare well with any in Massachusetts. The necessity for steady engines running at high speeds is as great on these, we presume, as on any road, while the character of their track is already favorable for these ends. And yet the speed upon the N. York Central and Hudson River roads, of the same gauge, and on the Lake Shore, New Jersey and Cleveland, Columbus and Cincinnati roads of four feet ten inches gauge, is greater than upon any of these roads. The size of driving wheels on all engines on these roads is limited also to but five and a half feet, while the greater part of the passenger business is done by engines having but 6 feet wheels. The Boston and Lowell road, built, and of the assumed character of a first class work, having no grade of over 10 feet per mile, except for a short distance near the Lowell station, and no bad curves, has but two engines, out of an equipment of 22, having drivers as large as five and a half feet. One of these has been rebuilt from an engine originally made by the Lowell Machine Shop, and from our own observation we can pronounce it more unsteady than the majority of outside connected engines on New York roads. Other crank engines, upon which we have rode on this line, are subject to very severe fore-and-aft oscillations, and the motive power generally upon this road is of an inferior class. The bridges on this

line are very low, not much, if any, above thirteen feet from the rails, and the consequence is that only a very low chimney can be obtained, as the boilers set very high. The same disadvantage of low chimneys is also experienced by most of the other roads in the vicinity, most of the roads running out of Boston having bridges of less than 18½ feet from the rails, while the engines are inside connected, and have very high boilers.

The motive power of these roads is "behind the times" in character and capacity, and the reason for it is that these lines have never been influenced by that competition which must be the source of improvement in railway machinery. The motive power of New England roads has been fixed by the builders, and these have been in no ways hasty to adopt or encourage improvements. While the builders have sent work to distant markets, in which they have been compelled to compete with more stirring manufacturers, they have made efforts for improvement, but these have usually taken the shape of copies, and these not always faithfully rendered. When the New York and Boston railroad shall be opened for travel, and stocked, as it will be, with motive power in every respect first class, these builders will adopt some essential changes in their patterns. The outside connected engines by the Amoskeag Company, of Manchester, and by Messrs. Wm. Mason & Co., of Taunton, are nearest to the standard to which these changes must conform.

In making these remarks it is necessary to defend the outside connection from some charges which are made by those who call the Boston style of outside connection a fair sample of that arrangement. The cylinder attachment afforded by the outside connection has been pronounced by New England builders as less strong than that obtained by the inside connection. With the attachment of cylinder usually adopted by such of these builders as have made outside connections, we not only admit this as true, but emphatically endorse it. They have secured the cylinders, by a light flange on each, to the inside frame, and nave bolted to a light rail placed on edge on the outside. These always work loose after use, and especially where put to a hard strain. We have seen plenty of illustrations of this effect. Now we will venture to affirm that the cylinder attachment of the Paterson engines is more secure than that of any inside connected engines ever built in Boston. The smoke box is made of sheets ⅝ inch thick, with a bar of two inch square iron riveted around the forward edge, on the inside; the sheets are of double thickness, or ¾ inch, where the cylinder is bolted on, the flange of the cylinder rests upon the frame, while another wide flange reaches high up on the side of the smoke box, affording all the permanence of attachment that can be obtained by any plan. The cylinder attachment of the engines by the New Jersey Locomotive Works, which is made to a round smoke box of double thickness at the bottom, affords another instance of great strength of connection. There are other engines having cylinder attachments different from these, but affording at the same time all the security which can be required.

The steadiness of the outside connection has been well demonstrated, and those who like to be convinced by practical illustration can be accommodated by testing the motion of the engines on

the numerous roads we have cited as using this connection.

The objection to the radiation of heat by the exposed position of the outside cylinder, is one which can well be thrown onto the Boston built engines in its full force, as none of these have any adequate protection for their cylinders and chests, while the Paterson engines, and the fine new outside connections built by Mason & Co., at Taunton, have ample protections of this kind, while the result of their use shows that no loss of power can be detected in their performance.

As a conclusion to this subject we will give a list of the locomotive shops in the country, with the connection which they have generally adopted.

Portland Locomotive Works, Portland, Me.	Inside.
Amoskeag do do Manchester,	
N. H.	Both.
Lowell Machine Shop, Lowell, Mass.	Inside.
Essex Co., Lawrence,	Both.
Boston Locomotive Works, Boston Mass.	Inside.
for passenger engines, for freight.	Outside.
Seth Wilmarth, Boston,	Both.
John Souther & Co., "	Inside.
Wm. Mason & Co., Taunton, "	Outside.
Taunton Locomotive Co. "	Inside.
Rogers, Ketchum and Grosvenor, Paterson,	
N. J.	Outside.
New Jersey Locomotive Works, Paterson,	
N. J.	"
Danforth, Cooke & Co., Paterson, N. J.	"
William Swinburne, "	"
New Castle Manufacturing Company New	
Castle, Del.	"
Richard Norris and Son, Philad., Pa.	"
M. W. Baldwin, "	"
Ross Winans, Baltimore, Md.	"
Murray and Hazlehurst, Balt., Md.	"
A. W. Denmead and Son "	"
Smith & Perkins, Alexandria Va.	"
J. R. Anderson, Richmond "	"
Wm. Eittenger & Co. "	"
Schenectady Locomotive Works, Schenec-	
tady, N. Y.	"
Cuyahoga Furnace Company, Cleveland,	
Ohio.	"
Niles and Company, Cincinnati, Ohio.	"
Moore, Richardson & Co. Cin. Ohio.	"
H. & F. Blandy, Zanesville, "	"
C. Cooper & Co., Mount Vernon, Ohio.	"
Nashville Manufacturing Company, Nash-	
ville, Tenn.	"
H. H. Scoville & Son, Chicago, Ill.	"
Palm and Robertson, St. Louis, Mo.	"

(no information received.)

Almost the whole number of those shops designated as building the outside connected engine, have adopted that arrangement to the exclusion of any other.

Railroad Depot at Rochester.

The New York Central Company have just completed a large passenger station at Rochester of which the Democrat says:

The new offices on the south side, on Mill street, are the best, as regards size, arrangements and accommodations, provided by any railroad company. The officers have convenient and accessible rooms, and in the rear of the ticket office are apartments for persons awaiting the arrival and departure of cars, furnished with easy wall seats, like those in vogue in the halls of hotels. Other necessary rooms and fixtures are provided also. The dimensions of the depot are about as follows: Length 320 feet, width 115 ft., height of front walls and roof 60 feet. The roof is made in umbrella form, and is a half circle, springing from side walls 36 feet high. The front office is 25 feet square, and the apartments in the rear about 20 by 23 feet.

Central Ohio Railroad.

The fifth annual report of the President and Directors, to the Stockholders of this Company, has been received and is presented in full herewith.

On the 18th day of January last the track of the Central Ohio Railroad was extended to Columbus; since which time our Trains between that city and Zanesville have been run with great regularity; not a single trip having been lost, although in some few cases delay was caused by unavoidable occurrences.

With the addition of the covering of three bridges—a small amount of work on sections 52 and 53—the filling up of some trestle work which is being supplanted by masonry—some ten thousand dollars worth of masonry and about twelve thousand yards of ballasting, the Western Division of the Road will be complete. We may then safely place it in the front rank of first class Roads; every thing being built in so substantial a manner as to admit of the heaviest Trains and the highest rates of speed admissible upon any Road economically and safely managed. As evidence of this, our Express Trains are now run, between stops, at as high speed as is made upon any Road in the West whilst we have much pleasure in saying that out of more than sixty thousand passengers since the 18th of January last, not a single passenger save one—and he but slightly, and that by his own imprudence—has been injured upon our Road. Some injuries to employees of the Company which have occurred, had no relation to the structure of the Road.

The cost of the Western Division up to present time, as seen by the Treasurer's exhibit is \$1,172,516.71—equal to \$19 873 per mile.

The expenditures upon the Eastern Division have been \$783,983.71.

The expenditures for Machinery &c., common to both Divisions have been \$263,276.50.

These different sums make the aggregate expenditures \$2,219,776.90, which deducted from \$2,839,639.24 the gross resources of the Company, show a balance of resources on hand available towards the completion of the Road of \$619,862.34. In the amount however, there is the sum of \$50,836.23 debits on the Treasurer's books, being a balance of unsettled accounts, the larger portion of which will probably be absorbed by unadjusted claims for work done, materials furnished, and for right-of-way cases.

Predicated upon the estimates of a former Chief Engineer of our Road it was assumed that the resources on hand named, would have been sufficient to complete both Divisions; but the work between Newark and Columbus, although managed with a rigorous economy, has proved to be much more expensive than was estimated. This has been partly owing to the peculiar character of the country traversed by the Road, and partly to the advance in the price of labor and materials. But notwithstanding all this, we believe it is below the average cost of Railroads in Ohio. A change too in the location of about 83 miles of the most expensive portion of the Eastern Division of the Road, made by Mr. Medbery, late Chief Engineer, under the sanction of the Board, whilst it has doubtless made valuable improvements upon the first location—in the saving of distance, and the relief of curvature and grades—will unquestionably add to the expense of its construction. To this must be added an order of the Board authorizing all the tunnels (of which there will be four or five, ranging from 80 to 500 feet in length) and the masonry of the bridges to be enlarged to the requisitions of a double track, together with the great advance that has taken place in the price of labor and materials, and especially in the cost of Rail and Machinery. All these things coming together compel an enlargement of our estimates of the cost of the Road, and indicate the necessity of an addition to our available means.

For this purpose, the Board whilst anxious to restrain stock issues to the smallest possible amount, have felt the importance of making a better basis for a new loan than would exist without

an addition to the stock list. They have accordingly authorized a sale of \$200,000 of additional stock, and the issue of not exceeding \$800,000 of Bonds,* which Bonds it is proposed to secure by a mortgage covering the whole line of the Road from Columbus to Wheeling. This amount will be amply sufficient to complete and fully equip the Road for a large traffic.

BUSINESS OF THE ROAD.

That it will be necessary to provide a large stock of Machinery for the trade of the Road when opened through to the River, we have ample evidence in the development of the business of the portion between Zanesville and Columbus. An exhibit of its prospective traffic, made by the President in 1851, and which at the time was rated as a very sanguine statement, estimated the travel of the Western Division at less than 33,000 per annum. The actual number of Passengers upon our Road, since its opening to Columbus up to 23d of the present month, a period of seven months and five days, has been 60,341—equal to 102.439 per annum, or more than three times as much as the amount estimated in the Exhibit of 51!

The gross receipts of the portion of the Road in operation for the first 5 months and 12 days ending 1st July last, were.....\$52,788 07
From which deduct expenses.....20,750 18

Leaving as nett receipts.....	\$31,977 89
Appropriated as follows:	
Paid interest.....	\$16,227 00
Three per cent. Dividend, on stock	
paid up.....	12,718 68
Surplus.....	3,032 31
	\$31,977 89

Small as this amount is, as compared with what of course is anticipated for the Road when its proper and most direct outlets to market are reached, and its full connections with travel avenues are made, we believe it is unexampled for a local Road, such as it is yet, in the first stages of its operations. But satisfactory as it is, there is a still more gratifying feature in the decided evidences of increase since the 1st of July. The receipts from passengers alone, for the 53 days ending 23d of the present month, have been \$14,772 85, whilst for the 5 months and 12 days preceding it was but \$27,637 19; showing a daily average of \$109 18 greater than the daily average of the fractional half year, or equal to 60 per cent. increase! Within the same 53 days, although the duller part of the business year, the freight receipts have increased at the rate of 25 per cent.*

THE COAL TRADE.

The contract for the Bridge across the Muskingum River required its completion by December of last year. It is yet unfinished, although now rapidly tending to completion. The risk of fire, in consequence of the site of the Bridge being in such close proximity to the mills upon the canal and the present upper bridge over the Muskingum, we deemed too imminent to justify a wooden structure; and on deciding upon iron, neither the contractors nor ourselves appeared to be aware of the time which would be lost in the preparation of the plans and patterns of a form of bridge new to the Mississippi Valley. Much annoyance and present loss has resulted to the Company from the delay in its construction, but when finished, we think it will reflect credit upon the contractors, whilst its permanency and beauty will give reputation to the Road.

The delay however, in the completion of this bridge has retarded the development of the coal trade and has probably, already lost to the Company a very handsome revenue which might have been controlled from that source. But we have satisfaction in knowing that the benefits to result from

* This \$200,000 of Stock has since been sold, and the Board have passed an order prohibiting the sale of any more or the acceptance of any additional Stock Subscriptions. The Stock Books, accordingly, have been formally closed.

this trade are soon to commence. We have the track already extended from Zanesville to the mines—in its course towards the Ohio River—so that no delay need occur in the forwarding of coal after the completion of the bridge. Contracts for delivery at Columbus and Xenia are already being made. At Columbus, where the coals from Muskingum and Hocking are both known, parties are offering to contract for Muskingum coal at 30 cents per ton above the price of coals from Hocking. As the distance from Columbus to the two sets of mines would be about the same, the difference in quality as thus indicated, will always give our coal such a decided advantage, that the Hocking Valley Rail Road, if built, cannot be a very formidable competitor with the Central Road for this trade. A recent personal examination, also, of the coal of the Wabash valley, in Indiana, has satisfied us that we shall not only have the control of the Xenia, Springfield, Urbana, Piqua and Dayton markets; but, for some purposes, the superior quality of Muskingum and Guernsey coals, will justify their transportation as far west as Central Indiana.

EASTERN DIVISION.

The exhibit of the Treasurer shows that, in view of the great scarcity of labor compared with its extended demand in the West, we are making a very fair advance with the work on this portion of our Road. The 16th section only will prevent the opening of the first 26 miles by November; and by Christmas, we have hopes of extending our track to a point half way to Wheeling from our temporary terminus at Zanesville. The remainder of the line to the Ohio River, embraces our heaviest work, and will probably not be opened through for a twelve month.

We have on hand, and contracted for, 4500 tons Rail for this Division of the Road; and shall need about 4000 tons more. Previous to our being in a position to justify contracts for Iron, it began rapidly to advance in all the markets, and under the advice of parties intimately acquainted with the Iron trade after we became in a position to contract, we were induced to delay purchases until we should more imperatively need the Rail. The existence of various concurrent and extraordinary influences in regard to this matter has demonstrated the at least occasional fallacy of commercial calculations. There is at present no probability of any important reduction in the price of Iron; and we shall accordingly have to submit to a large increase over the cost of the Rail for the Western Division. While this necessity is a subject of much regret to the Directors, they cannot charge themselves with any remissness in the premises. They could not feel justified in buying two-thirds of a million Dollars worth of Rail before means were provided upon which even to base a negotiation.

THE EASTERN TERMINUS.

In addition to the delays produced by the action of other municipal officers, whose constituents had voted stock for the Road, the effort of the authorities of Wheeling to govern the location of our line through the county of Belmont, by withholding her subscription of \$250,000 previously volunteered for us, caused a serious loss of time in making up our stock list for the Eastern Division. When, however, we had made arrangements to build the Road without her aid, and distinctly expressed the determination to locate our terminus directly within the corporate limits of that city, provided she would co-operate with us in the obtaining from the State of Virginia of the necessary legislation to authorize the construction of a Rail Road Bridge across the Ohio, and when we proposed to build such bridge of at least the same elevation as her Suspension Bridge, and also to have inserted in the law every reasonable guard for the protection of her interests, or the interests of the stockholders in the Wheeling and Belmont Bridge Company, we certainly anticipated a cordial welcome to our plans instead of opposition. We relied upon this the more confidently from a conviction, which we still entertain, that the Central Ohio Road is more important to the manufacturing interest of Wheeling than all the other Rail Roads together, that terminate or propose to terminate

in her vicinity. But we were mistaken. She has either underrated the value of our Road, we have miscalculated the ordinary springs of action, or there are other interests besides the public welfare at the foundation of the opposition. That we may not be misconstrued we do not hesitate to express the belief that this opposition originates in a determination to make the several Roads terminating opposite Wheeling become tributary to the Suspension Bridge, or compel them to buy out the stock, which we are informed, is not yet a dividend paying stock. If in this supposition we have done injustice, we shall regret it, but we cannot otherwise account for the obstacles thrown in the way of our making what we deemed the most advantageous terminus for our Road, and one which we believed would confer immeasurable advantages upon Wheeling herself, without costing her a dollar.—Nearly a year's efforts and forbearance have satisfied us that we shall not have justice done to our Road, nor the facilities furnished in that city for a double junction with the Baltimore and the Hempfield Roads, until we shall have manifested our ability to do without it. Fortunately for us, circumstances not only admit of this, but furnish a more enlarged and more favorable system of Railroad connections than we at first contemplated. At the point where our Road falls into the ravine of the Ohio River we can make interchanges with the Baltimore and Ohio Road at a saving of eight miles of transit. The mode of interchange can be something like that used by the Philadelphia, Wilmington and Baltimore Road across the Susquehanna. It is true that any system of ferriage will not be so desirable as the use of a Railroad bridge carrying traffic directly to and from the point of transfer; but it will be cheaper and more expeditious than drayage across the Suspension Bridge at Wheeling. At the point we refer to, the Company would not be subjected to any wearage for other city expenses, and will have every possible facility for making such lines of approach and departure as the Engineer may prefer. The Directors have accordingly ordered a branch from their main line at this point to accomplish the connection with the Baltimore Road and for River transfers. Donations of ample grounds for depots and machine shop purposes being made, the Company will be at no expense at this place, except the cost of grading, and of proper structures.

The Baltimore connection then, being provided for more advantageously than it could be at Wheelings if either ferriage or the use of the present bridges be contemplated, the next consideration of the Board was given to the most favorable modes of connection with the lines of Road leading to Pittsburgh and Philadelphia. We had made the location of our main line to West Wheeling, upon the Ohio side, where we proposed to make a temporary terminus. It was made temporary to guard against the exhaustion of our chartered powers, but with the expectation of changing it as soon as we could obtain the necessary legislation, and become pecuniarily strong enough to build a Bridge without the aid of other companies, if that could not be obtained readily. When it became evident that the desired legislation would not be furnished, the Board rescinded the order indicating the terminus; confirmed the location as far as within one mile of that place, and authorized the extension of the line up the river to such point as should admit of the most favorable connections with the Pittsburgh and Philadelphia lines of Railway. The Cleveland and Pittsburgh R. R. Co. having obtained the necessary legislation to authorize the extension of their line, down the river from Wellsville, so as to connect with our Road, and having the promise of means sufficient so to extend it, and also to extend it up the river to a point where it meets the Ohio and Pennsylvania Railroad, was naturally indicated as a connection that would give us not only advantageous access to Philadelphia through Pittsburgh, but also by the Alleghany Valley Road, with its attractive broad gauge, directly to New York, over the New York and Erie Railway. Whatever preferences we may have felt to make these same connections over the Hempfield and the Chartiers

Valley Roads, on account of the less lineal distance, yet the time in transit by the way of the ravine of the Ohio, with its level grades and easy curvature, will probably be quite as short as by the Hempfield Road, if the transfers at Wheeling have to be made by drays and carriages over Zane's Island. This will be especially the case, if, as we anticipate, we shall be able to make a contract similar to the one we have with the Columbus and Xenia Company authorizing the transmission of traffic of or for our Road over theirs, in our own cars, either in regular or special trains.

As the Cleveland and Pittsburgh and Ohio and Pennsylvania Roads have the same gauge as ours, such an arrangement would be a practical extension of our line to Pittsburgh, and the establishment of our terminus in just a position with the terminus of the Pennsylvania Central, the Alleghany Valley and the Connelsville Railroads! With all this we shall hold just as favorable position for connection with the Hempfield Railway as any other Road terminating opposite Wheeling.

Whilst there are but few Roads that can boast of a double junction so important as will be the Baltimore and Ohio and the Hempfield Roads, this arrangement will furnish us more advantageously than to others the unparalleled advantage of five different Great Lines, competing for our interchanges.

THE QUESTION OF GAUGE.

The reference we have made to the benefits of which we may avail ourselves in a continuous gauge to Pittsburgh, deserves a passing explanation. Within a given distance—one under which the machinery of a Road will not be permitted to pass too far, or be too long absent from the supervision of its proprietary—there is doubtless a great advantage in continuity of gauge; but we believe the experience of Roads in operation, demonstrates it a mistake to suppose that this plan of interchanging the use of machinery over long lines, owned by various interests and under different degrees of vigilance and responsibility, could do otherwise than work more inconvenience and loss than the labor and expense of transferring, at given intervals, not only passengers but freights. We think then that the advantage of a continuous gauge for long lines owned by different interests is only ideal, even where there is nothing in circumstances to make it objectionable. But when this idea is carried through an extended territory, where the gauge of every other road is different from the one adopted, the fancy becomes a fallacy of a fatal character. Roads in the Valley of the Mississippi which are projected and built without reference to local trade, or with a principal reliance on through trade will be failures. And when a road, aiming to be a great through route intersects repeatedly the local lines of a country, having all a different gauge which at the same time may be intersected by a rival line with coincident gauge, it is likely to prove that the hundred tributary streams are sacrificed for the sake of retaining unwasted the comparatively feeble waters of the fountain from which it starts. The dangers of such an isolation are beginning already, we understand, to be felt by two roads in Ohio that commenced building with the Pennsylvania and Indiana gauge, which are identical.

GEOGRAPHICAL POSITION OF OUR ROAD.

Every additional development in the rapidly changing character of the business relations of the country have only induced additional confidence in the strength of our position, and additional satisfaction with the location of the Central Ohio road.

The intense activity and interest which the minds of our people manifest at this time in public works have already developed all the projects of railroads for Ohio which are likely to be indicated for many years to come, and more than can be built at this time. But amidst them all, between a fortunate combination of circumstances and the topography of the country north and south of our line there is no road yet projected, nor likely to be, that will abstract any important portion of our local trade; whilst for through business our geo-

graphical position is such as to leave us without an even handed competitor. We are aware that rival interests have endeavored to depreciate the value of our geographical position by a reference to the grades and curvature to which we shall be subjected for about thirty miles through the county of Belmont. The comparison of roads by their maximum grades, is a very fallacious way of judging of value. A frequent succession of grades of 60 feet to the mile over a stretch of line of 20, 50 or 100 miles in extent is certainly much more objectionable than the occurrence of a grade of 76 feet to the mile at the passage of a single summit in a long line of road, especially if a large portion of the balance of the road is level, or practically so. The measure of objection upon the score of grades, if they be workable at all with a single engine, is not the inclination of any particular plane so much as their frequency of occurrence and their disposition—their relation to each other. In view of this the distinguished engineer, Mr. Latrobe, introduced into the location of the Baltimore and Ohio road, maximum grades of 116 feet to the mile, instead of 80 feet to the mile with less favorable "disposition." In the matter of curves we have no portion of our line, between Zanesville and the Ohio river, with such stringent curvature as some that exists upon the road between Zanesville and Newark, and yet the latter portion of the road we have run under schedule at 35 miles per hour.

We have no hesitation in expressing the belief that in alignment and grades our road and its affiliate lines, south-westwardly, westward and north westerly, may claim at least an equality with the best lines radiating from Pittsburgh and Wheeling, or branching from the Baltimore and Ohio road, whilst in lineal distance, with the exception of the Parkersburgh route between Baltimore and Cincinnati, will be a part of the shortest line of communication between Washington, Baltimore, Philadelphia and New York, in the east, and the Capitals of Ohio, Indiana and Missouri, and the cities of Cincinnati, Louisville and St. Louis in the west. With reference even to the Parkersburgh route from Baltimore, we believe that the superiority of the Central line west of Zanesville, through Ohio, Indiana and Illinois, in point of grades and curvature, over the route through the more broken region in the vicinity of the Ohio river, together with an exemption from the delay to which travel will be exposed in transfer through the city of Cincinnati, from the eastern to the western lines, and a like exemption from the expense of transferring freights, will make the Great Central route the favorite line of travel between St. Louis and Baltimore and Washington. As preparatory for this result, an unbroken chain of railroads for the whole route is partly built or in process of construction, and will be soon complete. Taking up the line of our connections at Columbus, the Columbus and Xenia road, by the instrumentality of the Xenia and Dayton road, will be practically extended to Dayton. The Dayton and Western railroad is in operation to the Indiana State line. From there the Indiana Central—(with which the Dayton and Western is consolidated)—will be complete to Indianapolis in the coming month of October. From Indianapolis to Terre Haute the road is in successful operation. From Terre Haute to Alton on the Mississippi, within twenty-five miles of St. Louis, the whole line is under contract. For the construction of a road from Terre Haute to St. Louis direct, another company is organized, but with some legislative obstructions thrown in their way, by what is called "Illinois policy," they are yet delayed in their work. From Indianapolis another magnificent chain of roads, stretching to St. Josephs on the Missouri, and all of which except about 37 miles, is either built or under contract, lies under this same 40th parallel of North latitude, along which the Central Ohio and the Indiana Central railways are laid.

These several interests we indicate as constituting the Grand Central Trunk Line, which taking into consideration either perfectness of relation to the east and west business of the country, fertility of

soil, density of population or its affluence of general trade, is not now equalled in the valley of the Mississippi, and will never be surpassed.

It is needless to tax your patience with a list of the roads destined to be tributary to this great arterial line; but a glance at the map of Ohio, Indiana and Illinois, with the various roads converging upon the Central route, will show the propriety of the order which we have made to adjust our tunnels and masonry with a view to a double track.

COMPETING ROADS.

If the gauge of the "Steubenville and Indiana Road" be altered to the Ohio gauge which is said to be in view—it is probable that an arrangement would be made for dispensing with the construction of their road, as contemplated by that company, between Newark and Columbus. This being done, the course of that road diverging rapidly from ours at Newark and running at an average of about twenty-five miles away from it, cannot affect our local trade, and will not interfere with the retention of our due share of through business.

The Marietta and Cincinnati road is located at no place, nearer than about thirty-five miles from our road, until it turns towards its eastern terminus, when it approaches our line at nearly right angles. As the principal reliance of that road for through traffic is upon its relation with the roads of Kentucky striking the Ohio east of Cincinnati, it will not be, strictly speaking, a competitor of the "Central Ohio," for either through or local trade.

The "Pittsburgh, Maysville and Cincinnati road" so called, is located between Cambridge and McConnellsville, and so much of it will probably be built. It will bring to us some traffic that might otherwise pass down the Muskingum river.

The "Western Railroad"—projected to start from Bridgeport, opposite Wheeling, and after passing up Indian Wheeling Creek, running thence northwesterly to intersect with the Steubenville and Indiana road and thence northwesterly through Knox county—whatever influence, if built, it may exercise upon that road it cannot affect the trade which our road claims.

So far as the trade and travel of the great north west is concerned the intimate relations established by the Columbus, Piqua and Indiana road with lines of road leading to Fort Wayne, Peru and Michigan city, in Indiana, will bring for transit over our entire line, the trade and travel between that region and Baltimore and Washington city.

In the consideration of the great through business between the east and the west, much stress is occasionally laid upon the more favorable grades and alignment of the roads leading by the Lakes. As compensatory for these advantages, the lines lying directly between the seaboard and the more populous portions of the west have the advantage of a great saving of distance and the use of a cheaper fuel. They traverse a coal region of more than 300 miles in extent, whilst the lake routes do not touch the coal field in any part of their course. Experiments have already demonstrated a great saving by the use of coal upon locomotives, even where wood costs nothing but the cutting and hauling. Before many years shall have elapsed, the great lines at the north will be compelled, by the increased cost of wood, to get their fuel from the regions traversed by their southern rivals.

CONTRACTS WITH OTHER ROADS.

The contract with the Cincinnati, Wilmington and Zanesville railroad company, looking to very intimate relations, stipulates that the Central Co. shall subscribe to the stock of the other in the sum of \$100,000, payable in six per cent. income bonds. As the other company pays six per cent interest upon the stock until the road shall be placed in operation, this obligation is practically but a loan of the credit of our company; and even that is now scarcely needed, for the credit of the C. W. & Z. R. road has become so well established as to require no endorsement. The subscription is now principally valuable to the C. W. & Z.

R. road as a pledge of the cordial feeling entertained for it by the Central company. We trust you will ratify the contract.

With the Columbus and Xenia company, and under the concurrence of the Xenia and Dayton railroad company, we have made a very important contract. It authorizes the transmission of the traffic of or for the Central road over the Columbus and Xenia and Xenia and Dayton roads, in our own cars, either by regular or special trains at the same rates as may be charged for their own proper traffic, and making also proper deductions from those rates for the use of our machinery employed in its transportation.* This amounts to a practical extension of the Central road to the city of Dayton. We shall doubtless be able to make a similar contract with the Little Miami or Cincinnati, Wilmington and Zanesville road, and if a like contract be made with the Cleveland and Pittsburgh and Ohio and Pennsylvania road, there will be a symmetry and completeness in our business arrangements such as but few roads in Ohio will be able to boast. It would enable us to run our express trains between Pittsburgh and Cincinnati, a distance of three hundred and twenty-nine miles in ten hours or less.

We have contracted with the Scioto and Hocking valley and the Mansfield and Sandusky city railroad companies, for the purchase of grounds at Newark, and the construction of station buildings on joint account. The facilities for transfer which this arrangement will enable us to make, will be very advantageous. Connection with the Sandusky interest is already an important one, and the opening of the Scioto and Hocking valley road to the Jackson county iron mines, if attended with no other beneficial results, would furnish over our road in part, to the rolling mills and the various other establishments using pig iron at Zanesville, Columbus and elsewhere, along the line, a delivery so much cheaper than they have heretofore had, as to place them on an equality, at least with the iron manufactories of Wheeling and Pittsburgh. With that road complete, pig iron from the Jackson mines would be delivered in Zanesville at a cost of \$2.50 per ton; a saving of \$1.50 over the present lowest rates and \$1.00 per ton less than the Hanging Rock metal is delivered in Pittsburgh. Under this view of things, with iron, coal and cost of living, all cheaper in our neighborhood than at Pittsburgh, capital would not hesitate at investment in manufactories along the line of our road, furnishing as it will, facilities to an extended and expanding market.

For the Directors,
J. H. SULLIVAN, Pres't.

ZANESVILLE, August 1853.

Exhibit of expenses and resources of the Central Ohio Railroad Company, to August 20th, 1853.

EXPENDITURES ON WESTERN DIVISION.

For construction.....	\$573,618 02
Superstructure.....	400,959 12
	<hr/> \$974,577 14
Right of Way.....	20,119 35
Depot grounds and buildings, at Newark and Columbus.....	16,318 09
Temporary buildings, W. Zanesville.....	1,053 55
Wood Sheds and Water stations.....	1,300 91
Office furniture.....	667 84
Contingencies.....	8,503 80
Salaries up to January 18th, 1853,.....	14,986 44
Discount on bonds, less premium on exchange.	56,211 02
Balance of interest less road receipts to January 18th, after deducting expenses of construction trains.....	78,628 55
	<hr/> 197,989 55
	<hr/> 1,172,516 71

* This arrangement of course is reciprocal.

EXPENDITURES ON EASTERN DIVISION.

For construction.....	\$540,540 99	
Superstructure.....	13,193 10	553,734 09
Right of way.....	91,284 00	
Engineering.....	36,508 15	
Discount account.....	43,703 89	
Interest.....	22,409 91	
Real estate (inclu'g depot grounds Zanesville).....	36,343 58	230,249 62

EXPENDITURES COMMON TO BOTH.

Machinshop grounds and improvements, West		
Zanesville.....	33,288 18	
Stationary machinery,...	6,145 82	
Machinery.....	223,842 50	263,276 50

Total expenditures.....	2,219,776 00	
Resources on hand.....	619,862 34	2,839,639 24

RESOURCES ORIGINAL AND PRESENT.

Capital stock Western Division.....	\$507,790 24	
" " East ".....	958,810 00	
Mortgage bonds west.....	450,000 00	
" " East ".....	800,000 00	
Income bonds.....	100,000 90	
Surplus real estate.....	23,000 00	\$2,839,639 24

NOTE.—The unexpended resources of the company consist of bills receivable west.....			\$5,174 68
Bills receivable east.....			62,049 02
Unsettled Accounts east.....			21,974 37
" " west.....			28,922 05
Income bonds.....			100,000 00
Due on stock.....			314,568 16
Bonds in hands of C. Brooks.....			148,000 00
Cash in treasurer's hands.....			18,414 39
Surplus real estate.....			23,000 00
			722,042 67
Less the present floating debt of the company....			102,180 32
Balance.....			\$619,862 34

Small Rails.

THE SUBSCRIBERS manufacture and keep constantly for sale, *Light Rails* of the most approved patterns, weighing 22, 25, 28, 33 and 50 lbs per yard, suitable for Colliers, Miners, Quarrymen and Contractors, or for turn outs, depot and branch tracks.

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THOS. T. TASKER, ALISTAR MORRIS.

Brunswick Iron Works.

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SITUATED in the Village of Seward's Point in Montgomery County 7½ miles North of Hillsborough, about 86 South of Springfield the Capital of the State, about 18 West of the Illinois Great Central Railroad, about 4 or 5 North of the Alton & Terre Haute Railroad and about 18 miles West of the intersection of the two, containing 80 acres of rich prairie land.

Apply by letter or in person to
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Stuart, Serrell & Co.,

CIVIL ENGINEERS,

Rooms 22, 24, 26 & 27,
167 Broadway, New York.

CHARLES B. STUART, EDWARD W. SERRELL,
DANIEL MARSH, SAMUEL McELROY.

HENRY TANNER (Circuit Court of the United States for the Northern District of New York.)
vs.
the Hudson River Railroad Company.

THIS was a suit brought by the plaintiff for an alleged infringement of letters patent granted to him as assignee of the inventors, L. H. THOMPSON and A. G. BACHELDER: 'for an improved Railroad Brake', by the use on the said road of brakes made on plans, alleged to have been invented by NEHEMIAH HODGE and also by H. A. STEPHENS and purchased by the said defendants, from the said Hodge & Stephens and also for use of the plan as patented to said Tanner.

The suit was noticed for trial at the October term of 1853, and put over the term by the motion of Defendant's Counsel by paying the costs of the term.

And thereafter the Defendant's Counsel made overtures for a settlement which resulted in the defendant's acknowledging the validity of plaintiff's patent, the infringement of the said patent by the use of double acting brakes on the plan of the said patents &c., and the Company paying to the said plaintiff for the right to use the said invention and for the withdrawal of said suit the sum of ONE THOUSAND DOLLARS and costs.

Having read the above I do certify to the correctness of the statements therein contained.
October 25th, 1853.

THOMAS M. NORTH,
Secretary and Attorney of the
Hudson River R. R. Co.

New York, October 26th, 1853.

This is to certify that I was of Counsel for the plaintiff in the above entitled cause, that the suit was brought for the recovery of damages from the Hudson River Railroad Company for the use on their cars of brakes, made on the plans described in the patents granted to Charles B. Turner on the 14th, of Nov. 1848, to Nehemiah Hodge on the 2d, of October 1849, and to H. A. Stephens on the 25th, of November 1851. That in preparing for the trial of the above entitled cause I made a careful examination of all the facts, given in the notice of defence and became satisfied that Thompson and Bachelder, from whom Tanner derived title, were the original and first inventors of the Double acting Brake covered by the plaintiff's patent and that the Brakes of Turner, of Hodge, and of Stephens are infringements of the said Tanner's patent.

CHS. M. KELLER.

AUCTION NOTICE.

BY

Haggerty, Jones & Co.

MONDAY, OCTOBER 31,

AT THE AUCTION ROOM, 54 WILLIAMST., COR. PINE.
PEREMPTORY SALE

OF

RAILROAD IRON,
IN BOND,

FREE OF ALL CHARGES, EXCEPT DUTY, now landing at the Atlantic Dock, Brooklyn, made by one of the first makers in England, and equal in quality to the best Welsh Rails. Quality guaranteed, bars straight, sound, and free from flaws and cracks, and cut off square at the ends. Tons, 1,113 18, 0, 16, consisting of 6,565 bars, viz: 3925 of 21 feet, 2208 of 18 feet, 377 of 15 feet, and 55 bars of twelve feet in length, weighing about 58 lbs. per yard, of the pattern known as the Erie Railroad Pattern. Sample of the quality can be seen at our office, and the whole for inspection at the Atlantic Dock.

TERMS OF SALE.—Ten per cent. on the day of sale, and, if required, the balance half in 15 and half in 30 days, with interest, the transfer to be made when paid for.

ALSO,

A similar quantity, and of the same quality as the above, on a credit of three and six months, with interest for notes satisfactory to the sellers, less 15 per cent in cash on day of sale.

To Contractors.

CHIEF ENGINEER'S OFFICE, N. & P. R. R. Co.,
Norfolk, Oct., 13, 1853.

SEALED PROPOSALS will be received by the undersigned at this office from the 3d, until the 15th day of December next, at noon, for the graduation and masonry of 62 miles of the Norfolk & Petersburg railroad between the city of Norfolk and Warwick Swamp in the county of Sussex.

The line will be divided into sections of about 4 miles, and bids will be received for one or more of said sections.

Maps and profiles of the line will be ready for inspection and specifications with forms of proposals may be had of the undersigned on and after the first day of December.

Payments will be made in current money during the progress of the work in proportion of four-fifths of the amount due.

As soon as practicable after the examination of the proposals, those to whom the work will be allotted will be duly notified, and if deemed necessary required to give bond with satisfactory security for an amount not exceeding one-tenth of the amount of work to be done.

The company reserves the right to accept such proposals as in their judgment will secure the prompt and faithful execution of the work according to contract, or reject all, if none are satisfactory.

The line is easy of access, the country through which it passes is of mild climate and abundant in supplies. Postage on all communications must be prepaid.

W. MAHONE,
Chief Engineer.

Railroad Iron.

2,000 TONS FIRST CLASS WELSH RAILWAY IRON, to be made to any ordinary T pattern required by the buyers, and for shipment from Newport, Wales, in December, January, and March next, apply to the undersigned, for many years connected with the largest house in the trade.
JOHN H. AUSTIN & CO.,
2 Ingram Court, Fenchurch street London.

To Contractors.

PROPOSALS will be received till sunset Nov. 21st for the Graduation, Masonry, and Superstructure of the CLINTON LINE EXTENSION RAILROAD from Hudson to its intersection with the Mad River Railroad, a distance of about one hundred miles. The route occupies a perfectly healthy country, thickly inhabited, and accessible at all points.

Also, at the same time, for the construction of the portion of the Clinton Line Railroad not under contract extending to the Ohio and Pennsylvania State Line.

Specifications, Maps and Profiles will be ready for examination ten days before the letting at the Engineer's office in Hudson.

H. N. DAY, President.

W. B. BRINSMADE, Chief Eng'r.

Hudson, Ohio, Oct. 10th, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAN COLBURN.

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Railroad to the Pacific—Northern Route. Its General Character, Relative Merits, etc.

By EDWIN F. JOHNSON, C. E.

GENERAL VIEW.

The necessity for a railway communication between the principal Atlantic cities of the United States, and the shores of the Pacific, has now become so apparent that public attention is being particularly directed to the best method of accomplishing the object.

The points on the Pacific coast desirable to be reached, as having suitable harbors or conveniences for shipping, and as being favorably situated for concentrating the business of that portion of the Union, are San Diego and San Francisco, in California; the Columbia river in Oregon, and the waters connected with the straits of Juan De Fuca in the new territory of Washington.

The entire Pacific coast within the limits of the United States, presents no other so eligible point as these.

Of the places named, San Francisco and the straits of De Fuca, afford harbors and suitable sites for a maritime city, greatly superior, probably to the others. The relative merits of these two

points for a great commercial mart on the Pacific, will be a subject for future consideration.

The prominent points on the Atlantic seaboard, or those which are most favored in respect to climate, and which command most of the capital of the country, and within which is concentrated the greatest amount of commercial and manufacturing interest, are Boston, New York, Philadelphia and Baltimore.

Of these, New York is decidedly the first, and Philadelphia, only eighty miles distant from it in a direct line, the second. Of the others, one is situated at the North, and the other at the South of the two just named.

The city of New York, from its commanding position in respect to the navigation of the Atlantic and of the great lakes, and the commercial preeminence it has already attained, is clearly the most desirable single point on the Atlantic to be connected with the road in question.

In determining the most eligible route from New York city Westward for the proposed road, it is necessary to consider the character of the country through which it is to pass, its topographical features, soil, climate, and mineral resources, and any other objects of importance in a military or commercial view.

A railroad to the Pacific is not only essential as a means of a direct communication with our own possessions, now rising rapidly into importance on that portion of the continent, but, if rightly located, will constitute the channel through which must pass much of the trade and nearly all the travel between the countries and cities situated on both shores of the Northern Atlantic and the Eastern coast of Asia, and which must afford an amount of business and revenue to the road, exceeding, probably, at first what may be furnished to it from the other sources within our own borders.

The Eastern portions of Asia, including China and Japan, and countries adjacent, which are known to contain a population of many millions in an advanced stage of civilization, in a condition to furnish a very profitable commerce, a commerce which has greatly enriched all that have hitherto participated in it, are situated from three thousand to seven thousand miles only from our Pacific coast.

The place in Eastern Asia which is the most central to this large population and to the great cities of Canton, Nankin, and Pekin in China, and Jeddo in Japan, containing each from one to two millions of inhabitants, and which, under the present government, as a free port is accessible, and can be occupied by our vessels without interfering with European powers, is the city of Shanghai in China, situated on the Tung Hai or Eastern sea, near to the mouth of the Yang Tse Kiang, the great river of China.

From New York city to this point, the shortest and most direct line (which is indicated by the arc of a great circle of the earth connecting the two) passes considerably to the north of the forty-ninth degree of north latitude, where the latter meets the Pacific, and hence the straits of Juan de Fuca, the most Northern of the places named on our Pacific coast are situated nearest to the direct line to China within the limits of the United States, and are in this particular the most suitable for the western terminus of the proposed railroad.

In proceeding from New York city to the straits of De Fuca, the position of the great lakes and of the international boundary make it necessary to deflect the line so far to the South as to pass the Southern extremity of Lake Michigan.

The city of Chicago, which is the nearest port of any magnitude to that portion of the lake becomes, therefore, a point in the proposed route. This city is also indicated as a suitable point on the line of the proposed road, from its probable future relation to the internal commerce of the United States. Its position at the South-western limit of the unrivalled navigation of the great lakes and the outlets therefrom to the Atlantic, and the vast and very fertile region commercially dependent upon it at the West, a region which is rapidly filling up with a population unsurpassed for intelligence and enterprise, give assurance of its becoming ultimately the greatest of the very large and flourishing inland cities of our Union, and as such, would justify a departure to a certain extent from the direct course of the proposed road, even if there were no other reasons, such as have already been stated, for such a deviation.

From the city of Chicago lines of railroad by very direct routes are either already built or in a course of construction, leading to all the prominent

cities named and others on the Atlantic seaboard, and hence there is no occasion for any further notice of this portion of the route.

The city of Chicago is distant from the straits of De Fuca, in a direct line 1752 miles, as computed from the latitudes and longitudes of the two places. This line is represented upon the accompanying map, and appears as a curved line, crossing the Missouri river in lat. 46° N. nearly and passing to the north of the Great Falls on that river.

In examining the position of this line it will be seen that a principal obstacle to the attainment of a direct route for a railroad between the points named, is the prolongation to the North and East of the chain of mountains known as the Wind river or Black mountains, which extend from near the South Pass of the Rocky Mountains North-easterly between the Yellow Stone and Missouri rivers to near the latitude of 48° N. and thus cause the great bend in the direction of the latter river in its course to the ocean in the latitude named.

There are other obstacles which are also of a serious character on the direct course.

These are the crossings of the Mississippi, Missouri, and Yellow Stone rivers, where they are navigated by large boats; the range of mountains between the Yellow Stone and Upper Missouri, and the more broken and unfavorable character of the surface generally from the Mississippi river to the Rocky Mountains. These latter, which lie beyond the sources of the Missouri, present, as will be seen hereafter, under a slight deviation from a direct course, no very serious obstacle to the passage of a railroad.

The chain of Wind river and Yellow Stone Mountains, and the other principal obstacles named, are all entirely avoided by carrying the line direct from Chicago to the Great Bend of the Missouri, above mentioned, a departure from the direct course which will not very much increase the distance, and which is fully compensated for, irrespective of its superiority from the circumstances named, by the greater facilities which the country affords for the construction of a railroad in the supply of timber and other materials, and in the opportunity afforded for a connection by a branch railroad with the West end of Lake Superior, and through that with the chain of inland waters, of which that lake forms a part.

From the Great Bend of the Missouri the route proposed is along the Northern side of that river to one of several Passes which are known to exist between its sources and those of the Flathead or Clarks branch of the Columbia river, and thence along the valley of Clarks river and of the Columbia to some point in the vicinity of Fort Okanagan. Here the proposed route leaves the Columbia, and after surmounting the elevated ground which forms the Northern extremity of the Cascade or President's range of Mountains, terminates at the desired point on the Pacific.

To return to the Rocky Mountains. These mountains which separate the waters of the Atlantic from the Pacific do not, at the place proposed for crossing them, possess the formidable character as mountain barriers which pertain to them in other places. They are here very much reduced in height, and are penetrated by Passes or defiles which are evidently very feasible for a railroad.

The Rocky Mountains, instead of being a lofty chain of uniform or nearly uniform elevation extending from the Mexican Andes northward to the Arctic seas, appear upon examination to be arranged in a series of groups, similar, although on a very much larger scale, to the White Mountains of New Hampshire, or the Adirondacks of New York. In elevation their highest peaks within the limits of the United States, are equalled, if not surpassed, by those of another and parallel range lying nearer to the Pacific, and known as the Sierra Nevada and Cascade or President's range of Mountains.

Within the limits of the United States are two very marked depressions in the range of Rocky Mountains. One where the sources of the river Gila Hela approach the waters of the Rio Grande Del Norte, near the Mexican boundary, the other at the place already named between the sources of the Missouri and the Columbia.

Between these is an extended group, or series of mountains, varying in height at different points, and divided by passes into lesser groups, from whose slopes flow the waters of the Columbia, the Colorado, the Rio Grande Del Norte, and the Missouri and Mississippi. The mountains which compose this immense group are situated upon a plain elevated on their southern and eastern side 4000 to 5000 feet above the level of the sea, and on their northern and western side from 2500 to 4000 feet above the same level.

The Mount Washington of the northern section of this group is Fremont's Peak near the South Pass, so called, rising to the height, according to the measurement of the explorer, from whom it takes its name, of 13,570 feet above the ocean level. This and the Three Tetons and the Three Buttes, are the most noted points in this portion of the series. All of them being visible to travelers, by the South Pass, for some distance along their route.

From these elevated points proceed ranges in various directions. The Bear mountains to the south. The Green River mountains forming the main range or Rocky mountains proper, to the south-east. The Wind River and Black mountain chain to the north-east. The Salmon river mountains to the west, the Kootenai mountains to the north-west, and the continuation northerly of the main range to the place of general depression, which is in a line nearly with the valleys of the Upper Missouri and Clarks branch of the Columbia,—a depression which may be considered as extending through three or four degrees of latitude, since within these limits, no less than five passes are known to exist, from such partial explorations only as have thus far been made.

In proceeding north beyond the latitude of forty-nine or fifty degrees, the mountain chain again rises attaining its highest elevation in the Caledonia group in British north America, in latitude fifty-three or fifty-five degrees north, near which are found the lofty peaks of Mt. Hooker and Mt. Brown, the former 15,700 feet, and the latter 16,000 feet above the level of the sea. Gathered about these, or issuing from them are other peaks and ranges forming the series or group from whence flow the waters of the north branch of the Columbia and Frasers river on the west, McKenzies river, on the north and Peace river and the Saskatchewan on the east,

The length of the route, as above described, from the city of Chicago to the Pacific, is estimated as follows, viz :

	Miles.
In Illinois.....	70
In Wisconsin.....	290
In Minnesota.....	620
In Missouri territory.....	420
In Washington do.....	560

Total.....1960

Of this distance nine hundred and ninety miles or about one-half of the whole, are embraced under existing acts of incorporation, granted by the several states and territories for the construction of a railroad on the proposed route as follows:

The portion in Illinois is included in the charter of the "*Illinois and Wisconsin Railroad Company.*" That in Wisconsin in the charter of the "*Rock River Valley Union Railroad Company;*"—and that through Minnesota in the charter of the "*Minnesota Western Railroad Company.*"

The portion of the line in Illinois is located and under contract. Forty miles of it are graded, and twenty-five miles of track have been laid from Chicago west, and a considerable expenditure has been made for equipments. The company will soon commence the business of transportation and the road will be completed to the Wisconsin line by the first day of July next.

Of the portion in Wisconsin, fifty-five miles are located and under contract, and the grading is in progress at various points. This portion passes through Janesville in the Rock River Valley, the principal town in the interior of the state, and extends to Madison the capital of the state. This portion will also be completed by the first day of July next.

It may not be improper to state here that the same company are authorized to construct a branch from Janesville northerly along the Rock River Valley to Lake Superior. This branch is now under contract and building to Fond du Lac, on the Winnebago Lake, eighty-six miles from Janesville. Forty miles of it are graded, and the track laid for half that distance, and transportation has already been commenced upon it.

This branch, when completed, will extend to the copper region of Lake Superior, and connect with the navigation of that lake, and as it passes through a rich and productive portion of the state will eventually do a large business.

From Madison on the main line, northwesterly, surveys have only been carried a short distance beyond the Wisconsin river. For the remaining distance to the Minnesota line, the ground has not yet been instrumentally examined, with a view to the location of a railroad. Measurements for other purposes have however been made, sufficient to show its general character and that two routes at least exist, either of which are very favorable for the purpose.

In Minnesota a survey or reconnaissance has been instituted under the late Act of Congress, making an appropriation for the exploration of several routes for the Pacific road. These surveys for the line in question are under the direction of Governor Stevens of the new territory of Washington, who will continue his reconnaissance to the Pacific upon the route of the proposed road.

The charter in Minnesota is a very liberal one

It secures to the company all lands which may be granted by congress in aid of the road within the limits of the territory, without further action on the part of the government of the territory, and is held by the same parties who are engaged in constructing the lines in Illinois and Wisconsin.

The companies in the two latter states have entered into an agreement authorised by their respective charters to consolidate and bring them under one common management, and a similar arrangement is to be entered into with the company in Minnesota, as soon as an organization is effected in that territory.

The road in Illinois and Wisconsin is being built with the wide gauge of six feet, the only proper gauge for a road of the character of the one in question, and indeed the only suitable gauge for a road which aspires to be of the first class, and expects to maintain hereafter a respectable position in the competition which will necessarily exist between works of this character in the states and territories of the West. Arrangements for harbor accommodations and necessary depot grounds, in the city of Chicago, and at the west end of Lake Superior and elsewhere have been made, and are on a scale commensurate with the importance and magnitude of the work.

The population along and near to the located portion is already large and is very rapidly increasing. Irrespective of the continuation to the Pacific, the importance of the several lines named in Illinois, Wisconsin and Minnesota, to accommodate the region of country lying west of the Great Lakes, is such as to place them in the very first class of main trunk roads.

Description of the Proposed Route.—Character of the surface, and estimate of cost.

The general topographical view which has been presented of the country for the entire distance from Chicago to the Pacific, although sufficient perhaps to show the probability of a favorable route for a railway being obtained, is not complete enough in its details to furnish the requisite data for arriving at a satisfactory conclusion in respect to its gradients and cost, and other circumstances important to inspire confidence in an enterprise of so great magnitude.

Fortunately the information which is wanting, is derivable from various sources to a degree which leaves no doubt of the general character of the proposed route, both in respect to its probable cost, and to its efficiency for the purposes designated, and also in reference to its superiority, when compared with other lines or routes which have been proposed for effecting the same object.

The elevation of Lake Michigan above the sea level is placed by most writers at 578 feet or thirteen feet only higher than Lake Erie, which is known to be 565 feet; by several lines of levels carried to the tide water of the Hudson.

The estimated difference of thirteen feet is probably somewhat less than the actual difference. The error, if any, is not important to this enquiry.

Between Lake Michigan and the Mississippi river the surface of the country although considerably varied has no very marked features produced by any very great difference in elevation of its several portions.

Lapham in his work on Wisconsin, states that

"there are no mountains, properly speaking in Wisconsin, the whole being one vast plain varied only by the river hills and the gentle swells or undulations usually denominated *rolling*. This plain lies at an elevation of from six hundred to fifteen hundred feet above the level of the ocean. The highest lands are those forming the dividing ridge between the waters of Lake Superior and the Mississippi. From this ridge there is a gradual descent to the south and south west." This gradual decline of the general surface of the country is continued far down into Illinois. The portion of it from the latitude of Green Bay south is much of it prairie, but there is both in northern Illinois, and southern Wisconsin an ample supply of timber of the best description for railroad purposes, consisting principally of oak, of which the white and burr oak is the most abundant. Pine, of which there is a large supply in northern Wisconsin, is not found in the southern part of the state or in Illinois.

Messrs. Foster and Whitney in their description of the country south of Lake Superior, represent the line of summits which separate the Mississippi, and St. Lawrence system of waters, as being near Lake Superior, and elevated about 1500 feet above the sea. This higher region is primitive in its formation, a character which does not attach to any portion of the country in Illinois or Wisconsin traversed by the line of the proposed railroad.

From Chicago to Janesville and Madison, the capital of Wisconsin, 125 miles, the road as located, is as near to a direct line as it is possible to place it, and differs in length only a fraction of a mile from a perfectly straight line.

The maximum gradient on this portion is forty feet in one direction and 30 feet in the other. The average rise and fall for the entire line being only 16 feet per mile.

From Madison to the Wisconsin, or La Belle river, the preliminary survey gives forty feet per mile as the maximum grade.

The Wisconsin river, which is navigable to the Mississippi near the points of crossing, is 772 feet above the ocean level. If crossed at an elevation of 90 feet above highest water to enable the class of steamers navigating it to pass underneath, which is practicable, as the banks on both sides are in many places sufficiently elevated and bold for the purpose, the grade line will be elevated eight hundred and eighty-two feet nearly above the sea. Distance from Madison 23 miles.

From the Wisconsin river to the Prairie La Crosse, the distance is estimated at 92 miles. The ground between these points rises to an elevation of about thirteen hundred feet above the sea. Recent examinations show a depression at one point, between the Lemonweir and La Crosse rivers, 200 to 300 feet lower. A preliminary survey extending one-half of the distance, gives for the maximum grade 40 feet per mile and it is quite certain there need be no gradient exceeding that amount for the remainder of the distance to the Mississippi.

At La Crosse the elevation of the line is 700 feet nearly above the ocean level. From thence along the eastern shore of the Mississippi to the head of the Falls of St. Anthony the rise is about 120 feet the estimated elevation of the line at that place being 820 feet.

From the sources of the Lemonweir river, the

line instead of descending to the Mississippi at La Crosse, may be carried along the table land of the interior, where the cost of construction may be less but the line will be more undulating and distance about the same. This line if adopted must be placed far enough from the river to avoid the *coulces* or *bassieres*, as the deep ravines are sometimes called, which characterise the vallies of the several tributaries of the Mississippi in the vicinity of the latter river throughout the entire distance in question. Upon this route the line will necessarily approach the Mississippi at the mouth of the La Croix river, the western boundary of Wisconsin and from that point to the Falls will be in the vicinity of the Mississippi river, passing like the other line through St. Pauls the capital of Minnesota, a point named in the charter through that territory.

Upon the river route from Madison to La Crosse the surface is probably more broken and difficult than for the same distance from Madison on the interior route, but on neither are there any difficulties or obstacles of a very serious nature, such as are of frequent occurrence upon railways in the eastern states.

From La Crosse to the Falls of St. Anthony the line occupies a position upon the east bank of the Mississippi, a distance estimated at one hundred and forty-five miles. In this distance are many high bluffs of limestone and sand-rock forming a striking feature in the scenery of that part of the river. These wall-like cliffs have in general, towards their bases, a gradual slope to the water, formed by fragments of rock and earth, detached from the precipice above, the accumulations of ages, affording in connection with the character of the rock and of the river, facilities for the construction of a railway far greater than are usually met with on roads similarly situated in other sections of the country, and much less expensive than the roads now in operation in the vallies of the Hudson, the Delaware or the Susquehannah. Upon this line no gradient higher than 20 or 25 feet per mile will be required, along the river a feature favorable to its adoption, provided it is equally eligible in other respects.

A better point than the Falls of St. Anthony cannot be selected for crossing the Mississippi river with the proposed railroad. One nearly as good may perhaps be found at some one of the Rapids above, if it shall be deemed advisable to continue the line farther up on the east side of the river.

The Falls of St. Anthony are at the head of navigation on the Mississippi for the largest class of boats. The descent of the river at these falls is 51 feet of which about eighteen or twenty feet is perpendicular. The river at the Falls is divided into two channels, by an island which is three hundred feet wide. The channel on the eastern side is 651 feet in width, and on the western 930 feet, making the entire distance from shore to shore across the island 1881 feet.

From the Falls of St. Anthony the direction of the line is such as to keep it within the immediate vicinity of the Mississippi for a distance of 60 to 70 miles. In this distance the valley is more open, and the road can be constructed probably at less cost than along the valley below.

The river then bears to the North to where it finds its sources in the *Hauteurs des terres* or pine covered table lands, which separate its waters from

those of the Red River of the North, and which are elevated 1,600 to 1,700 feet above the level of the sea.

These heights are crossed by the proposed line a little to the North of where the general level of the plateau rises to meet the higher elevation of the *Coteau des Prairies*, which are situated between the waters of the river St. Peters and the river Jacques, and which are elevated in latitude 46° N. 2,000 feet nearly above the level of the sea.

The elevation of the ground therefore at the summit, over which the line passes, is probably 1,700 feet or thereabouts, making from the Falls of St. Anthony an ascent of about 900 feet only, the most of which is to be overcome in a distance of one hundred miles, estimating from the place where the line leaves the vicinity of the Mississippi river as above described.

The view from the highest part of the *Coteau des prairies* is described by Nicolet as "most beautiful, overlooking the immense green turf of the valley of the Red River of the North, and of the forest capped summits of the *Hauteurs des terres* that surround the sources of the Mississippi, and the granite valley of the upper St. Peters."

The elevations above given of the country after leaving the Wisconsin river are derived mainly from barometrical measurements made by I. N. Nicolet, while exploring under the direction of the War department in the years 1836-7-8 and 9, the valleys of the upper Mississippi and Missouri, and the country between them and the Red River of the North; measurements which appear to have been made with much care and skill, and which have been found to be very correct so far as they have been tested by others since made.

The descent of the Red River from lake Traverse to lake Winnipeg, where it is 853 feet above the sea, is estimated by Col. Long, at 200 feet, and as the distance is 600 miles, the average descent is one-third of one foot per mile, which accords nearly with estimate since made by Mr. Owen. The upper portion of the river has a descent undoubtedly greater than this. The river is navigable, and this navigation extends across to the St. Peters, according to Col. Long, so that canoes of two tons burden pass from the waters of the one to those of the other.

The line as proposed crosses the Red River about 40 miles below lake Traverse, at an elevation probably of about 1,000 or 1,100 feet above the sea-level, making the descent from the *Hauteurs des terres* to the place of crossing about 700 feet.

From the Mississippi to the Red River the country is rolling, the surface not being sufficiently varied to have any very strongly marked features, and like the valley of the Mississippi below is well supplied with timber.

From the Red River to the last crossing of the Shayan-ju or main west branch, a distance of about 50 miles the line continues on ground, which if not entirely level has a remarkably even surface, being described by Mr. Owen as a "great savanna", "a dead level plain", "the channels of the streams being formed by excavations in the alluvial deposit, rather than by any depression in the surface of the country", a formation which "extends all the way down the valley".

Col. Long describes it as a "broad expanse of verdant prairie, spreading beyond the utmost ex-

tent of vision, and, excepting the margins of the river and those of its tributary streams, which are fringed with trees and shrubbery, there is very little to interrupt the simplicity and uniformity of the scenery: scarcely is there an undulation to variegate the prospect." The trees which fringe the water courses consist of "several varieties of oak, white and red elm, linden, grey ash, red maple, cotton wood, aspen, hackberry, iron wood, hornbeam, and white and red pine." Col. Long saw no rock in place in the whole extent of the Red River valley from its source to Pembina at the national boundary.

M. Nicolet speaks of the "vast and magnificent valley of the Red River, spreading itself in an almost insensible slope, to the East, to the North, and to the South, and bounded only by the horizon." He describes the Shayan branch as navigable for canoes to near Devil's Lake "its banks well wooded" and as being "conspicuous by the dense green foliage of its shores." Its valley and that of the main river "possesses a fertile soil, offering many inducements to its settlement."

From the Shayan branch the ground rises very gradually to the plateau of the *coteau du Missouri*, the highest part of which it attains in a distance of about eighty miles. Its elevation at this point above the ocean is assumed at 2,300 feet.

Farther south in lat. 45° N. nearly, the elevation of this plateau was ascertained by Nicolet to be 2,100 feet. Its appearance at that point is described as that of a "green plain bounded only by the horizon, and presenting a smooth surface." Farther north in the direction of the proposed line for the road, it is described as a "high dry rolling prairie" presenting but few "inequalities of surface" throughout its entire extent and having an elevation but little different from the *Coteau des Prairies*, both presenting the highest ground to be found between the Gulf of Mexico and Hudson's Bay west of the Great Lakes.

From the valley of the Shayan river to the Missouri a distance of 100 miles the country is destitute of timber, being, it would seem, the only portion of any very great extent on the entire line to the Pacific not supplied with that article. Over this vast prairie plain the bison and the elk still roam in immense numbers.

The highest point on the Missouri river where barometrical measurements were made by Nicolet was at Fort Pierre in lat. 44½° N. nearly. This point he found to be 1456 feet above the sea. It is situated by his estimate, which differs but little from that of Lewis and Clark, 1256 miles by the river from the mouth of the Missouri.

The mouth of the Missouri as derived from the known elevation of Lake Erie, via the Wabash Canal, and the surveys on the Ohio and Mississippi railroad is 380 feet, nearly, above the Hudson river at Albany, N. Y.

The mouth of the Kansas river 382 miles above the mouth of the Missouri is 303 feet higher, or 683 feet above the sea, giving for this portion of the Missouri a descent of 792-1000th feet per mile.

From the Kansas river to Fort Pierre, the ascent is 773 feet and distance by the river 887 miles, making the descent of this portion 871-1000th feet per mile. The portion of this below Council Bluffs has an inclination of one and one-sixth feet per

mile, and that above for 583 miles, only three-fourths of one foot per mile.

Although M. Nicolet finds the elevation of the Missouri at Fort Pierre to be 1456 feet yet in order to cover any error likely to occur from measurements made with the barometer, this amount will be increased to 1500 feet. This is believed to be an ample allowance in view of the fact that the more recent measurements of Mr. Owen on the Mississippi give results upwards of 100 feet lower than those obtained by M. Nicolet, owing possibly in part to too low an estimate of the level of Lake Superior.

Between Fort Pierre and the mouth of the Yellowstone, the channel of the river appears to have a less inclination on the average than it has below the former point. This is inferred from the time made by boats ascending and descending. The force of the current offering less resistance to the ascent of boats, on the portion from Fort Pierre north to the Yellowstone than upon the portion below. The Journals of Lewis and Clark and of Culbertson are evidence on this head. As this difference may be due in part to other causes than that of a diminished inclination of the channel, the descent for this portion will be estimated at nine-tenths of a foot per mile, which for 600 miles gives the elevation of line of the road at the mouth of the Yellowstone 2,040 feet.*

This will appear to be a liberal estimate in view of the remark made by Lewis and Clark when opposite the mouth of the Little Missouri, that "the river continues wide and of about the same velocity with the ordinary current of the Ohio." The descent of the Ohio from Pittsburg to its mouth including the falls at Louisville, averages less than six inches to the mile. The portion from Pittsburg to Wheeling, 88 miles, has an inclination of 3-10th of a foot per mile; that of the portion below to Cincinnati is only six inches per mile, while that below Cincinnati is still less than this.

The proposed line approaches the Missouri river, a short distance below Fort Mandan, at a point about 300 miles below the Yellowstone. It will have consequently by the above estimate an elevation at this point of about 1770 feet nearly above the level of the sea.

The valley of the Missouri at this place and below is described as a vast prairie rising very gradually on the east side, presenting in that direction no very marked elevations, the *Coteau du Missouri* being merely in the words of Col. Long, a "grand dyke which prevents the Missouri from flowing eastward," circumstances which in connection with the fact, that the Moose river branch of the Assiniboine approaches within a mile of the Missouri river, at a point farther west and is elevated but little above it, show very conclusively that the *Coteau du Missouri* does not increase much, if any, in altitude north of the latitude of 46°, and that it is quite safe to assume, as has been done, the elevation of the line of the road at its highest point between the Red River and Missouri at 2,300 feet.

So low is the ground where the Moose river approaches nearest to the Missouri that it has been

* Since the above was penned, a letter from Gov. Stevens states, that the Missouri at the mouth of the Yellowstone is 1,100 to 1,200 feet above Fort Snelling. This would give for the mouth of the Yellowstone 1,850 to 2,050 feet above the sea level.

proposed to excavate a channel for the discharge in that direction of the surplus waters of the Missouri in times of flood, allowing them to pass northerly into Lake Winnipeg. If this is practicable, then it would also be possible to construct a canal from this point to Bigstone Lake on the St. Peters, and by improving the navigation of this river, which it is said can be done at no very great cost a very direct navigable route may be obtained in connection with the improvement of the Fox and Wisconsin rivers in Wisconsin, now in progress from the Upper Missouri to Lake Michigan and thus avoid the tedious and difficult navigation of the lower portions of the Missouri river: or otherwise, the canal may be continued along the *Haut terres* of the Mississippi and connect at the west end of Lake Superior, by a still shorter route, with the navigation of the lakes.

Such a navigation could also readily be connected with the waters of the Red River and the James river, both of which it is said are susceptible of improvement at no very great cost.

From where the line of the proposed road meets the Mo., to the Great Falls of that river, it occupies the ground on the North side of the river, at a greater distance from it than is necessary to preserve a due degree of directness in its course. The valley of the Missouri on the North side for this distance is mostly a plain, with the surface not greatly varied, its features changing somewhat West of the Muscleshell river between that and Thompsons river, where the surface is more broken and the hills approach nearer to the river.

The character of the Missouri from the mouth of the Yellow Stone to that of the Muscleshell, a distance following its course of 230 miles, as described by Lewis and Clark, is such as to warrant the conclusion that the average inclination of its surface is very little greater than the portion immediately below.

The quantity of water flowing in this portion of the river must be considerably less than in the portion below. The Yellow Stone is the largest tributary of the Upper Missouri, draining an extent of country equal to two thirds of that drained by the Missouri itself at the point of junction.

The dimensions of the two at this point, as given by Lewis and Clark, from actual measurement, are for the Yellow Stone 891 feet in width across the water at the surface and twelve feet deep at its deepest point, and for the Missouri 990 feet in width and the depth greater, the precise depth of the latter, and velocities of the current not being given.

From the Muscleshell river to the Falls of the Missouri a distance of 310 miles by the river, the current is on the average more rapid than upon any equal portion below. Lewis and Clark ascended this distance with their boats at the mean rate of about thirteen miles per day, while the average below was 17 to 18 miles per day. The river is here 600 to 700 feet wide. The most rapid and difficult portion is embraced in the distance of one-third of a mile only. The water is rapid in other places, but not to the same degree as at this. From one foot to one and one-third feet per mile as the maximum, will, it is believed, be a liberal estimate, for the descent of the river from the Falls to the Yellow Stone. This gives for the elevation of the line of the proposed road at the foot of the Falls about 2850 feet.

The character of the portion of the Missouri valley traversed by the proposed road is thus described by Lewis and Clark:

April 14—"Passed low timbered ground."

"16—"The country presents the same appearance of low plains and meadows, bounded on the right a few miles back by broken hills which end in high but fertile lands, the quantity of timber increasing."

"18—"Country presents usual variety of high lands (probably about 100 or 150 feet in height, see memo. May 3d.) interspersed with rich plains."

"21—"Passed Whitewater river." (this is the western boundary of Minnesota.)

"26—"Arrived at Yellow Stone, wood land and limestone near by."

May 3—"The low grounds much wider, sometimes extend 5 to 9 miles to high lands which are much lower than heretofore, not being more than 50 or 60 feet above the low plain."

"6—"Country continues rich, level, and beautiful, the low grounds wide and comparatively with the other parts of the Missouri well supplied with wood."

"7-11—"Proceeded at the rate of 20 miles per day through beautiful and fertile plains, which rose gradually from the low grounds bordering its banks to 50 feet, and extended a perfect level at that elevation as far in places as the eye could reach."

"8—"Passed Milk river."

"11—"First pine seen on the Missouri, resembles the Virginia pine, leaves longer."

"12—"Soil changes somewhat, more sand on the hills, plains the same."

"19—"Character of country changing, cotton wood the only timber and scarce."

"20—"Arrived at Muscleshell river." Lat. 47° 24' N.

"21—"Country in the South high and broken: pine and swamp cedar."

"24—"Grounds higher on each side owing to ridge running N. W. and S. E."

"26—"Scarcely any low grounds on river."

"27—"River rapid and bounded by rugged bluffs."

"28—"Passed Thompsons creek: low grounds on banks again wide, fertile and enriched with trees: those on the North particularly wide, hills low, opening into three large valleys to the North."

"29—"Passed Judith river 300 feet width."

"30—"Rocky points." "On ascending heights country perfectly level on both sides of the river."

"31—"High walls of black rock and white sandstone."

June 2—"Timber increases in quantity, low grounds more level and extensive and bluffs lower."

"8—"Maries river. Lat. 49° 25' N."

"12—"Left Maria's river."

"13—"Beautiful plain. Arrived at Great Falls: river 900 feet wide, bluffs 150 to 200 feet high."

In giving a general description of the valley of the Missouri in another place, Lewis and Clarke signed.

ate that the hills exceed 150 feet in height for some distance below the Mandan village, but above that point "they are rather lower to the neighborhood of the Muscleshell river, where they are met by the northern hills which have advanced to a more uniform height, varying from 150 to 200 or 300 feet. From this point to the mountains, the height of both is nearly the same, from three hundred to five hundred feet, and the low grounds are so narrow that the traveller seems passing through a range of high country. From Maria's river to the Falls, the hills descend to the height of about 200 or 300 feet."

The above description is confirmed by Mr. Culbertson, who ascended the Missouri in 1850, (as appears by his Journal, published in the transactions of the Smithsonian Institute,) to a point above Porcupine river. From Fort Clarke near the site of the old Fort Mandan the valley is represented by him as "prairie," with "hills sixty feet in height" as far up as the Yellow Stone. Above that point the "hills are lower," "country more level," and "banks well timbered." At a distance of about 60 miles the "hills leave the river and a broad bottom intervenes." At 80 miles "prairie to north and hilly to south;" "country more even;" "good timber." At 90 miles Martha's river, "very wide rolling prairies, on north side no hills." Below Milk river, "very extensive and level prairie to the north." Between Milk and Porcupine rivers, "in midst of most magnificent prairies;" Above Porcupine river "continuation of prairie country, specially on the north side;" "beautiful rolling prairie all along, excepting occasional timbered points."

From the preceding it is evident that the valley of the Missouri from Fort Mandan to the Great Falls, is an immense plain, particularly on its north side, and principally prairie, interrupted only by the broken region between the Muscleshell and Thompson rivers, a character which belongs from all accounts to the entire space between the Missouri and Saskatchewan, and Assiniboine rivers. In all this distance of nearly 500 miles, the valley appears to rise very gradually at the average rate of about two feet per mile. This, in connection with the very favorable character of the surface, as described between the Missouri and Mississippi rivers, leads to the conclusion that in the entire distance, from the latter to the Great Falls of the former, embracing nearly one thousand miles, no gradient will be required exceeding 25 to 30 feet per mile. The road can be located on long straight lines, with but comparatively few changes in direction, and the grading will, in general, be light.

The line of the road for more than half of the distance will not be very far from the navigable waters of the Mississippi and Missouri. With respect to timber for construction it is apparent that the borders of the Missouri and its branches, from Fort Mandan to the Falls are in general fringed with it, and when not found on the river banks can be procured without difficulty from the branches or from parts of the river which are better supplied with it.

To be continued.

III. Central Railroad.

Mr. M. B. Edgar has been elected Treasurer of the Illinois Central Railroad. Mr. Burrall resigns.

Development of the Locomotive.

It is a common and very true saying that "there is one right way for everything," and accordingly all efforts for improvement tend to reach a general standard of perfection. This has been equally true in the case of the Locomotive engine as with other works of human invention and adaptation. In the early days of steam locomotion there was a great diversity of style in the engines of different builders, but since every arrangement and proportion of the Locomotive has been the subject of full and intelligent investigation, at the hands of able engineers, machinists, and managers, these different styles have been assimilated to a general standard, in which all the good points of previous patterns have been retained and combined, while the improved and nearly perfected result of these combinations bears little general resemblance to any of the primitive elements from which it has grown into shape. The Locomotive of 1853 represents a general style, essentially the same wherever constructed throughout the country, while the engines of 1840 were of as many styles as there were builders, and were all as diversified in construction as they could well be, when designed, all for the same service and necessarily of nearly the same weight and dimensions.

This assimilation of style is the result of improvement, for while the engine remained imperfect there were as many advocates for one arrangement or system of proportions as another. The inside connected "crank" engine was an imperfect arrangement, unmechanical in principle, and although fast going out of use, is, we are sorry to say, still built and adopted in some quarters. On the other hand, the inclined cylinders and want of balances were objections to the "outside" connected engine, and operated to throw that engine into discredit, from which the improvements of more recent times have not yet entirely reclaimed it. The principle maintains, however, for the recent engines with horizontal cylinders and counterbalanced drivers are better than either of the former arrangements; being equally as steady as the one and possessing all the acknowledged advantages of the other.

It is a matter of considerable interest to trace the features of the Locomotives of different times and of different makers, and to know why, and to what extent, they have been superseded by other arrangements.

In 1840 there were three prominent styles of Locomotives built in different parts of the country. The inside connected, English pattern, built at Lowell, Massachusetts, by the Locks and Canals Company; the "half crank" engines built by H. R. Dunham & Co., of New York city, and Matthias W. Baldwin, of Philadelphia; and the outside connected engine, of which William Norris, of Philadelphia, was the leading builder.

Beyond these leading distinctions of arrangement there were others embraced in the details of machinery, each of which, in its place, was fully as distinctive in its features. The Locks and Canals engines had the English construction throughout. Single drivers and rigid leading and trailing wheels were among their prominent characteristics.

They had a "wagon top" furnace, and were built with a system of framing that would appear startling if preserved in its full proportions upon the heavy engines of our own times; if indeed we

have any gauge that would admit of it. The crank axle was supported by six bearings, of which four carried a share of the weight of the engine. It is not our purpose, however, to particularize these distinctions with much minuteness, as the large number of the engines which were built at Lowell and the extreme strength of their construction have kept them in existence in their original form on many of our roads up to the present time.

The "half crank" engine was not probably as generally introduced. This plan of engine had outside cylinders, or cylinders placed on the outside of the smokebox, while the connecting rod was applied to a crank wrist just inside of the wheel. This bearing of the crank was connected with the main part of the axle by a single "cheek" on one side, and was either continued straight through the wheel on the other, or else had a second "cheek" sunk in the body of the wheel, by which it reached the center and sustained an outer bearing. This was, of course, a clumsy, unmechanical arrangement, having most of the faults of the "full crank" engine, while it necessarily involved an outside frame with outside bearings, and a long reach of boiler braces, and in the case of coupled drivers, the use also of extra cranks keyed onto the axles, and coupling rods at a distance of 16 or 17 inches from the tread of the wheels. It also limited the capacity of the engine on the narrow gauge. From these many disadvantages this arrangement is no longer built, although as late as 1848 the New York and Erie railroad adopted it very generally, from a conviction that their road was too wide for an outside connection, and that the inside connected engine was not a good one. The inside connection has, however, been generally adopted at a later day, and this fact is one unfortunate feature of the broad gauge, for while possessing, at least, very doubtful advantages, it almost necessarily involves a "crank engine."

The outside connected engine built in 1840, by William Norris, was the most elegant and successful example of the Locomotive then in use in this country. It combined great simplicity of construction with some improvements of arrangement which have become generally adopted. The truck was one distinctive and valuable feature without which no engine of the present day is constructed. The inside frame was adopted. The use of coupled drivers at a little later period, adapting the engine to its own increased weight, consequent upon an increased capacity given at the same time, and also to the heavy grades upon which it was often called to work was another great step towards the improvement of the engine. The Locomotive of 1844, built by Norris, was nearer the standard to which other improvements have tended and to which other patterns have assimilated, than any others of cotemporary or previous construction.

During the year of 1840 another style of outside connected engine was commenced in Boston. This was the commencement of the New England style which, in its changes from out to inside connections and back, has prevailed in all of the designs originating in that quarter up to the present day. The original pattern had the distribution of weight adopted by Norris, the form of boiler adopted in the English pattern, and a cylinder connection, pump, and a general style of frame and finish original with itself. The cylinder connection was

made wholly to the frame and independent of the boiler. The pump was worked on a short stroke. The frame was of the riveted kind which is still retained in the Boston engines, and had inside bearings, like Norris, with the addition of an outer rail for the support of the cylinders, valve motion and pumps.

In 1845 the crank engine was revived at the Boston Locomotive Works and a peculiar style was soon after introduced. The separate cut off valve, which had become generally popular was contained in the new engine. The short stroke pump was preserved. A truck of a new kind was adopted. Altogether the engine was the most original in its arrangement of any pattern which had appeared since 1840, and considering the character of Locomotives at that time was quite creditable to the builders.

By 1850 the Paterson style of engine, which had long been before the public, came out in an improved form, and the improvements which have rapidly followed in these engines, since that time, have distinguished them as the best in the country. They have brought out the link motion in this country perfected to work with great accuracy and efficiency; they have made the most general application of the center bearing truck, double domes, and the expansion brace, and have given us a boiler combining all the advantages of the dome and "wagon top," without the disadvantages of either. The steadiest running outside connections were turned out here, when the builders commenced giving greater attention to counterbalancing and to bringing down the cylinders to a level. And for efficient evaporative power and communicating capacity, and for general excellence of material and thorough workmanship these engines have earned a wide reputation. The Paterson style of passenger engine is now the leading style of this country, and as a proof of the fact its arrangements and proportions are the most copied by other builders.

In the South, Winans has established a plan for the burden engines of the undulating and crooked roads in that section. He has done much, and in fact nearly all that has been successfully done, to develop the coal engine, having enlarged the grate, introduced the movable grate bar, and adopted and perfected the variable exhaust and draft pipe in the smoke box. He has distributed the weight of his engine on a large number of points, besides bringing the whole into a short wheel base, adapted for short curves. The chilled wheel has been a good feature of his engines, compared with the old wrought tire, and had the chilled surface been made removable by the greatly improved method of applying the slip tire there would have been nothing left imperfect in the adaptation of the driving wheels.

While the general arrangement of the Locomotive has been so diversified in the hands of different builders, at different periods, the details of the machinery have been equally the subjects of a great variety of patterns and changes. We have had the dome boiler, the wagon top, and the elevated crown of the present day. We have had frames made from riveted bars with cast iron and wrought iron pedestals and braces, offset frames and trussed frames; the trucks have been made with outside and inside journals and with both, with side and with center bearings and with both

combined and with various kinds of spring suspensions; the valve motion has been the lap valve, separate cut off, direct and indirect attachment, vee hooks, drop hooks, and shifting and stationary link motions, besides the graduated variable cut off; the slides have been of cast iron and wrought iron, single and double, hexagonal, square, round and flat; all parts of the structure of the engine have been varied either through necessity, caprice, or efforts for improvement, while the result, combining the arrangement and details which experience has sanctioned, is now before us in the standard Locomotive engine of the present day.

There is generally far less difference in the construction of engines, by different builders, now than at any previous time and there is less reason for difference. The merits, the purposes, and the consequent structure of the engine are better understood. The multiplication of railroads has brought the inventive faculty on to common ground, as the old Eastern shops build less for roads in their own vicinity than for Western roads where they are compelled to compete directly with every builder in the country. The competition of railroads themselves has been the most important cause of improvement and consequent assimilation of style. The demands of modern travel have called for greater power and economy, and the means of superiority, developed in the efforts to reach these ends, have been incorporated into the patterns of all successful builders.

The adaptation of Locomotives, of which we have before spoken, is regarded as of much more importance than formerly. A few years ago one builder would have two or three sizes of the same pattern, whereas now the distinctive nature of freight, express, and local passenger traffic, ballasting and yard work, call for more extensive adaptations of the engine, not for mere purposes of difference in construction, but difference in employment. Then an equipment of engines, ordered from one builder, no matter how varied their application to the business of the road, would be alike in arrangement and construction; from different builders they would be essentially different in these respects, and yet no better adapted as a whole to the wants of the road. Now, one equipment suited for all the various wants of any road can be had from one builder, while if ordered from different builders the general features of the work will not be essentially varied.

The great march of improvement in the American Locomotive may be measured by three steps; the first, the machines of 1840, which had no provision for expansive working, and were of the most primitive style that have survived the renewals of the service, and came down to us in their original form; the second, the engines of 1848, when the redoubtable "inside connection" was in its glory, and when short stroke pumps and expansive gear acting by separate valves were in fashion. The engines of this period reached the height of complication, and since then have been gradually simplified up to the present time. And third, the standard style of engines of the present day, the most complete examples of which are based upon the Paterson model, and which generally, for what they accomplish in the economy and efficiency of steam and for the qualities they possess adapting them to run steadily, are the

simplest engines that have ever appeared. Their distinguishing traits of simplicity and superiority are the modern form of boiler with double domes, the straight frame, the center bearing truck, low centre of gravity, counterbalanced drivers, nearly horizontal cylinders, the link motion, the expansion brace, and some minor details, all tending to the same result.

The importance which old settled roads will come to attach to uniformity in their equipments, a matter which has already, in many cases, influenced the apportionment of contracts, will in the succeeding period of five or six years extinguish those differences of construction which are now looked upon as merely due to the difference in the taste of the builders, and the standard style of American engine, will come to be more generally built. The only claim which will be regarded as a legitimate ground for differences of construction will be that of the adaptation of engines, and that, in our opinion will be far more considered than it has been.

And this general assimilation of style will be universal, modified only by the circumstances to which they must be adapted. In England, where much of the machinery of the Locomotive has reached a higher state of perfection than elsewhere, the increased use of coupled drivers affords one instance of this general tendency. The outside connection of which many have been built in England, will yet supersede the "crank engine," a result which is certain to be accomplished in time, not only there but everywhere, except those lines unfortunately afflicted with a "broad gauge."

Carhart's Turn Table.

We find the following notice of Mr. D. M. Carhart's turn table in the *Jersey City Sentinel and Advertiser*;

The new turn table that has been in process of construction for the New York and Erie railroad at this place is completed, we learn, to the entire satisfaction of the said Co., and meets with general encomiums from all we have heard speak of it, except a few who are very limitedly engaged in the business. This turn table is capable of being turned by one man in the almost incredible short space of 28 seconds, with an engine and tender of 35 tons weight. The builder, Mr. D. M. Carhart, (formerly of Jersey City) has secured letters patent on this method of turn tables, and is engaged at present in building them on 11 different roads in N. Y., Pa., Ohio and Ind.,—they have been universally adopted on all the roads in the State of Ohio, and have met with general favor, we should judge, from the flattering letters from different Co's. Railroad Co's. who have not used them would do well to examine Carhart's references, as advertised by him in the *New York Railroad Journal*.

Northwestern, Penna. and Cleveland and Mahoning Railroads.

The Cleveland Board of Trade recently adopted the following preamble and resolutions relative to these roads.

Whereas, the Northwestern (Pennsylvania) railroad, in connection with other roads completed and in progress, will form a continuous railroad communication with an unbroken gauge between this city and Philadelphia, upon a much shorter and better line than any heretofore constructed or projected, thereby opening to the Lake commerce and the Northwestern States a new and very valuable outlet for their trade to the great manufacturing city of the Union, and promising to develop most important commercial connections from which we have been heretofore to a great extent excluded—therefore,

Resolved, That the Board of Trade of the City of Cleveland looks with great interest to the efforts now making to construct the Northwestern railroad, and believe the interests of this City and of the Lake commerce generally to be materially concerned in their success.

Resolved, That we look forward to the completion of a continuous railroad line from this city to Philadelphia, via the Cleveland and Mahoning, the Northwestern, and the Pennsylvania railroad, as destined to create new and very extensive commercial relations between the Northwestern States and Philadelphia, and to establish new markets for the commerce of the Lakes.

Ordered to be published in the papers of the City of Cleveland.

S. L. WEATHERLY, President.

J. M. ISAACS, Secretary.

Fort Wayne and Southern Railroad.

The Annual Election for Directors of the Fort Wayne and Southern Railroad came off on Wednesday the 5th ult., and resulted in the choice of

Wm. Rockhill of Allen county, John Studibaker of Wells, Jacob Brough of Blackford, Charles Carter of Delaware, E. T. Hickman of Henry, J. L. Robinson of Rush, Joseph Holman of Wayne, I. T. Gibson of Decatur, B. Phillips of Jennings, E. G. English of Scott, James G. Read of Clark, J. S. McDonald of Floyd, W. J. Holman of Miami.

The officers of the Company are, W. J. Holman, President; E. G. English, Vice President; D. T. Haines, Secretary; Wm. F. Jones, Treasurer.

The Stock of the Company already closed up, is said to be \$1,000,000, and \$4,000,000 more offered, about one-half of which has been obtained in the last month. The road will be 198 miles long, from Fort Wayne to the Falls of the Ohio River. Sixty-four miles of it, from Fort Wayne to Muncie, is under contract—the grubbing, clearing, and much of the grading done. It is intended, if possible, to have this portion of the road completed during the course of the coming year.

Iron, Coal and Timber.

The Evansville, Indianapolis and Cleveland straight line railroad has been located through Pike, Daviess, Green and Owen counties, in Indiana, of the mineral and vegetable resources of which, David Dae Owen thus speaks in his geological report.

"The coals of this Indiana coal field may be designated as of the fat bituminous character, like those of Derbyshire, Wigan, and Lancashire in England, and Lanarkshire in Scotland. Though the amount of carbon is not as great as that of many of the Eastern coals for completeness of combustion, yet a rapidity of ignition, freedom from waste, and for the purpose of rapid evaporation, they hold the first rank amongst both foreign and domestic coals; indeed they are capable of generating steam, and bringing a boiler to a steady action quicker than any other coals in the market—one pound of these coals can produce from six to seven pounds of steam. They are not apt to obstruct grates with clinker, they are also well adapted for the production of illuminating gas; and some of the beds afford a coal that for heating power and freedom from impurity, surpass the Splint and Cannel coal of Scotland. Coal obtained from one of the lower beds of this coal field, brought a boiler into steady action in just half the time required to procure the same effect with Cumberland Coal. The locations of coal are too numerous to mention, many of the beds attain a thickness of from four to ten feet or more."

"The iron ores are extensive and important, and must ultimately afford a permanent supply of cast iron and steel, not only for consumption, but for shipment. The geological formation through which these works extend, is such as to warrant that much remains yet to be discovered and developed which still lies hidden beneath the deep and rich soils and luxuriant vegetation. The whole of Pike county may be said to support as fine and thrifty a body of white oak timber, as is

to be found in Indiana or perhaps in any portion of the W. St. There are many trees four feet through. Green, Owen, and Morgan contain fine white oak and poplar."

American Railroad Journal.

Saturday, November 5, 1853.

Railroad to the Pacific.

On our first page will be found the commencement of a somewhat elaborate treatise, or essay, upon the subject of a Railroad from the Eastern States to the Pacific, from the pen of E. F. Johnson, Esq., a gentleman well known to the public, and to his brethren, as one of the most accomplished and scientific members of the profession. Mr. Johnson undertakes to prove the superiority of the extreme northern, and brings in support of his proposition, an array of evidence possessed by no other route. His pamphlet will fill about 35 pages of the *Journal*. He illustrates his arguments by a set of *Maps* prepared by himself, and which will accompany our next issue.

The subject of a railroad to the Pacific is soon to become one of paramount interest throughout the whole country. The time for action has arrived, and whoever can throw light upon the project, contributes something towards the advancement of this great work. We believe Mr. Johnson has rendered a valuable service. He has thoroughly examined, and presented the evidence in favor of one route, and believes he has demonstrated its superiority to all others. Whether he has done so or not, his investigations will stimulate others of a similar character in reference to other routes, and will be the means of placing before the public at an early day, the evidence necessary to determine which of those proposed will best meet all the conditions of a work adapted to the wants of the whole country.

Mr. Johnson's treatise will be subsequently published in a pamphlet form for general circulation.

Share and Money Market.

The stock market has exhibited much more steadiness during the week just passed, than characterized it a few days previously, and yet, there are unmistakable symptoms of weakness, arising partly from the continued scarcity of money, but more, probably, from a want of confidence in the stability of monetary affairs and securities generally, in the future. Because war, and news of war, affects the prices of consols and railway shares and bonds in London, and the transactions at the Bourse in Paris, the "bulls" and "bears," and the good money lenders in Wall street, would fain have us believe that the same news may continue its effects across three thousand miles of barren ocean, and place in jeopardy our railways, our lands, towns, cities, counties and States. And while all are waiting to settle things somewhat in their own minds, prices suffer a little depression; then all take hold and we see another rally, which lasts till the next arrival; when, very likely, the same scene will be repeated. These facts do not argue doubts as to the actual merits of the stocks operated in, but show the exceedingly nervous and feverish temperament of Wall street, and how much more, floating reports and mischievous surmises, have to do with the fluctuations in the pri-

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for yr.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	82
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland.. "	72	952,621	20,80	2,511,067	168,111	100,551	none	45
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	11,251	6	98½
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,251	none	—
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,651	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	107½
Cheshire	51	2,078,625	720,900	3,002,944	287,768	55,260	5	48
Northern	82	3,016,634	.....	.....	328,782	163,075	5	45½
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell..... "	15	600,000	none.	651,214	132,515	51,513	8	109
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan..... "	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	37
Rutland	126	2,486,000	2,120,100	5,577,467	495,397	266,539	none	25
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	none	13
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	.....	.....	Leased to the Vt. C.	100
Western Vermont..... "	51	392,000	700,000	.....	.....	.....	Recently opened.	none
Vermont Valley	21	.....	.....	.....	.....	.....	.....	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	94½
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	102½
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	86½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	45
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern..... "	75	2,850,000	500,000	3,120,391	488,793	211,017	7½	92
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	106½
Fitchburg..... "	66	3,540,000	112,305	3,623,073	574,574	232,787	6	94
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	90½
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	213,679	18,648	none	13½
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99
Stonington..... R. I.	56	.....	467,700	.....	240,572	110,892	.....	60
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	.....	.....	3,150,000	.....	.....	none	.....
Hartford and New Haven.... "	72	2,350,000	800,000	3,150,000	639,529	234,269	10	122
Housatonic..... "	116	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	96
Naugatuck	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently	opened.	none	45
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	51½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently	opened.	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently	opened.	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,300	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Eric, (New York and Erie)... "	164	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	71½
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	65
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	51½
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	27½
New York Central..... "	504	22,858,600	2,111,824	24,974,423	.....	.....	.....	110
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	27½
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently	opened.	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington..... "	60	850,000	400,000	1,250,000	Recently	opened.	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently	opened.	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently	opened.	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,700	8	100
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,400	1,388,285	478,412	10	145
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,215,720	603,942	316,254	10	130
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,741	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,804	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently	opened.	.....	125
Harrisburgh and Lancaster.. "	26	830,100	713,227	1,702,623	265,327	106,320	8	.....
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	71½
Phila., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,889	667,785	383,501	5	78½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	92½	102½
Philadelphia and Trenton.... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio..... Md.	381	9,188,300	9,827,123	19,512,207	1,325,567	615,388	7	46
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.. "	57	.....	.....	.....	413,678	152,530	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	61	769,000	173,867	1,105,928	227,595	72,370	7	77
Richmond and Danville..... "	72	1,372,324	200,000	In prog.	.....	.....	.....	.....
Richmond and Petersburg.. "	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac.... "	76	1,000,000	503,000	1,531,238	254,370	113,256	7	105
South Side..... "	62	1,328,722	800,000	In prog.	.....	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,030	In prog.	176,485	74,900	none	.....
Virginia and Tennessee..... "	60	3,000,000	1,500,000	In prog.	.....	.....	none	98
Winchester and Potomac.... "	32	180,000	.....	416,532	89,770	.....	12	.....
Wilmington and Raleigh.... N. C.	161	1,328,878	1,134,698	2,965,574	510,030	153,850	6	.....
Charlotte and South Carolina. S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,330	1,000,711	609,711	7	125
Wilmington and Manchester. "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia..... "	211	4,000,000	1,214	.....	984,424	450,078	7½	.....
Macon and Western..... "	101	1,214,283	168,000	1,596,283	296,58	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	50	586,887	150,000	743,525	129,390	71,535	8	.....
Alabama and Tennessee River Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point. "	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia. Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga. "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.... Ky.	38	1,430,150	1,100,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.... "	29	257,218	.....	584,902	87,421	44,256	80	.....
Louisville and Frankfort.... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh.... Ohio.	100	1,239,450	1,371,000	2,963,750	194,427	123,330	6	93
Cleveland, Painesv. and Ash.. "	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.... "	135	3,027,000	408,200	3,655,000	777,79	483,45	12	116½
Columbus, Piqua and Indiana. "	46	.....	.....	2,000,000	.....	.....	.....	98
Columbus and Lake Erie.... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton "	60	2,100,000	500,000	2,659,652	321,79	200,967	.....	99
Cincinnati and Marietta.... "	.....	.....	.....	In prog.	.....	.....	.....	72½
Dayton and Western..... "	40	310,000	550,000	925,000	Recently	opened.	80	.....
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	70
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,370,784	.....	2,634,157	526,740	314,670	10	119½
Mansfield and Sandusky.... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	97
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	Recently	opened.	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley.. "	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd "	87	552,000	800,000	1,317,140	Recently	opened.	.....	.....
Xenia and Columbus..... "	54	1,092,137	119,500	1,257,714	237,500	135,360	15	.....
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central..... "	131	.....	.....	.....	.....	.....	.....	.....
Indiana Northern..... "	83	.....	.....	.....	.....	.....	.....	105
Indianapolis and Bellefontaine "	.....	.....	.....	.....	.....	.....	.....	.....
Lawrenceburg and Ind..... "	.....	.....	.....	In prog.	.....	.....	.....	82
Lafayette and Indianapolis.. "	62	.....	.....	.....	.....	.....	.....	78
Madison and Indianapolis.... "	88	1,650,000	750,000	2,400,000	516,41	268,076	10	85
Peru and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	70
Terre Haute and Indianapolis "	72	632,387	603,100	1,353,019	106,944	71,446	4	108
Rock Island and Chicago.... Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.... "	113	2,400,000	4,000,000	4,600,000	.....	.....	.....	186
Illinois Central..... "	.....	.....	.....	.....	.....	.....	.....	124
Galena and Chicago..... "	92	1,932,361	500,000	In prog.	473,548	286,152	.....	.....
Michigan Southern..... Mich.	315	2,499,410	2,629,000	6,480,246	592,187	293,046	.....	118
Michigan Central..... "	282	4,000,000	4,087,898	8,614,193	.....	.....	8	108½
Pacific..... Mo.	88	1,000,000	none	In progress	Recently	opened.	.....	.....

ces of stocks at the Board, than any reliable intelligence as to the cost, earnings and expenses of the enterprises whose credit they represent. We annex sales of shares of some of the leading lines each day.

	Hudson N. Y.	N. Y. & Har.	N. H.
Thursday.....	74½ 66 111½	53	100
Friday.....	73¾ 65 110½	52½	100
Saturday.....	74 65 109	51½	99½
Monday.....	73¾ 65½	110	51¾ 98
Tuesday.....	73¼ 65 110	51¼	96
Wednesday.....	73¼ 65½ 110	51¼	96

Michigan Central closed at 107. Cincinnati, Hamilton and Dayton at 98. Reading 71¾; Norwich and Worcester 52, and Stonington 60. After adjournment of the Board on Wednesday, the following sales by auction, of railway bonds were made by Simeon Draper, Esq:

50,000 Columbus, Piqua and Indiana railroad first mortgage.....	65
7,000 Buffalo, Corning and N. York railroad first mortgage.....	80½
5,000 Buffalo, Corning and N. York railroad first mortgage.....	80
18,000 Corning and Blossburg railroad, first mortgage.....	60
20,000 Michigan Central Convertibles.....	102
20,000 Troy and Boston railroad mortgage.....	71
15,000 Junction Railroad, Ohio, first mortgage.....	91
5,000 Pacific Mail Steamship Co.....	70
5,000 Miss. and Rock River Junction railroad first mortgage.....	65
3,000 Miss. and Rock River Junction railroad first mortgage.....	65
4,000 Miss. and Rock River Junction railroad first mortgage.....	62
4,000 Miss. and Rock River Junction railroad first mortgage.....	60
5,000 Stock Erie and North East railroad.....	116

Those bonds which would not bring the amount for which they were pledged, were withdrawn. The unprecedented earnings of the railways now, and the low prices of shares consequent upon the present stringency in the money market, make the stocks of the leading lines favorites investment with monied operators.

Money, though a trifle easier in the street is still a "cash" article with the Banks. They curtailed their loans over two millions more last week making over fourteen millions since the 6th August last. A business community which can prosecute its legitimate transactions under this immense reduction of accommodation can be in none other than a sound and prospering condition. Why the Banks should pursue this course, to such an extent, toward customers who must have extended their business under the expectation of a continuation of their usual line of discounts, is as unaccountable as that the results have not been much more disastrous. We can hardly see how the Banks can expect their bills receivable to be promptly met, while they suddenly contract their accommodations to their customers at the rate of two millions per week.

The following figures show the condition of the Banks, Aug. 6th, Oct. 22d, and 29th.

	Aug. 6th.	Oct. 22d.	Oct. 29th.
Loans.....	97,899,199	85,567,581	83,400,321
Specie.....	9,746,441	10,303,253	10,866,672
Circulation.....	9,518,753	9,889,542	9,300,350
Deposits.....	69,579,797	65,748,739	63,335,462

The net amount subject to the draft of the Secretary of the Treasury on the 24th inst. was \$25,958,756.

Morris Canal,--Inclined Planes.

By invitation of Wm. H. Talcott, Esq., who has been the Engineer and superintendent of the Morris Canal, since 1846, we have recently visited the Newark inclined plane, where the navigation of this canal encounters the first elevation in passing from the Hudson to the Delaware. The time of our visit was favorable for a full view of the machinery in active operation, and we improved the opportunity so afforded by gathering such facts and general knowledge relative to the history and construction of the work as the time to which we were limited would allow. As the working of the Morris canal illustrates a new feature in artificial navigation, one of which our engineering literature affords no just description, we propose to lay these facts before our readers.

The system of overcoming the rise and fall of water routes by inclines, instead of locks, was first demonstrated on the Morris canal, in New Jersey, and the results which have followed may justly allow this system to be regarded as a great improvement over the tedious and expensive mode for which it was substituted. The Morris canal, running from Jersey city, opposite New York, to Easton, Pa., 102 miles, overcomes an ascent of 914 feet, the total rise and fall being 1674 feet. This is accomplished by the aid of twenty-three locks, and twenty-three inclined planes, the latter of which are, in some cases, 1600 feet long, and 100 feet in height. The Newark plane is 1200 feet long, and 70 feet in height. The tonnage of the canal consists principally of coal, iron and iron ore, and will amount for the present year to 450,000 tons. The boats used are of an average of sixty tons each, the heaviest passed this season being of seventy-two tons, while the capacity of all the new inclines is one hundred tons. By projected enlargements the canal will accommodate an annual business of one million tons.

The object of this work was to open the Lehigh coal region to the New York market by a navigation connecting with the Lehigh canal at Easton. To do this, however, it was necessary to surmount the great elevation of the intervening country as there were no water courses affording an available opening through it. The project was commenced in July, 1825, by a Co. with a capital of \$4,100,000. In Aug. 1831, the canal was completed from Newark to the Delaware river, opposite Easton, 90 miles. In January, 1838, the company were authorised to extend their canal to Jersey city, its present eastern terminus. The capacity of the canal did not allow it to compete successfully with the Delaware division of the Pennsylvania canal, carrying coal also to tide-water, and for the attainment of this purpose the lift locks were enlarged in 1840 and '41. Immediately after this improvement the company failed, and their property, held by receivers, was rented for a small sum until 1844. At this time the whole work was sold to the present company for \$1,000,000. In the winter of 1843 and '49, the purchasers received authority from the State of New Jersey to issue a preferred stock of which about \$700,000 have been issued. In addition the company sustain a bonded debt of \$400,000, making their present capital about \$2,100,000, an amount far less than the sum expended on their work.

The proper value and efficiency of the Morris Canal could not be realized by the common system of lockage over such an elevation as existed

on its route. The delay attending such frequent and heavy lifts would seriously interfere with the navigation, while the cost of locks and the water required to operate them, were beyond the resources of the company, and of the reservoirs, respectively to supply. The only obvious method, therefore, of rendering the improvement available, was in the use of inclines, and engineers of the highest standing, including those in the service of the United States government, (General Bernard and Col. Totten among the number,) were appointed to determine their practicability. But, unfortunately, although a plan upon this principle had been devised, affording some advantage over locks of equal lift, there was none which could give the desired capacity to the canal. Some time in 1844, or '45 the system was again attempted, but without those results upon which the great object of the work depended. The present plan for operating the inclined planes was first proposed, in 1847, conjointly by the present engineer, and A. Whitney, Esq., of Philadelphia, who was at that time president of the company. In five months from the time authority was given to construct such a plane the whole plan was perfected, the machinery made, the plane rebuilt and put in successful operation, and all done without materially interfering with the use of the old plane.

The first trial of the new plane, (known as No. 6 west of the summit, and 18 miles from Easton,) was made January 27th, 1848, when an entire boat, comprising both sections, and with a cargo weighing 70 tons, was passed up the plane, nine hundred feet in length, and fifty-one feet in height, in three minutes and a half! This plane cost, with the entire machinery for working it, \$27,168, and superseded the use of six locks, which would have cost \$20,000 each, or \$120,000 in all, and would occupy one and a half hour's time. The amount of water required for operating the incline did not exceed one half that required for locks, a matter of importance where the supply of water is depended on reservoirs.

Here was a result which gave vitality to the institution. The course of the traffic was not disturbed as no stoppage was required in entering or leaving the incline, while the rate of motion throughout exceeded four miles per hour. By one stroke this canal, intersecting the loftiest ridges, overcome by any work of similar character, was placed upon a nearly equal footing with a level water route, working under no disadvantage excepting the interest and slight repairs upon the machinery.

The success of this plane determined the general adoption of the system throughout the line. In 1850 ten planes were built and at the present time thirteen out of the twenty-three planes are of this improved construction.

The machinery and operation of the planes is particularly simple and efficient. A wide double track connects the two levels, extending below the surface at the lower level, and by a summit and an opposite incline below the surface also of the upper level. At either end the boats are floated on to trucks resting upon the rails at the bottom of the canal. These are drawn out and up the planes by wire ropes, the power being a reaction water wheel placed as near the head of the incline as will allow of a sufficient fall of water.

The double tracks are of twelve feet gauge, the incline being generally one foot in eleven. The rails are three inches broad, but of only moderate depth, as they are supported on continuous timber bearings resting on solid stone masonry. They weigh 76 pounds per yard. The trucks are strong frames with high stanchions—the latter to hold the hawsers which confine the boats. As all the boats on the Lehigh canal are made in two sections (it being found that boats so divided are more durable, and easier loaded and unloaded, and require less timber to obtain equal stiffness,) the trucks are also made in two independent divisions, connected by shackles. This assists the boat in passing from the top of the incline, over into the upper level, as at this place there is a summit and an opposite incline to reach the bottom of the canal. This incline is of 1 in 20, and descends some five or six feet to the bottom. The trucks are carried on sixteen wheels each, all of which are controlled by brakes by which the whole load may be held at any point on the plane, even if detached from the rope. The friction of the wheels, when firmly held on a dry rail would be full one-seventh of the weight, while the power of gravity is but one-eleventh. The ropes are of wire, are 2-9-16 inches diameter and weight nine pounds per foot. One rope at the Newark plane is of English manufacture and contains 36 wires of one-fourth inch diameter each. All the other wire ropes in use on the canal were made by John A. Roebling, of Trenton, New Jersey, and although of the same diameter as the English rope, contain 343 wires. The ropes lie in the centers of the tracks, and at the upper end of the incline pass around horizontal sheave wheels, which are held strongly enough to resist the entire draught of the water wheel. The ropes are then brought down and secured to a cylindrical drum of twelve feet diameter, operated by the water wheel. This drum has a continuous spiral groove of three inches pitch around its outside, the length being regulated by the length of the rope to be wound up, or in other words the length of the plane. The ropes are fastened on opposite ends and on opposite sides of the drum, so that one is wound as the other is unwound, the motion of the drum being reversible by a clutch on the jack shaft of the water wheel, so as to work either up or down the plane without the friction and strain of an endless rope. The two outer ends of the two ropes are however, connected by a smaller rope which draws the boat out of the upper level on to the top of the incline.

The drums are worthy of notice. The rims, being of twelve feet diameter, and in some cases ten or twelve feet long, were cast in single pieces in dry loam. The spiral groove on the outer face was produced in the mould, a smooth circle equal to the diameter of the rim at the bottom of the groove being first "swept out," and a cutter or shaper, carried on a stiff arm secured to a large revolving nut and fixed screw of proper pitch being afterwards carried around until the proper groove was formed upon the whole face of the rim. Five of these drums with their arms and shafts were made at Paterson, N. J.; two at Rockaway, N. J.; and six at Philadelphia. The power is applied by a pinion, working just within the rim, and not through the central shaft whereby much torsion is prevented and the arms of the drum are much re-

duced in weight. The rim is stiffened in the outside, back of the internal spur teeth, by a deep flange.

The water wheel is of the kind known as the Scotch motor, or Whitlaw and Starrett's reaction wheel. It employs 55 feet of fall, yields 75 per cent of useful effect and is equal to four hundred horses' power. The high fall used is obtained by locating the wheel a good distance down the incline, and by digging a pit beneath, from which a level race emerges some two hundred feet nearer the lower level of the canal. The wheel has four curved arms of an extreme radius of six feet each, the diameter being twelve feet, and the orifices of escape are vertical parallelograms each fifteen and a half inches high, and three and a half inches wide. The discharge of water under a full head would be six thousand cubic feet per minute, during three minutes run on one ascent of an incline of seventy feet height. Not more than 3,500 cubic feet per minute are now used at the Newark place. The whole wheel is under the control of a brake, combining the toggle joint and friction strap, by which a single man can bring the whole machinery to a stop under a full head of water. The gate wheel, the reversing lever for the main clutch, and the brake wheel are all under the hands of the operator, in an elevated tower, commanding full views of both levels.

The ease and efficiency of the operation of this machinery is wonderful. The boat coming along the lower level, enters between the stanchions of the submerged truck, fastens a single hawser, and without stopping its motion settles upon the truck as that is drawn out of the water; it continues up the plane at from four to five miles per hour, goes over the summit, the truck descending to the bottom of the canal,—the boat floating off by the impulse acquired,—the horses, who have been trotted up the hill, are again hitched on, and the boat is away upon another level! The wheel and rope have run smoothly and without jar, and in this simple operation sixty or seventy tons of cargo, exclusive of truck and boat, have been lifted seventy or a hundred feet, apparently without effort. This difference in the transfer of the navigation from level to level, is such that while good boatsmen pass over the whole canal in five days, they would be compelled, if locked through all the rise and fall, to be out eight days,—a saving of sixty per cent in time. It is, as any one will perceive, a great merit of the incline that it occupies *no time*, in the sense in which we speak of a delay, as the boat goes *forward* as fast on the incline as on the levels, and is not detained in entering or leaving it. It is the *whole delay* of lockage that is saved, and not the *difference* between the time in ascending the locks and in ascending the plane. The boat is *elevated* and *advanced* by the same operation.

What must be the saving in the use of such a plan on the immense navigation of the Erie canal! The enlarged double locks at Lockport, costing some \$600,000 and occupying *two hours* in passing, might be superseded by this apparatus, built in the most substantial manner and costing not to exceed \$100,000, and operating, as we may well say, *in no time*.

At Little Falls it would effect an equal saving in cost and time. To what extent might the business of the Pennsylvania canal be increased if it

could be carried over the Alleghenies by this method. And the James River and Kanawha canal in Virginia, might also overcome its summit by this manner with the most advantageous results.

The same plan can be adapted to the heaviest tonnage of our lakes and of the ocean itself. A carriage, running upon a large number of tracks, would hold the vessel by a series of section frames fitted to the exact shape of its hull, while the latter was afloat, and the whole would be drawn up an incline say of one in twenty-five, for any required height. If the difference of level between lakes Erie and Ontario could be thrown into one plane in the ship canal around Niagara, the whole rise of 500 feet or more would be overcome in half an hour.

So far, the Morris canal furnishes the only application of this plan in America. In Scotland, however, a plane upon this general construction has been built and operated by *steam*, while the boats instead of being run on open trucks, are floated into "lock cradles" occupying their place. The following extract from a Glasgow paper shows the source from whence the improvement was derived.

Canal Locks Superseded.—On the Monkland canal at Blackhill Locks, the waste of water, time and labor, has been obviated by the substitution of a steep incline, with rails and water tight cradles into one of which latter the boat is floated, when it is drawn up with a wire rope, worked with drums, by the power of a steam engine, aided by the descending cradle filled with water. Thus, in five minutes, the half hour's work of eight locks costing hitherto £100 a day is done at comparatively little expense, and with a waste of no more than the water displaced by each boat, when floated into its cradle. Mr. Leslie, of Edinburgh, the engineer of Dundee harbor, has adopted this idea from American practice or experiment.

The Newark Inclined plane is within the city of Newark, N. J., not more than ten minutes' ride of the Market street station of the New Jersey railroad, and those who have never seen this triumph of engineering should avail themselves of the opportunity. The best time to visit it is on Monday morning, when the boats which collect on Sunday at Bloomfield, on the "17 mile level," are descending to tide water. The machinery however, is always open for inspection, and is in use for most of the time.

Journal of Railroad Law.

SUNBURY & ERIE RAILROAD SUBSCRIPTION.

The views of the Court in this case, as expressed below, are undoubtedly just. Until criminal courts are more successful in punishing full blown crimes, they had better not meddle with those which, at the worst, are only in the bud.

The Grand Jury of Philadelphia having desired to take some action to prevent the subscription by the county commissioners of \$2,000,000 to the Sunbury and Erie railroad, asked the opinion of the District Attorney as to their power in the premises. Mr. Reed replies in his opinion that the Grand Jury had better not take any immediate action. Judge Thompson who was appealed to, remarked that—

"The matter charged here is that the County Commissioners are about to do something contrary to law. This does not bring them within the province of a criminal court, which is a court of pun-

ishment and not of restraint, except in case of nuisance, etc. The offence must actually have been committed before it interferes. The fear of the Grand Jury is that an offence is about to be committed. It is for the Court to see that individuals innocent of crime are not harassed or injured by any action of the Grand Jury.

"The County Commissioners believe that they have the right to subscribe to the stock of the Sunbury and Erie railroad, and desire to exercise that right. If they were to subscribe we could not interfere. A Civil Court might restrain them.

"The only way in which this Court could interfere would be where it could be shown that a bribe had been taken to procure the subscription.

"Nothing having been produced to show corruption or bribery in procuring this subscription, this Court cannot interfere. Until more evidence is produced to show bribery, a presentment ought not to be made against an individual or a corporation.

"He was not at all surprised that the attention of the Court and Jury had been brought to the matter of the subscription, and that the public mind had been excited upon this subject. If three men possess such power as is claimed by the county commissioners, it is a very dangerous power, and all of us may be made to suffer from it, if legislative interference is not called into requisition."

THE MAD RIVER AND LAKE ERIE RAILROAD CO.

This Company which constructed a new road from Tiffin to Sandusky, in alleged violation of good faith, towards the Bellevue people, were enjoined against using their new route, and subsequently by Judge Corwin, the injunction was dissolved. But Chief Justice Bartly lately at Cleveland annulled Judge Corwin's order, so that the company must forego the freedom which they for a brief period enjoyed,—and are compelled to suspend further action until the proceedings for contempt of court are concluded, and the final decision in their case has been rendered.

THE RIGHTS OF RAILROAD EMPLOYEES.

The decision of the Huntington County Common Pleas, in Pennsylvania, in the case of Mitchell vs. Pa. Railroad Co., illustrates the following two sound principles of law.

1st. That one employee has no right of action against the principal for an injury caused by the negligence of a fellow employee.

2d. That when a railroad company places in the hands of an employee, when he is employed, rules for his guidance, one of which is that "*the regular compensation must cover all risks in the company's service*," this becomes a part of his contract with the company, and bars all claims for injuries received in such service.

The plaintiff claimed damages for an injury sustained by a collision of a passenger and a freight train in 1851. He was long disabled in consequence of such injury, and will probably be so, to some extent, through life. The accident happened from the negligence of the conductor of the freight train and had plaintiff been a *passenger* his claim would have been sustained. But he was a *baggage master*, and that he has no legal right of action in this case, was, as the court considered apparent from the following authorities. *Priestly vs. Fowler & Mee*, 8. decided in 1887. *Farwell vs. the Boston & Worcester R. R. Co.* 4 Met. 49.

Story on contracts §453. 70 En. Com. Law. 454. Hutchinsons Executor vs. the York, Newcastle, & Branch R. R. Co. 5 En. Rep. 344. Strange vs. McCormick 10 Am. Law Journal 398.

The Court observed that "every business has its risks, with which one engaging in it is supposed to be acquainted, and to undertake to construe otherwise a contract of this kind would often amount to a sort of insurance against the casualties of life."

"The principle is," says Baron Alderson, in *Hutchinson vs. the York & North Midland Railroad Co.*, "that a servant when he engages to serve a master, undertakes as between him and his master to run all the ordinary risks of the service, and this includes the risk of negligence on the part of a fellow servant, acting in the discharge of his duty as servant of their common master."

But moreover the plaintiff had the company's book of rules, by which his wages were to cover all risks. And these rules the court declared to constitute a contract between him and his employers. This ruling is in accordance with *Austin vs. the Manchester Railroad Co.*, 70 Eng. Com. Law, 454.

The Mississippi and Ohio Rivers.

The Mississippi and Ohio rivers, containing plans for the protection of the delta from inundation; and investigations of the practicability and cost of improving the navigation of the Ohio and other rivers by means of reservoirs: with an appendix on the bars at the mouths of the Mississippi. By Charles Ellet, jr., civil engineer. Philadelphia, Lippincott, Grambo & Co. 1853.

The Memoir on the Mississippi river was originally presented in a report to the War Department and published in the Executive documents of the Senate. It bears evidence of a close study of the physical constitution of the delta and of the causes that have given it its present extent and character. The habits of the river, its reception and discharge of water, including all the particulars of its width, depth, inclination and velocity, currents, overflows, and the solid material which it is carrying down to the ocean, are all exhibited.

The object of the work is fully indicated in the title. The physical constitution of the delta and the habits of the river are first described. The delta, of uniform southern slope, 500 miles in length and 40,000 square miles in extent, having been formed by the matter brought down by the river from the country in which it has its source, is shown to be continually extending into the sea, diminishing in slope and increasing in depth. The process by which it has been deposited has diffused it over a width of from 75 to 150 miles and the level of this surface being necessarily nearly the same as that of the stream which has formed it, and which has raised its own bed upon it, a large extent of country is exposed to overflow upon every considerable rise of the water. The inundated lands are the natural reservoirs which receive the surplus which the channel of the river, in such stages of water, is insufficient to discharge. The exclusion of the water from these lands by means of levees, and by the drainage and cultivation attending their reclamation, throws upon the river the task of bearing this surplus, in addition to its usual flow. The effect of the natural reservation of water is strongly presented by showing conclusively, that, even with the present extent of

levees, an amount of water, greater than that supplied by the Ohio and all the tributaries south of it, is absorbed by the swamps on the sides of the Mississippi and is never discharged at its mouth. The volume of water discharged per second at Cape Girardeau, above the confluence of the Ohio is greater than that which flows past New Orleans. Nor by throwing the amount now lost in the swamps into the channel of the river will the increased current abrade a passage of sufficient dimensions for its discharge, as the experience with the different "cut-offs" has demonstrated. The Raccoon cut-off, now open for three years and with the advantage of an increased current owing to passing through a given descent of the river in a less distance, has not yet gained the average cross section of the river above or below. And the effect of "cut-offs" is to assist in inundating the country below, as by increasing the inclination of the stream at the points where they are made a larger discharge is thrown upon the channel below, while the capacity of the channel to discharge the increased burden is no greater than before.

The overflows are yearly increasing upon the country of the lower Mississippi, and it has become an object of the most important character, one which is sought both by individual enterprise and by state legislation, to avert their destructive effects.

Mr. Ellet's plans propose, as a temporary relief, the extension of the levees and an increase of their strength; and as a collateral protection the prohibition of any future cut-offs. He also proposes the formation of a new channel for the river into the head of Lake Borgne, which is in effect to shorten the delta, increase the inclination of the river surface, and thereby produce greater discharge. The enlargement of the Bayou Plaquemine and of the channel of the Atchafalaya is also urged as a relief to the part of the coast most exposed and for effecting a separate discharge of the Red River and the Washita.

But Mr. Ellet's principle plan, which he has urged upon a conviction of its affording the only certain and permanent relief for the protection of the delta, and at the same time of improving the navigation of the Mississippi, is the equalization of the waters by the construction of artificial reservoirs upon the tributaries, in which the water may be retained in time of freshets and from which a discharge may be maintained in times of drought. As the freshets of these rivers are not simultaneous at all points, but each may be said to resemble a wave flowing along the channel, and as these freshets originate in the tributaries, which first receive the thaws and drainage of the mountain slopes, it seems clear that on these tributaries there can be artificial means of controlling any rise or fall of water. Many of these smaller tributaries being little used for navigation, and traversing wide valleys, often nearly barred across by hills where the outlet of the stream is found, might be made, by aid of suitable dams, to throw back an immense volume of water, capable of controlling the navigation at least, and if sufficiently numerous and properly distributed, the freshets also.

The Memoir upon the Ohio, now published for the first time, contains a special investigation of the practicability of controlling the navigation of

that river by means of reservoirs. That it can be accomplished Mr. Ellet's work seems sufficient to prove, and surveys should at least be made with a view of adopting this plan. Whether accomplished in our own times or in the future, the plan will not lose its prerogative of boldness and beauty.

To Mr. Ellet, we believe, belongs the great credit of suggesting this scheme of public improvement in its great application to the discharge of the mighty rivers of the West. He has sought for facts and has observed results, has made the circumstances and conditions of these rivers a study, as his memoir fully proves, and altogether has produced the most startling and fertile contribution to physical science that has appeared within recent times. His work commands the attention of all immediately or remotely interested in the future progress of the great Mississippi valley.

Finances of Tennessee.

Gov. Campbell of Tennessee, sent in his annual message to the Legislature of that State on the 8th inst. We extract a portion of the document relating to the State finances, intercommunication and banking.

"The receipts derived from all sources for the two years terminating on the 1st of October, 1853, were \$1,202,046 30, while the expenditure for the same period amounted to \$1,218,887 28, showing an expenditure greater than the receipts.

"The total value of the taxable property of the State reported to the Controller, as assessed by the Revenue Commissioners for the year 1852, is stated to be \$186,620,119, exhibiting an average value of land at \$3 84 per acre, and of slaves at \$547 25.

"To meet the liabilities of the State of every description, including existing and accruing charges, in addition to the balance now on hand in the Treasury, amounting to the sum of \$206,431 06, the means and source of revenue belonging to the State are, in the Bank of Tennessee, \$1,000,000 of stock, and \$1,353,209 55 of the surplus revenue, deposited by the United States Government with the State, which may be properly regarded as means of the State, and \$625,600 of Stock in the Union Bank. Each of these Banks pays semi annual dividends of about 4 per cent. and the stock of each is regarded as at par value.

"Beside Bank stock, the State owns stock in Turnpike Companies, and in the East Tennessee and Georgia Railroad Company to the amount of \$2,028,856 66. Several of these pay dividends.

"As a further support to the public credit, it should be stated, that for the whole amount advanced by the State in the way of loans in bonds of the State issued to Railroad Companies, or by endorsement of the bonds of the Companies, amounting altogether to the sum of \$1,945,000 and constituting a large portion of the whole amount of the public liabilities, ample indemnity and security are provided by mortgages upon the entire roads and property of the respective companies.

"The public debt, exclusive of current charges, and the evidences of which consist of bonds issued by authority of the State, and bonds indorsed by the State, of certain companies, amounts to \$5,746,856 66. These bonds were issued, bearing various rates of interest, that is to say, five and one-fourth per cent. Internal improvement bonds, amounting to \$213,416 66; five per cent. bonds issued on same account \$1,838 440; six per cent. bonds issued to the Bank of Tennessee, \$1,000,000; five per cent. bonds issued to the Union Bank, \$250,000: being \$125,000 less than the last statement—this l.i.s. amount having been redeemed by payment since the last session of the Legislature, six per cent. bonds issued for building the Capitol. \$500,000; six per cent. bonds is-

sued under the act of 1849-50, and under acts of the last Legislature, and loaned to various rail and plank-road companies, \$1,095,000; six per cent. bonds of the Nashville and Chattanooga Railroad Company, indorsed by the State, \$850,000. It is proper to state, that of the above amount of bonds, there have been issued since the last session of the Legislature to the Memphis and Charleston Railroad Company, under the act of the 11th February, 1852, \$400,000; to the plank road company from Dyersburg to the Mississippi River, \$25,000; to the East Tennessee and Virginia Railroad Company, under the act of the 15th January, 1852, to aid in the construction of bridges on the road, \$300,000; to the East Tennessee and Georgia Railroad Company, under the acts of the 4th and 26th February, 1852, to aid in the completion of the road, \$20,000; for completing the State Capitol, \$250,000; and that the bonds of the Nashville and Chattanooga Railroad Company, within the same period, have been indorsed, under the act of 1847-8, to the amount of \$250,000—an equal amount having been indorsed by my predecessor, under the same act. Bonds of the company have been indorsed under the act of the last session of the Legislature to the amount of \$350,000.

The following Banks upon the free banking principle are now in operation: The Exchange Bank of Murfreesborough, with a capital in bonds filed with the Comptroller, as directed by law, of \$89,583; the Bank of Knoxville, with a capital of \$50,000; the Bank of Nashville, with a capital of \$70,000; and the Bank of Memphis, with a capital of \$50,000."

Railway Bridge at Niagara.

This great work, which is to unite the United States with Canada by a railway, is rapidly advancing under the supervision of Mr. John A. Roebling, an engineer favorably known in connection with the suspension aqueduct on the Pennsylvania Canal, at Pittsburgh, and a suspension bridge over the Monongahela, near the same place. As it is to be on some accounts one of the most remarkable mechanical achievements in the world, we shall be pardoned for devoting considerable space to a careful description of its plan and prospects. It is well known that Stephenson, the Magnus Apollo in engineering, whose fame rests upon his Tubular Bridge over Menai Straits, has decided against the suspension principle as applied to railway bridges, mainly on the ground that it is incapable of rendering them sufficiently stiff. The successful construction of this work, therefore, at Niagara, will make an era in bridge building. It will be doing what has not merely never been done before, but what has been pronounced by the highest authority impracticable.

The present suspension bridge, having been constructed in 1847 to aid in the erection of the railway bridge, will be removed after performing that service. It was begun by a boy on the Canada shore, who elevated a kite, and by that means established a thread communication with the other side. Over this tow-path wire was drawn, and the wire cables were soon formed.

The railway bridge will consist of two parts, each suspended from two cables; a covered one for common travel, and above that, on its roof, an open track for the railroad. It was first intended to build a bridge with a single floor, but the difficulty of rendering it wide enough for purposes of horse, foot and steam locomotion at the same time, without making it too heavy and too expensive, caused the plan to be abandoned. The double floor of this bridge simplifies the problem of rendering a stiff support to the weight of a railroad train, by placing under it, in addition to other props, the trusses that will form the sides of the lower portion of the bridge. The hollow tube, also, which that part will form, is expected to aid materially in strengthening the work, operating like the tube in Stephenson's bridges.

The bridge will be 800 feet long, hung by wire ropes, five feet apart, to four huge wire cables, stretching from shore to shore with a considerable

deflection, over the tops of towers 60 feet high. The towers are now far advanced towards completion, having been begun some four or five months since. They are 15 feet square at the base and 8 square at the top, built of a dark-colored limestone, very hard and compact. But the first operation which was commenced last winter, was to sink eight shafts, 25 feet deep, in the rock below the towers, four on each side of the river. In the bottom of each of these, enlarged for the purpose, a cast-iron plate, six feet square, was placed, to which an immense chain was fastened. The shaft was then filled in with masonry, the chain being imbedded in a mixture of cement, lime and sand. These chains reach the surface, outside the base of the towers, and are to connect with the cables. They will be 66 feet long, each consisting of eight links, that average over eight feet in length. The links are made alternately of seven and eight plates of wrought iron, each plate formed into one piece without a weld. Each link of eight plates has sandwiched in, to use an expressive phrase, the plates of the sevenfold link, and the whole fifteen are riveted firmly together by an iron bolt, $3\frac{1}{2}$ in. in diameter. The anchor plate at the bottom of the shaft cannot be lifted until the whole rock is raised bodily, with all its incumbent masonry. Nor can the plates and chains give way from any force which can be withstood by the cables, and they are calculated to withstand a pressure four times greater than the whole weight of the superstructure, combined with any load that will ever be placed upon it.—The towers, it will be observed, act as fulcrums between the chains on the one side and the cables on the other, and the weight of a loaded bridge will not act upon them sideways, but vertically.

The cables are to be 9 $\frac{1}{2}$ inches in diameter, each formed of 3,390 strands of wire. Long lines of wire are first formed, by fitting the ends of separate pieces to one another and wrapping them round with smaller wire. These are then dipped in boiling oil and dried, and the process is repeated a number of times, until a coating is formed that will protect the metal thoroughly from the moisture. The wire is then wound round large cylinders. These operations are now going on upon the Canada shore. When the cable comes to be formed, the wire will be drawn over to the American side, one strand at a time, passed thro the link of a chain, then drawn back to the other side, passed through a chain there, and so on back and forth, until the whole cable is made up; this will then be tightly wound round with a small wire. The cables will connect with the chains, after passing through iron saddles on the top of the towers, these being iron blocks with a groove in them fitted to the cable. Each saddle rests upon a wrought iron roller, three inches in diameter, that rolls on a smooth iron plate. This is to accommodate any slight motion that may arise from unequal tension between the chains and the cables, when the balance is from any cause disturbed.

Stephenson's great objection to the suspension principle, as was stated above, was the want of stiffness. It is conceded by the engineer of this bridge, in his report on the subject, that wire cables will not be sufficient. But he relies for stiffness, first, upon the timbers placed under the railway. Two girders, as they are called, or longitudinal timbers, four feet deep, are to be placed in the upper floor, for the immediate support of the track. In addition to these, are the trusses or sides of the lower bridge, which will consist of upright posts five feet apart, supporting the upper floor, and connected with one another by a light bridging and by iron rods. Any pressure upon either floor is thus shared with the other. These rods are to be one inch in diameter, and from two to three feet long, and will connect the posts by five crosses at right angles, between the top and bottom of the first and fifth. The vertical action of each post is by these means transferred to each of those with which it is connected. The rods will have a nut at each end, which will be screwed up tight to the post, so that these rods

will make the trusses extremely rigid. Besides these two sources of stiffness, stays will be made use of, that is, iron rods reaching out from the towers to the bridge at different angles, like those sometimes employed to sustain a long and heavy gate. These three resources, it is believed, will supply to the bridge all needed stiffness.

The action of the wind will not be very great the trussing of the lower bridge being quite open and allowing it a free passage. The width of the lower part will be nineteen feet clear of the upper twenty-four feet, the latter being elevated twenty feet above the other floor, and 230 above the water. As to the capacity of the bridge—supposing it covered from end to end with a loaded train, the weight of such a train is estimated at 430 tons, which added to the weight of the bridges, 7.2 tons, and fifteen per cent, on the weight of the train, as the result of a speed of five miles per hour, viz: sixty one tons, make 1,274 tons. The tension of the cables resulting from this and the average deflection, is equal to 2,240 tons. Their capacity is 10,000, or more than four times that tension. The tension referred to, it will be observed, is an extraordinary one, as it can scarcely be supposed that a loaded train equal in length to that of the bridge, will ever be allowed upon it.—Assuming, as the engineer does, 2,000 tons as a tension to which the cables may more frequently be subjected, he has provided a resistance equal to five times that. The covered floor, were it crowded to its utmost capacity, might hold 310 tons.—But as this might be closed in case of a very heavy train approaching, before it was allowed to come upon the bridge, it is not necessary to make a calculation for an extreme load upon both parts at once.

The suspension bridge at Lewiston is 1,040 feet in length, the largest in the world. This will be 210 feet shorter, but a far more surprising work.—It is to be done next June. Its cost was estimated at \$250,000, but it is likely, we are told, to exceed that amount. Supposing it is twice as much, what a saving even then, in comparison with the immense expenditure to which Stephenson has subjected the English at Menai Straits and Montreal. The tubular bridge at Montreal is not yet done or paid for, to be sure, but its cost is estimated at \$7,000,000.

Virginia and Tennessee Railroad.

The sixth annual meeting of this company was held at Lynchburg on Wednesday, Oct. 26th, at which time the President, John R. McDaniel, submitted his annual report, giving the following exhibit of the affairs and prospects of the company for the year ending September 30th 1853.

During the year and as soon as practicable after the adjournment of the last meeting a mortgage on the whole road and equipment was executed as security for bonds then authorized to be issued. Of these latter \$500,000, convertible into stock, are held for payments upon monthly estimates to contractors, an agreement having been made for that purpose. \$1,000,000 of these bonds are to be cancelled and an equal amount, represented by a State loan, will be substituted in their place.

A sufficient amount of iron was purchased in the month of December, 1852, and in the early part of 1853, the prices being favorable for the company. The price of the last purchase of 13,000 tons was \$71 81, delivered in Lynchburg, a rate below the calculations of many.

No dividend has been declared out of the surplus earnings of the road.

A survey has been made for a branch from Abingdon to the Cumberland Gap, which the engineer reports as 135 miles in length, the distance between Abingdon to the North Fork of Holston, 15 miles, being \$33,000 per mile, the remaining distance at \$17,950 per mile, and the whole line

costing \$2,613,061. This estimate is believed to be full both in regard to distance and cost. Seventy feet grades are contemplated by the survey. The estimate includes only so much of the Tunnel in Cumberland Gap as lies in Virginia, leaving the remaining portion to be built by Kentucky.

A survey of a branch to the Salt Works in Washington and Smythe Counties gives a distance of seven and a half miles at a cost of \$140,000 for construction. The annual product of the Salt Works is 445,000 bushels.

The payments and subscriptions of stock have been as follows:

There was unpaid on Oct. 1st, 1852,	
on individual subscriptions.....	\$173,997 59
On State account.....	217,000 00
	<hr/> 421,997 59

During the last year there	
has been subscribed of	
new stock by individuals. \$	92,300
By State.....	170,800
	<hr/> 263,100 00
	<hr/> \$685,097 59

Of this there has been	
collected from indi-	
viduals.....	199,798 92
State.....	332,200 00
	<hr/> 531,798 92

Leaving now due and unpaid	153,298 67
of which \$66,508 67 is due from individuals, and	
\$86,800 from the State, showing the collections to	
have been (5-6) five sixths of the entire amount out-	
standing at commencement of the year, including	
subscriptions since.	

On 1st Oct. 1852, there was unsubscribed, of the original amount authorized by the charter, by individuals \$162,700. There has been taken since, as shown above, \$92,300 which leaves unsubscribed by them \$70,400.

Seventeen engines have been contracted for during the year, fourteen of which at \$7,650; one at \$7,500; one at \$8,000, and one at \$9,000.

From the tabular statement of the freight ticket and disbursing agent, the following exhibit of the earnings of the road is made:

The gross receipts from all sources	
are.....	\$109,267 57
From which deduct expenses.....	66,531 25
	<hr/> \$42,736 31

The average length of road in operation the past year was 58 miles, and putting the cost thereof \$1,242,209 20, which is the proper proportion, gives a net profit of 3 44-100 per cent.

The tonnage of material used in construction, estimated at \$4,000, forms no part of the above estimate, and is here stated only to show the full work of the road.

The president recommends the application of the surplus profits to a contingent fund for the payment of interest on the company's loans.

The annual statement of the treasurer, showing the condition of the finances of the company, is submitted, and presents the receipts and disbursements for the year, as also the receipts and expenditures from the organization of the company to same time (30 Sept. 1853.) The aggregate receipts from all sources, (including balance on hand at the commencement) were \$1,519,061 44, and the disbursements \$1,344,844 79, leaving a balance on hand of \$146,286 11—consisting of \$92,-

850 61, in cash, and \$53,400 in Washington and Smythe County Bonds.

The receipts from the organization of the company have been \$3,794,150 69, and the expenditures \$3,647,864 58.

There has been a sale of \$10,000 of the Washington county bonds, and the money in payment thereof, is in the hands of the treasurer.

No sinking fund is required to be held for the redemption of the loan by the state; but instead thereof, the payment semi-annually of 3 1/4 per cent. which pays the interest on said loan and in 34 years cancels the debt.

The means on hand for future operations are as follows.

Cash on hand, per report.....	\$146,286 11
Amount due from private stock-	
holders	66,508 67
Amount due from State on account	
Stock.....	86,800 00
Amount due on State Loan.....	385,000 00
Amount of Bond on hand.....	406,000 00
Amount due by Bills receivable.....	34,282 39
	<hr/> \$1,124,877 17

To amount due individ-	
uals	\$24,214 69
Amount due by negotia-	
ble notes.....	125,247 89
Amount due Stockhold-	
ers.....	383 00
Amount due Contractors	14,450 20
	<hr/> 164,295 78

Shows a balance.....	\$960,581 39
Add amount of Stock to	
be taken by Individ-	
uals.....	\$70,400 00
Which will draw from	
the State.....	105,600 00
	<hr/> 176,000 00

Makes an aggregate of.....\$1,136,581 39

In the above estimate the State's subscription as put down is \$20,600 less than its proportion of the Capital Stock, as there are about \$13,744 of the private Stock subscribed believed to be insolvent; which, however, when a sale and transfer shall be made to some extent, and a corresponding proportion from the State, will be rendered available. The wants of the Company to complete and put into operation the entire work may be put down as follows:

Iron unpaid for to 1st Oct.....	\$581,639 28
Engineer's estimate for Graduation	
and Masonry.....	359,827 00
do. do. Superstructure and	
Bridges.....	121,000 00
do. do. Locomotives.....	120,000 00
do. do. Rolling Stock.....	134,000 00
	<hr/> \$1,216,466 28

No estimate is here made for interest, as no doubt, is entertained of the revenue from the road in operation being ample to pay running expenses and the interest on loans. The estimate of the receipts for the present year is \$200,000.

By the accompanying report of the Engineer, Charles F. M. Garnett, Esq., we learn that it is expected to have the road in operation to Christiansburg by Christmas.

Beyond that point there is comparatively little heavy work, and nothing can occur to delay the regular progress of the track.

The road bed is ready to receive the rails as far as New River, with the exception of one section near the River, which will be completed by the end of the year.

The New River bridge is in rapid progress, and will be completed before the rails can reach it.—The whole amount of graduation and masonry, which remained to be done West of New River, on the 1st day of October 1853, was less than \$275,000, so that there is now nothing beyond Christiansburg in the way of the superstructure.

The track will hereafter be laid as rapidly as it can be done with due regard to the faithful execution of the work; and it is confidently hoped that it will reach Abingdon, and perhaps the Tennessee line, by the end of 1854.

The Virginia and Tennessee road was opened to Salem on the 15th of December last, and to Big Spring, about 73 miles from Lynchburg on the 10th of August last.

The President of the Company for the ensuing year is John R. McDaniel, and the Directors chosen at the meeting of the stockholders were Henry Davis of Lynchburg and George Stuart of Wythe.

Norfolk and Petersburg Railroad.

It will be seen by reference to our advertising pages that proposals for work on this line are solicited. Of the character of the work to be let the Norfolk Herald remarks as follows:

We were favored a few days ago with a view of the new line, as projected on the Map and cannot express ourselves in terms more favorable than it deserves. From the starting point near Norfolk city there are but two curves in the whole length of the road for seventy-five miles, viz: one near Gilmerton and one near Suffolk. From the Southern Branch of Elizabeth River to Suffolk there is a straight line for 16 miles, then with an easy curve to get a proper direction for Petersburg the road runs in a Bee line 54 miles!—avoiding a vast number of mill ponds, creeks, &c., that abound in that country, and crossing the main water courses at points, than which, more eligible cannot be found on these streams. These are advantages which will tell in the working of the road, since besides straight lines, the grades are no heavier than would be necessary to the proper drainage of the road. If there is any railway in the country where lines equal to those obtained here are to be found, we are yet to hear of it, and when we take into consideration that this line of 54 miles straight out! has been established on ground in every respect the most eligible for the road, we must consider it as a signal achievement in railroad history. The avoiding of difficult crossings will greatly contribute to the economical and speedy constructions of the work.

From the 1st of August to the 28th of September, a period of eight weeks, 75 miles of the line were established, and 115 surveyed in connection with it. When we bear in mind the nature of the country traversed, the dense forests and undergrowth, the hot sun, alternated with drenching rains which prevailed in August, and the thousand pests which beset our wooded low lands in midsummer, we feel bound to award our meed of praise for the energy and industry evinced on the occasion. There was, too, but one division of Engineers, divided in two parties for a time only, that performed this task. Not waiting for Assistants, which it was difficult to obtain, owing to the demand throughout the country, the Principal took the field in person and pushed on with untiring diligence till his work was completed, and deserves the confidence of every true friend of the road. There has been not a moment unemployed—what has been done, was absolutely necessary to the proper location of the road and we congratulate our citizens on the auspicious commencement of this important undertaking.

Two parties of engineers in charge of Jno A. Hayden and J. M. St. John, Asst. Engineers of this road are engaged in the location of the line, sixty

two miles of which will be permanently fixed before the first of December, and the remaining seventeen miles to Petersburg as soon thereafter as practicable. This line, which is in charge of W. Mahone Esq., Chief Engineer will be composed of very easy work for the section of country through which it is to pass, and is every way worthy the attention of Contractors, in quest of jobs.

Evansville and Crawfordsville Railroad of Indiana.

The election of officers of this company, made on the 10th ult., was as follows:

Hon. Samuel Hall, president, John E. Martin, secretary, W. J. Ball, chief engineer. By a resolution of the board of directors it was decided to separate the road into three divisions:—The first division to extend from Evansville to Vincennes; the second from Vincennes to Terre Haute, and the third from Terre Haute to Crawfordsville, or as far north as the road shall be from time to time put under construction.

The portion of the road between Terre Haute and Rockville, was also ordered to be placed under immediate contract for construction.

W. D. Griswold, Esq., of Terre Haute, was unanimously appointed superintendent of the Second Division, and Maj. A. M. Puett, of Rockville superintendent of the third division.

East Tennessee and Georgia Railroad.

Thos. H. Callaway, Esq., former President of the East Tennessee and Georgia Railroad resigned that office in September last, and Mr. C. Wallace of Knoxville was elected to fill the vacancy. Mr. Callaway has filled the office of President of the road for about two years during which time he had conducted the affairs of the company with much efficiency and greatly to the satisfaction of the stockholders; who were anxious to retain his services, but his private affairs being of an engrossing nature demanded his whole attention, and caused his resignation. The well known character of Mr. Wallace, as an energetic business man is an earnest, that the efficient policy of Mr. Callaway will be carried out, and that the stockholders and community will not suffer by the change.

This road has been in operation to Loudon, 82 miles, for about one year, and is now being pushed forward to Knoxville, with great energy. The construction of the bridge over the Tennessee River will cause some delay in that extension. The contract of Messrs. Gelys & Co., for this work has, by mutual agreement of the parties been annulled;—masonry has been relet to Messrs. Seward & Hobart, the efficient contractors for the bridge of the Memphis and Charleston road over the same river at Decatur and to Mr. Geo. Salpaw well known upon southern roads as an energetic and experienced builder. Messrs. Maxwell, Briggs & Co have the superintendence. These contracts will ensure the completion of the bridge early next summer.

Mr. Wallace with Mr. Prichard the engineer of the road have recently closed a contract in this city on very favorable terms with Messrs. Raymond and Fullerton for the iron rails necessary for the completion of the road to Knoxville, to be delivered early in the spring. This will enable the contractors for the track to complete the road, by the time the bridge is finished,—and the entire road to Knoxville will be opened by the 1st of September next.—Above Knoxville the East Ten-

nessee and Virginia road is progressing, with great energy, and it is expected that 30 miles will be ready for the rails as soon as the lower road can deliver them at Knoxville. The remaining portion of this road is in a state of forwardness sufficient to warrant the assertion that the whole track will be laid continuously from Knoxville without any delay, and will be completed by the 1st September 1855 to the State line of Virginia. By this time the Virginia and Tennessee road from Lynchburg will have reached the same point. This will complete the great inland air line railroad from New York to New Orleans. It is gratifying to learn that the different companies forming this line are in excellent financial position and will be able to push on their works in spite of all present or prospective stringency in the money market.

The New Albany and Salem Railroad commenced running regular trains the 3d ult. from Michigan City, 130 miles south to Crawfordsville, through Lafayette; and the company expected to run ten miles farther by the 10th of October, to Bainbridge. On the south end of the road, regular trains are now running 91 miles, and it is expected in a few days they will run to Bloomington, 96 miles from New Albany; that leaves 51 miles still to be laid with iron, which will be done, it is said, within the year, as the grading and bridging are on a good state of forwardness, with the iron on hand.

Tanner's Double-acting Brake.

It will be seen by the terms of settlement, advertised in this number of the Journal, between the patentee and the Hudson River railroad company, that that company have acknowledged the right of Mr. Tanner to the brakes now in use on their road, and paid him for the same. We understand that this company, in common with many others, had purchased the right to use the brake from other parties, whose right to sell it, they are now satisfied, was not good. We mention this fact for the purpose of calling the attention of those companies, who may be placed in a like position, to their liability to Mr. Tanner.

Texas.

The Harrisburgh (Texas) Recorder says there were sixteen wagons at the Harrisburgh railroad depot on Sunday before last waiting for loads of freight, and many more on their way from Columbus and Wharton.

We learn from the same paper that the subscription books of the Houston Railroad Company were publicly burned at a meeting at Chappell Hill; so that project is probably given up, for the present, at least.

The subscriptions to the stock of the Harrisburgh road continue with much enthusiasm, Gen. McLeod is said to be using his eloquence in its favor with the best effect. The people have no doubt wisely concluded to finish one road instead of commencing several rival ones with a chance of all resulting in failure.

New Albany and Sandusky City Railroad.

The following gentlemen were elected Directors of the New Albany and Sandusky City Junction railroad company, to serve for one year, to-wit: John S. Davis, Thomas L. Smith, James Montgomery, P. M. Kent, V. A. Pepin, J. B. Wimsandley, J. S. McDonald, J. C. Moodey, W. M. Weir, John Evans, Nathaniel Moore, E. R. Day, and J. A. Moffett.

John S. Davis, Esq., was re-elected President, and T. L. Smith, Secretary.

Baltimore and Ohio Railroad.

The election for Directors at the recent annual election resulted in the choice of the following Board: Thomas Winans, Chauncey Brooks, Chas. M. Keyser, W. H. Keighler, Nathan Tyson, Thos. Swann, Columbus O'Donnell, John Hopkins, John Donaldson, Benjamin DeFord, Fielding Lucas, Jr., A. Schumacher.

Memphis and Charleston Railroad.

The Superintendent of the western division of the Memphis and Charleston railroad writes—

"Our business is very good. We have brought in since the 1st day of this month 1499 bales of Cotton—averaging 300 bales per day. Our up freights and passenger receipts are very good, passengers averaging \$175 per day, up freights \$140. We expect to reach this month \$13,000. Our receipts for September were \$10,554.

President of the Va. Central Railroad.

The following gentlemen have been nominated by their respective friends as candidates for the office of President of the Virginia Central Railroad. Gen. A. A. Chapman, of Monroe; Keaton Harper, A. H. Stuart, Hugh W. Scheffly, of Augusta, and Col H. J. Randolph and S. W. Ficklin, of Albemarle. The election will be made at the annual meeting of the stockholders, the 10th of November.

At a meeting of the Board of Directors of the Virginia Central Railroad Company, held the 12th inst., a dividend of 10 per cent. was declared to the old stockholders, payable in the scrip of the Company.

Kasson's Locomotive Express.

William M. Kasson of Buffalo has made arrangements, in connection with his fast freight express, for transporting locomotives without delay over the different gauges of the western states, so as to avoid the delay and expense for changing drivers, fitting trucks and ponies, &c. Previous to his engaging in this enterprise the transportation of locomotives was wholly across the lake, by which heavy charges were incurred for forwarding, loading, freights and insurance. Besides, the lake navigation was very dangerous, fourteen locomotives, worth, at least, \$112,000 having been already lost in the lake during the rough weather of the spring and autumn months. The cost of transportation between Buffalo and Cleveland by the express, although embarrassed by two breaks of gauge, is less than the insurance during the most favorable months by the lake.

One hundred and fifty locomotives have already been carried through, while contracts are made for the delivery of over two hundred more previous to June 1st, 1854. The present arrangements have cost \$20,000, while an equal sum will still be required to complete them. There has been spent \$14,000 for cars suitable for the purpose, most of which have been made in Cleveland.

The cost of transporting a locomotive in this manner from Boston to Buffalo, is twenty cents per mile; from Buffalo to Erie, thirty-five cents; from Erie to Cleveland, fifty cents; and from Toledo West, twenty-five cents.—The extra rate charged from Erie to Cleveland can only be accounted for on a supposition that the line lacks facilities for doing the business presented. These Mr. Kasson has supplied by purchasing a locomotive, at a cost of \$8,000, to be devoted exclusively to this business over the Cleveland and Erie road. By the above tariff of charges the cost of transporting a locomotive from Boston to Cleveland would be \$183 96, although some additional expense would occur in Troy. The lake freight has however been the great expense which this method has materially reduced.

OFFICE L. & U. M. R. R. Co.,
Lawrenceburgh, Oct. 11, 1853.

NOTICE is hereby given that at a meeting of the Board of Directors of the Lawrenceburgh and Upper Mississippi Railroad Company held on the 3d day of October, 1853, the following resolutions were adopted, viz:

Whereas, the principal places designed to be connected by the diversion and extension of the Lawrenceburgh and Upper Mississippi railroad from its earlier bearings were the cities of Indianapolis and Cincinnati, and whereas, under its present title such leading object of the road is not as distinctly indicated as is desirable for general information.

Therefore: Be it resolved by the Board of Directors of the Lawrenceburgh and Upper Mississippi Railroad company that the corporate name of the said company be, and the same is hereby changed, and the said company shall from and after the first day of December next be known by the name and style of "THE INDIANAPOLIS & CINCINNATI RAILROAD COMPANY," and as such shall hold, exercise and enjoy all the privileges and rights exercised and enjoyed, and be subject to all the engagements, contracts and restrictions incurred by said company under its former name, according to the provisions of the General Law of the State of Indiana, authorising Railroad Companies to change their names.

A true copy, WM. G. DUNN, Secretary.
3t 43

OFFICE L. & U. M. R. R. Co.,
Lawrenceburgh, Oct. 12, 1853.

NOTICE is hereby given that at a meeting of the Board of Directors of the Lawrenceburgh and Upper Mississippi Railroad Company, held on the 3d day of October, 1853, the following resolution was adopted, viz:

"That interest on the stock of the company shall cease after the first day of January next, and that thereafter regular dividends of the net earnings of the Company shall be declared every six months."

"That the Secretary procure a handsome certificate of stock to be engraved in the new name of the company to be issued on and after the first of January next for the principal and interest then due on stock."

"That where fractional sums less than a share shall occur, the owner of the same may pay the difference, and take a share of stock, or receive a separate certificate for such fractions entitling the holder to a share when the residue is paid in cash, or by like certificates."

Pursuant to the above, stockholders are requested to surrender their certificates before the 1st of January next, when new certificates will be furnished including principal and interest due to that time.

3t 43 WM. G. DUNN, Secretary.

To Contractors.

PROPOSALS will be received at the office of the Chief Engineer of the New York Central Railroad Company, in the Exchange in the City of Albany, till the 15th day of November next, inclusive, for the graduation for the second track from Syracuse to Rochester by the direct route.

The work embraces about eighty-one miles of road, and is well worthy the attention of Contractors.

The profiles and specifications of the work will be ready for examination on and after the 7th day of November, at the office of the Chief Engineer.

GEO. E. GRAY,
Chief Engineer.

Albany, October 27th, 1853.

Small Rails.

THE SUBSCRIBERS manufacture and keep constantly for sale, Light Rails of the most approved patterns, weighing 22, 23, 24, 40 and 50 lbs per yard, suitable for Collies, Mares, Quarrymen and Contractors, or for turn outs, depot and branch tracks.

CHARLES E. SMITH & Co.
Fairmount Iron Works, Philadelphia.
1744 CHAS. E. SMITH, HENRY MORRIS,
THOS. T. TARKER, ALISTAR MORRIS.

HENRY TANNER vs. the Hudson River Railroad Company. Circuit Court of the United States for the Northern District of New York.

THIS was a suit brought by the plaintiff for an alleged infringement of letters patent granted to him as assignee of the inventors, L. H. THOMPSON and A. G. BACHELDER: 'for an improved Railroad Brake', by the use on the said road of brakes made on plans, alleged to have been invented by NEHEMIAH HODGE and also by H. A. STEPHENS and purchased by the said defendants, from the said Hodge & Stephens and also for use of the plan as patented to said Tanner.

The suit was noticed for trial at the October term of 1853, and put over the term by the motion of Defendant's Counsel by paying the costs of the term.

And thereafter the Defendant's Counsel made overtures for a settlement which resulted in the defendant's acknowledging the validity of plaintiff's patent, the infringement of the said patent by the use of double acting brakes on the plan of the said patents &c, and the Company paying to the said plaintiff for the right to use the said invention and for the withdrawal of said suit the sum of ONE THOUSAND DOLLARS and costs.

Having read the above I do certify to the correctness of the statements therein contained.

October 25th, 1853.

THOMAS M. NORTH,
Secret'y and Attorney of the
Hudson River R. R. Co.

New York, October 26th, 1853.

This is to certify that I was of Counsel for the plaintiff in the above entitled cause, that the suit was brought for the recovery of damages from the Hudson River Railroad Company for the use on their cars of brakes, made on the plans described in the patents granted to Charles B. Turner on the 14th, of Nov. 1848, to Nehemiah Hodge on the 2d, of October 1849, and to H. A. Stephens on the 25th, of November 1851. That in preparing for the trial of the above entitled cause I made a careful examination of all the facts, given in the notice of defence and became satisfied that Thompson and Bachelder, from whom Tanner derived title, were the original and first inventors of the Double acting Brake covered by the plaintiff's patent and that the Brakes of Turner, of Hodge, and of Stephens are infringements of the said Tanner's patent.

CHS. M. KELLER.

Brunswick Iron Works.

WEDNESBURY, ENGLAND.

TYRES, AXLES, WHEELS, and all kinds of Railway equipment of the Brunswick Iron Company's manufacture. Orders received at the office of the Agency, No 55 W. Ham street, New York.

44t GEO. W. BILLINGS.

Stuart, Serrell & Co.,

CIVIL ENGINEERS,

Rooms 22, 24, 26 & 27,
157 Broadway, New York.

CHARLES B. STUART,
DANIEL MARSH.

EDWARD W. SERRELL,
SAMUEL MCLEROT.

TYRES.

LOCOMOTIVE AND CAR WHEEL TYRES, from the Manufactory of the celebrated and well known Iron Works of the LOW MOOR CO., in England, are furnished by the subscriber, Agent, by direct importations, ready Welded, Blocked, and Rolled, from only ONE BAR and with only ONE WELD, at a cost much below that of any other stamp.

Importations through the last year of nearly 3000 Single-welded Tyres, which are now found running on the important R.R. ways, have rendered them in almost exclusive use, and their performance of over 20,000 miles each, have elicited the highest recommendations of their superiority.

All work of this Company is warranted to give satisfaction. Sample Tyres may be seen at the Crystal Palace, New York, and at my Warehouse, 9 Liberty Square, Boston.

W. BAILEY LANG,
24 BROADWAY, N. Y.
9 LIBERTY SQUARE, BOSTON.

Railroad Iron.

THE undersigned being appointed Agent to Messrs. Guest & Co., the proprietors of the Dowlais Iron Works, near Cardiff, South Wales, is duly authorised to contract for the sale of G. L. Rails on the most advantageous terms.

April 22, 1852.

RICHARD MAKIN,
24 Broadway.

To Contractors.

CHIEF ENGINEER'S OFFICE, N. & P. R. R. Co.,
Norfolk, Oct. 13, 1853.

SEALED PROPOSALS will be received by the undersigned at this office from the 3d, until the 15th day of December next, at noon, for the graduation and masonry of 62 miles of the Norfolk & Petersburg railroad between the city of Norfolk and Warwick Swamp in the county of Sussex.

The line will be divided into sections of about 4 miles, and bids will be received for one or more of said sections.

Maps and profiles of the line will be ready for inspection and specifications with forms of proposals may be had of the undersigned on and after the first day of December.

Payments will be made in current money during the progress of the work in proportion of four-fifths of the amount due.

As soon as practicable after the examination of the proposals, those to whom the work will be allotted will be duly notified, and if deemed necessary required to give bond with satisfactory security for an amount not exceeding one-tenth of the amount of work to be done.

The company reserves the right to accept such proposals as in their judgment will secure the prompt and faithful execution of the work according to contract, or reject all, if none are satisfactory.

The line is easy of access, the country through which it passes is of mild climate and abundant in supplies. Postage on all communications must be prepaid.

W. MAHONE,
Chief Engineer.

Railroad Iron.

2,000 TONS FIRST CLASS WELSH RAILWAY IRON, to be made to any ordinary T pattern required by the buyers, and for shipment from New, or, Wales, in December, January, and March next, a copy to the undersigned, for many years connected with the largest house in the trade.

JOHN H. AUSTIN & CO.,
44t 2 Ingham Court, Fenchurch street London.

To Contractors.

PROPOSALS will be received till sunset Nov. 21st for the Graduation, Masonry, and Superstructure of the CLINTON LINE EXTENSION RAILROAD from Hudson to its intersection with the Mad River Railroad, a distance of about one hundred miles. The route occupies a perfectly healthy country, thickly inhabited, and accessible at all points.

Also, at the same time, for the construction of the portion of the Clinton Line Railroad not under contract extending to the Ohio and Pennsylvania State Line.

Specifications, Maps and Profiles will be ready for examination ten days before the letting at the Engineer's office in Hudson.

H. N. DAY, President.
W. B. BRINSMADE, Chief Eng'r.

Hudson, Ohio, Oct. 10th, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits

Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1821.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 46.]

SATURDAY, NOVEMBER 12, 1853.

[WHOLE No. 917, VOL. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, November 12, 1853.

ENTERED according to Act of Congress, in the year 1853, by EDWIN F. JOHNSON, in the Clerk's Office of the District Court of Connecticut.

Railroad to the Pacific--Northern Route.

Its General Character, Relative Merits, etc.

By EDWIN F. JOHNSON, C. E.

(Continued from Page 709.)

Near to the Great Falls of the Missouri which are 87 feet perpendicular, are rapids and smaller falls extending through a distance of about twenty miles. These falls and rapids were examined carefully by Lewis and Clark and the descent at each noted. From their estimate it appears that the entire descent is 368 feet, which gives for the elevation of the line upon the plain above the Falls in round numbers 3,250 feet, nearly, above the level of the sea.

The length of the portage passing these obstructions to the navigation is 18 miles.

The Missouri river above the Falls is about 500 feet wide and maintains this width nearly to where it loses its name at the junction of its three large tributaries, the Gallatin, Madison, and Jefferson rivers, a distance of 230 miles from the Falls following the course of the river. The last named branch is the most westerly of the three. It is

also the largest and least rapid, and from it at a point in lat. $44\frac{1}{2}^{\circ}$ N. 500 miles nearly from the Falls (through all of which distance it is navigable with canoes,) there is a portage of only 38 miles in length, and over ground comparatively level for most of the distance, and no portion of it difficult, to the waters of the Salmon river branch of Lewis' fork of the Columbia. This was the route pursued by Lewis and Clark on their way to the Pacific.

After reaching the Salmon river and continuing some distance along it in a north-westerly direction, they then left it, and passed over nearly due north to Clarks branch of the Columbia, and along that stream as far as Travellers Rest creek, a tributary to it from the west. This latter stream they followed to near its source, westerly in the mountains, and thence into the valley of the Kootenok, a branch of Lewis' river, which they descended, and continued on to the mouth of the Columbia where they remained during the winter.

The next Spring they returned by the same route as far as Clarks river, at the mouth of Travellers Rest Creek. Here one division of the party, under Capt. Clark took the route up Clarks river and thence across by the sources of Wisdom river to Jefferson river, and down the latter to the head of the Missouri, at the Grand forks; thence up Gallatin river, which is navigable, to a point only 18 miles from the Yellow Stone, where there is a portage to the latter river over very feasible ground. Across this they passed, and proceeded thence down to the mouth of the Yellow Stone, a short distance below which they were joined by the party under Capt. Lewis.

This latter party, after separating from their companions at Travellers Rest creek, passed down Clarks river a few miles to a large branch coming in from the East. This branch they followed to one of its sources, from whence they crossed to the valley of Medicine river, and thence along that river to the Missouri, passing, before reaching the Medicine river, Dearborn river, which is also a branch of the Missouri.

The route proposed for the line of the railroad from the Missouri to the Columbia, leaves the Missouri at the head of the Falls and thence across by the path last described as followed by Capt. Lewis on his return. This will be termed

the "Lewis Pass" and as its character is of great importance in this enquiry no apology will be needed for giving here an extract from the journal itself, premising that the latitude of the camp near the mouth of Traveller's Rest creek, as ascertained by Capt. Lewis is $46^{\circ} 48' 28''$ N.

July 3, (1805).—"The nine men and five Indians who accompanied Capt. Lewis, proceeded in a direction due north down the west side of Clarks river. Half a mile from the camp we forded Traveller's Rest creek, and two and a half miles farther passed a western branch of the river, 1 mile beyond this was a small creek on the eastern side, and a mile lower down the entrance of the Eastern branch of the river. This stream is from 90 to 120 yards (270 to 360 feet) wide, and its waters which are discharged through two channels were more turbid than that of the main river. The latter is 150 yards (450 feet) in width, and waters an extensive level plain and prairie, the lower parts of which are ornamented with the long leafed pine and cottonwood, while the tops of the hills are covered with pine, birch, and fir. We proceeded two miles further to a place where the Indians advised us to cross." * * * * *

"The Indians now pointed out to us a road at no great distance which they said would lead up the eastern branch of Clarks river to another river called *Cokalishkit*, or the river of the road to the buffaloes, and thence to Medicine river and the Falls of the Missouri.

They added that not far from the dividing ridge of the waters of Clarks river and the Missouri the roads forked, and though both led to the Falls, the left hand road was the best. The road was so well beaten, they thought, that we could no longer mistake it, and having now shown us the way they were anxious to go in quest of their friends the Shalees. * * * * *

July 4.—Having taken leave of the Indians we mounted our horses and proceeded up the east branch of Clarks river through the level plain in which we were encamped. At the distance of five miles we had crossed a small creek fifteen yards wide and now entered the mountains. The river is here closely confined within the hills for two miles, when the bottom widens into an extensive prairie and the river is 110 yards wide. We went ten miles further over a high plain, succeeded by a low and level prairie to the entrance of the *Cokalishkit*. This river empties itself from the northeast, is deep, rapid, and about sixty yards wide, with banks which, though not high, are sufficiently bold to prevent the water from overflowing. The East branch of Clarks river is ninety yards wide above the junction but below it spreads to one hundred. The waters of both are turbid. The *Cokalishkit* is the clearer of the two. The

beds of both are composed of sand and gravel, but neither is navigable on account of the rapids and shoals which obstruct their currents.

Before the junction of these streams the country had been bare of trees, but as we turned up the west branch of the Cokalabishkit we found a woody country though the hills were high, and low grounds narrow and poor. At the distance of eight miles in a due east course we encamped in a bottom where there was abundance of excellent grass. * * * Near the place where we crossed Clarks river we saw at a distance some wild horses, which are said, indeed, to be very numerous on this river.

July 5.—Early in the morning we proceeded on 3½ miles in a direction N. 75° E., then inclining to the south crossed an extensive beautiful and well watered valley nearly twelve miles in length, at the extremity of which we halted for dinner. Here we obtained a great quantity of quammash, and shot an antelope from a gang of females, who at this season herd together apart from the bucks. After dinner we followed the course of the river easterly for six miles to the mouth of a creek thirty-five yards wide, which we called Werners creek. It comes in from the north, and waters a high extensive prairie, the hills near which are low and supplied with the long leaved pine, larch, and some fir. The road then led N. 22° W. four miles, soon after which it again turned N. 73° E. for two and a half miles, over a handsome plain watered by Werners creek to the river, which we followed on in an eastern direction through a high prairie rendered very unequal by a vast number of little hillocks and sinkholes, and at three miles distance encamped near the entrance of a large creek twenty yards wide, to which we gave the name of Seamans creek. (31 miles in all this day.)

July 6.—At sunrise we continued our course eastward along the river.

At seven miles distance we passed the north fork of the Cokalabishkit, a deep and rapid stream forty-five yards wide, and like the main branch itself somewhat turbid, though the other streams of this country are clear. Seven miles further the river enters the mountains, and here end the extensive prairies on this side, though they widen in their course towards the southeast and form an Indian route to Dearborns river and thence to the Missouri. From the multitude of knobs irregularly scattered through the country, Capt. Lewis called it the *Prairie of Knobs*. It abounds in game, as we saw goats, deer, great numbers of burrowing squirrels, some curlews, bee-martins, woodpeckers, plovers, robins, doves, ravens, hawks, ducks, a variety of sparrows, and yesterday observed swans on Werners creek.

Among the plants we observed the southern wood and two other species of shrubs of which we preserved specimens. On entering the high grounds we followed the course of the river through the narrow bottoms, thickly timbered with pine and cotton wood intermixed and variegated with the bois rouge, now in bloom, the common small blue flag and pepper grass, and at the distance of three and a half miles reached the two forks of the river mentioned by the Indians. They are nearly equal in width and the road itself here forks and follows each of them. We followed that which led us in a direction N. 75° E. over a steep high hill, thence along a wide bottom to a thickly wooded side of a hill, where the low grounds are narrow, till we reached a large creek, eight miles from the forks and 25 from our last encampment.

July 7.—We proceeded through a beautiful plain on the north side of the river, which seemed here to abound in beaver. On the low grounds there was much timber, and the hills were covered chiefly with pitch pine, that of the long leaved kind having disappeared since we left the *Prairie of the Knobs*. At the distance of twelve miles we left the river, or rather the creek, and having for four miles crossed two ridges in a direction N. 15° East, again struck to the right, proceeding through a narrow bottom covered with low wil-

lows and grass, and abundantly supplied with both deer and beaver.

After travelling 7 miles we reached the foot of a ridge which we ascended in a direction N. 45° E. through a low gap of easy ascent from the westward, and on descending it were delighted at discovering that this was the dividing ridge between the waters of the Columbia and those of the Missouri. From this gap fort Mount'n. is about 20 miles in a north-east direction. * * * "We now wound through the hills and hollows of the mountains, passing several rivulets which ran to the right, and at the distance of 9 miles from the gap encamped, having made 32 miles. We procured some beaver and this morning saw tracks of buffalo." * * *

July 8.—"At three miles from our camp we reached a stream issuing from the mountains to the south-west (east)." * * * "We called it Dearborn's river. Half a mile further we observed from a height the Shishequaw Mountain, a high insulated eminence of a conical form standing several miles in advance of the eastern range of the Rocky Mountains and then about 8 miles from us, and immediately on our road which was in a north-east direction; but as our object was to strike Medicine river and hunt down to its mouth, * * * we determined to leave the road and therefore proceeded due north (10 miles) through an open plain till we reached Shishequaw creek, a stream about twenty yards (60 feet) wide with a considerable quantity of timber on its low grounds.

Here we halted and dined, and now felt, by the luxury of our food, that we were approaching once more the plains of the Missouri so rich in game.

We saw a great number of deer, goats, and wolves, and some barking squirrels and for the first time caught a distant prospect of two buffalo. After dinner we followed the Shishequaw creek for 6½ miles to its entrance into Medicine river, and along the banks of this river for 8 miles when we encamped on a large island. The bottoms continued low, level, and extensive; the plains too were level, but the soil of neither was fertile, as it consisted of a light colored earth intermixed with a proportion of gravel; the grass on both was generally about nine inches high. Capt. Lewis here shot a large and remarkably white wolf. We had made 28 miles." * *

It rained the whole of the next day and they advanced but eight miles over extensive bottom lands tolerably well supplied with narrow leaved cotton wood. "The river is about 80 rods wide with banks which though low are seldom overflowed; the bed is composed of loose gravel and pebbles, the water clear and rapid, but not so much as to impede navigation. The bottoms are handsome, wide and level and supplied with a considerable quantity of narrow leaved cotton wood. During our short ride we killed two deer and two buffaloes and saw a number of wolves and antelopes.

July 10. We set out early, and proceeded through a country similar to that of yesterday with wide leaved cotton wood, occasionally along the borders of the bottoms, though for the most part the low grounds were without timber. In the plains were great quantities of two species of prickly pear, then in bloom. Gooseberries of the common red kind were in abundance, and just beginning to ripen. The river had now widened to 100 yards (300 feet) was deep, crowded with islands, and in many parts rapid. At the distance of 17 miles the timber disappeared totally from the bottoms. About this time the wind, which had before blown on our backs and put the elk on their guard, shifted round, and we shot three of them and a brown bear. * * * "We saw vast numbers of buffalo, below us, which kept up a dreadful bellowing through the night. With all our exertions we were unable to advance more than 24 miles owing to the miry state of the ground, occasioned by the rain.

The next morning however, July 11, was fair and enlivened by multitudes of birds, which sung

delightfully in the clusters of cotton wood.—The hunters were sent down Medicine river in pursuit of elk, while Capt. Lewis crossed the high plain in a direction N 75° E. to White Bear island (near the head of the Falls in the Missouri river in lat. 47° 9' N.) a distance of eight miles, and here they joined him.

They had seen some elk, but in this neighborhood the buffalo were in such numbers that on a moderate computation there could not have been less than 10,000 within a circuit of two miles. * * * Among the smaller game were the brown thrush, pigeons, doves, and a beautiful bird called the buffalo pecker."

From the main summit to the Missouri river at White Bear island the distance by the computation of Capt. Lewis on the route travelled by him, is eighty miles. It is assumed to be 70 miles as he informs us that he did not pursue the direct route easterly but maintained a northerly direction to Medicine river. The direct distance from the main summit to White Bear island is given at 28 miles, for Capt. Lewis states that from the summit or Gap, "Fort Mountain is about 20 miles in a N. E. direction," and when passing up the Missouri Fort Mountain is represented as being 8 miles from White Bear island.—It is possible the distance from the Gap to Fort Mountain may have been underrated, but it must be very wide indeed of the truth to make the summit more than 40 miles in a direct line from White Bear Island. In calling it 70 miles a sufficiently liberal allowance is supposed to be made for any increase of distance necessary, to bring the gradients and expense within a reasonable limit.

From the description of the ground the descent in the 45 miles nearest to the Missouri river cannot be great. Ten feet per mile is believed to be a liberal estimate making the height of the line at the "Open plains" about 3,700 feet. That this is sufficiently high is apparent from the fact that the valley of Dearborns river at the place of crossing, is not, from the description, much below the level of the plains, and the valley itself cannot have a very great inclination as we are told by Lewis and Clark when ascending the Missouri, that the river had "every appearance of being navigable."

From the "open plain" to the main summit or *divortia aquarum* the distance is about twenty miles. The line in this distance crosses Dearborns river and several of its smaller tributaries and "winds through the hills and mountains". The ascent from the open plain is evidently mostly within the last ten miles, and there is nothing in the description to authorize a greater estimate to be put upon the main summit than about 1,300 feet above the plain making it in round numbers 5,000 feet only above the sea.

This estimate gives for the main summit above the Missouri at the mouth of Dearborns river about 1,700 feet. Serjeant Gass in his narrative, in describing the heights on the east side of Dearborns river says, that "some of the knobs or peaks of these mountains are 700 (perhaps some nearly 1200) feet high." The next range in which is the *Dalle* or *Canon* (*kenyon*) called the *Gate of the mountains* is still higher. Lewis and Clark remark in regard to it, that "the mountains are higher today than they were yesterday." The walls of this *Canon* they describe as nearly 1,200 feet high, evidently formed by a transverse break in the ridge or mountain by some great convulsion of nature, affording a narrow passage for the river, the water

being deep throughout and the length nearly six miles which indicates the width of the mountain at the base.

While the party were ascending the river, Capt. Clark traversed this portion of the valley on foot, and to save "many miles" of distance crossed this mountain by a "wide indian road, which in many places seemed to have been cut or dug down in the earth." It was near the close of the day when he arrived at the base of the mountain and the *samcevening* he crossed over and encamped on its western side. This mountain like the others in this region has a direction N. W. and S. E. and being the first encountered west of Dearborns river, is evidently the same in which the main summit is situated. From what has been stated, it is not unreasonable to suppose that its general height near the place of crossing it with the line of the proposed road is not more than 2,500 to 3,000 feet above the Missouri river at the mouth of Dearborns river, and as the route passes through what is termed a "low gap", in giving 1,700 feet for the height of that gap above the same level, its elevation cannot be considered as underrated.

If further evidence is required to show that the ridge at the gap is not underestimated it is found in the distance made by Capt. Lewis the day he passed it, which was *thirty two miles*, being a greater distance than was made on any other day in passing from Clarks river to the Missouri.

That the elevation of the Missouri river at the head of the Falls is also not underestimated appears to be evident when compared with that of the Yellowstone. Lewis and Clark ascended the Missouri with canoes above the Falls a distance of 500 miles to the upper forks of the Jefferson branch.

At about half that distance, or 230 miles, they came to the Grand or main forks. There is nothing in their description to authorize the belief that the river in this latter distance falls more than about 300 feet, when compared with other streams of the same magnitude, under similar circumstances whose descent is known.

This will make the main forks about 3,550 feet above the sea. In the remaining distance to the upper forks of Jefferson river, 270 miles, the fall is greater but does not, it is supposed, much exceed two feet per mile, making the upper forks about 4,100 feet above the sea.

From the main forks Capt. Clark crossed to the Yellowstone. In describing the intermediate ground, he states: "It now appeared that the communication between the two rivers was short and easy. The distance from the head of the Missouri at its three forks to this place is 48 miles, the greater part of which is through a level plain: while from the forks of the eastern branch of Gallatin river, which is there navigable for small canoes, to this part of the Yellowstone is no more than 18 miles with an excellent road over a high dry country, the hills being of inconsiderable height and easily passable." In another place he describes the summit of the dividing ridge as about midway between the waters of the Gallatin and the Yellowstone.

This description would make the elevation of the Yellowstone about equal to that of the main forks of the Missouri, but calling it 400 feet less, or 3,100 feet, it gives for the descent of the

Yellowstone to its mouth 1,000 feet, the distance being 800 miles, or one and one-fourth of a foot per mile.

The Yellowstone is described as "large and navigable for pirogues and even batteaux, there being none of the moving sand bars which obstruct the navigation of the Missouri; while there is but one ledge of rocks, and this is not difficult to pass." The mean velocity of its current as estimated by Capt. Clark for the 800 miles is a little over three miles per hour. Capt. Wyeth makes it about four miles per hour below the mouth of the Bighorn, but even this shows that the descent is probably less than the amount named above, and hence that the estimated elevation of the Missouri above the Falls is probably rather above than below the truth.

Again, from the upper forks of the Jefferson river (the extreme limit of canoe navigation) which is estimated as above to be 4,100 feet above the sea, the distance across to the waters of Salmon river branch of the Columbia is 38 miles, thirty seven miles of which is in the valley of a branch of Jefferson river which has a moderate ascent. From the summit between these streams, Lewis and Clark "followed a descent much steeper than upon the eastern side and at the distance of *three quarters of a mile* reached a handsome bold creek of cold clear water running to the Westward." This proved to be one of the branches of Salmon river, and notwithstanding the steeper descent, the comparative shortness of the distance from the summit renders it probable that the elevation of this point above the sea is greater than that of Jefferson river at the other extremity of the portage. 300 feet is, under the circumstances, a low estimate for the difference; this gives for the elevation of the waters of Salmon river 4,400 feet.

This river connects with Lewis river about midway between the mouth of Malheur river and the junction of the former with the Columbia. The elevation of this latter point is 1,286 feet above the sea, and of the mouth of Malheur river according to Fremont 1,880 feet. The descent of Lewis river in this distance does not appear to be marked by any great inequalities, and giving to the mouth of Salmon river a mean elevation between the two points named, it is found to be about 1,600 feet, making the descent in that river from the place where it was approached by Lewis and Clark 2,800 feet.

This descent takes place probably in about 400 miles following the course of the stream, giving an uniform rate of seven feet per mile; a very great rate for so long a distance, through a rock bound valley, in a stream where salmon ascend the whole distance, these fish, being found by Lewis and Clark near the place where they first met the waters of Salmon river.

The inference from this is that the elevation of the Salmon river valley and of the upper forks of the Missouri are not probably underestimated, a conclusion which is confirmed by evidence derived from the Journal of the Rev. Sam. Parker, who passed, in 1835, from the Green river of the Colorado, in lat. 42° N. by the way of Pierre's Hole and Henry's fork of Lewis river, into the Salmon river valley and thence to the Columbia.

From this it appears that the Salmon river when first seen by Lewis and Clark, cannot prob-

ably be more elevated than Fort Hall on Lewis river, which Col. Fremont ascertained to be 4,500 feet.

The summit passed over by Capt. Clark on his return between Clark and Wisdom rivers, and which will be called *Clark's Pass*, has probably an elevation not differing very much from that between the Jefferson and the Salmon rivers.

From Clark's river across to the forks of Jefferson river the route lies mostly through open prairie and is described by Capt. Clark as "in fact a very excellent road and by cutting down a few trees it might be rendered a good route for wagons with the exception of about four miles over one of the mountains which would require some levelling."

The summit at the Salmon River Pass, is 170 miles south of the Lewis Pass, and is consequently that much nearer to the most elevated points of the group of mountains of which Fremont Peak is the highest. It is perhaps reasonable to infer from this circumstance, that it is somewhat higher than the Lewis Pass, but the difference between them may not be very great.

Lewis and Clark, as they approached the fork of Jefferson river, state that distant snow-capped mountains are seen from the east around to the south and west; and here it will be proper to state that they experienced no difficulties in traversing either of the three routes described between the waters of the Missouri and those of the Columbia, but between Clark river and Lewis river their trials were very great. The mountains here on their return were covered with snow, from two to eight feet deep for sixty miles, and destitute of game. Mr. Parker estimates their average height on the south side of the Kooksootskie, at about six thousand feet, the peaks of some of them reaching nearly or quite to the limits of perpetual snow. The contrast between this frozen region and the ground throughout Lewis' Pass, which was traversed only one week later, the clover covering the plains, and the quomash and bois rouge being in bloom, and the service berries being nearly ripe, facts derived in part from the journal of Serjeant Gass, and Capt. Clark, shows an elevation for the Pass lower, if anything, than is assumed in the above estimate.

If attention is directed to the map, it will be seen that the plateau or base, on which stand the Rocky mountains, proper, between the waters of the Missouri and Columbia, declines probably to the north between the latitudes of 44° and 47°. The Missouri and Clarks rivers between those parallels both flow in that direction until they reach the latitude of 47°, when the former bears to the east, and the latter to the west, indicating that in this latitude or near it is the line of greatest depression of the general surface, a hypothesis further confirmed by the fact that in this line are found the channels or valleys of prominent branches of both rivers, running in opposite directions, neither of which have much fall, since the waters of one (the Cokalahishkit) are "turbid" flowing mostly through low lands over a sandy and gravelly bottom, with banks "though not high never overflowed," and only not navigable because of "the rapids and shoals that obstruct its current," and the other (the Medicine river) in "many places deep and filled with islands," and "navigable," flowing through a level plain,

Other Passes through this portion of the Rocky mountains are known to exist. Father De Smet mentions three. That followed by Captain Lewis is doubtless one of the number. Another which he found in his way, from the Mission of St. Mary's to the Yellow Stone, pursues evidently a very direct course to the Great Forks of the Missouri, as the distance was accomplished in seven days. He says, "we encamped the first night, Aug. 16, 1846, at the foot of the Blackfoot (Cokalahishkit?) forks. Innumerable rivulets and several beautiful lakes contribute largely to this river.

Towards its head, to the northeast, there is an easy Pass for carts and wagons. The valley we ascended is watered by a beautiful stream, the Cart river. It was through this valley we wound our way in former days, with all our baggage to the spot where St. Mary's now stands. We crossed the mountains in the vicinity of the Arrowstone fork, by an easy pass, and descended a tributary of the Jefferson as far as its outlet, through rather a wild, broken and mountainous country, with here and there an extensive open plain, the ordinary resort of innumerable herds of buffalo. The seventh day found us encamped in the immense plain through which the forks of the Missouri diverge."

From the main west fork of Maria's river to Clarks river, there is said to be a very feasible route, which if found sufficiently favorable is more nearly in the direct course for the proposed road, probably, than any other. The valley of Marias river is a plain mostly prairie, so free from obstructions that Capt. Lewis made a forced march along it (apprehending pursuit from the Indians,) of one hundred miles in 18 hours.

To the north of this are still other Passes, two of which are described by Gov. Simpson, through one of which he travelled, though not without considerable effort at the rate of twenty miles a day. This is in lat. $50\frac{1}{2}^{\circ}$ N. nearly. The other more to the south, he states from report to be "greatly superior." These lead from the sources of the main branch of the Columbia and the Kootanie to those of the south branch of the Saskatchewan.

To the north of all these in the vicinity of the high peaks of Mounts Brown and Hooker, is the Athabasca Portage, on the route traversed by the Express of the Hudson's Bay Company between Hudson's Bay and the waters of the Columbia.

This Pass is ascertained by measurement to be 7,324 feet above the sea.

The three passes last named are all north of the latitude of 49° , and are only alluded to for the purpose of illustrating the general character of this portion of the Rocky mountains. A portion which from carelessness on the part of our map makers in not availing themselves of the information within their reach is represented as an elevated, unbroken range of mountains, with its principal streams many of them omitted and inaccurately placed, a fault which unfortunately attaches as much to the map published by order of the U. S. Senate in 1850, as to any other, although that map is in other respects very correct.

The examination of the several Passes through the mountains between the Missouri and Columbia rivers, will now be concluded by adverting to the fact as evidence of their low elevation, that at the time of the visit of Lewis and Clark two nu-

merous tribes of Indians, the Shoshones and Tshupahs were found inhabiting the entire region in question; at one season subsisting upon the salmon taken from the Salmon river branch of the Columbia, and at another pursuing the bison, and the elk on the plains of the Upper Missouri, passing to and fro between the sources of those rivers, evidently without difficulty.

Again in the vegetation of the Passes as described by Lewis and Clark, there are no plants of an Alpine character, such as would be found, probably in that latitude, if the elevation was much greater than is assumed, notwithstanding the softening influence of the milder temperature which pervades the region on the Pacific, and which is undoubtedly felt to a certain distance within the precincts of the mountains, even if it does not extend entirely through them to their eastern base. The last would seem probable from the circumstance of the profusion of *cacti* above the Falls of the Missouri.

Sir John Richardson alludes to the similarity of the Flora of the Valleys of the Columbia and Missouri and Saskatchewan which he describes as "even greater than between the latter and the eastern parts of the United States and Canada," and which can only be satisfactorily explained by the absence of a mountain barrier sufficiently formidable to cause a difference in their organisms.

The character and numbers of the animals also which were met with in the Passes by Lewis and Clark, does not indicate so very low or severe a temperature in winter, or so very harsh or rigorous a climate as to render them impracticable for the purposes of a railroad, nor do they indicate any greater elevation than is assumed. Wild horses were seen at the points where Captain Lewis left Clarks river, and buffalo were observed near the summit, and it was one of the well beaten roads formed principally by those animals which Capt. Lewis followed across the mountains on his return. The rattlesnake was seen at Rattlesnake Cliff, near the upper forks of Jefferson river, at an elevation as high, probably, as the summit of Lewis Pass, an animal seldom found in the eastern states north of the latitude of 45° .

The extract given from the journal of Captain Lewis, is very satisfactory in respect to the character of the ground between the Falls of the Missouri and Clarks river, for the construction of a railroad.

The line throughout is situated in an open valley. The surface is very regular, and free from the obstacles usually met with in the passage of summits having any very considerable elevation, and evidently presents no extraordinary difficulties.

The distance, estimating from the Falls of the Missouri is about 180 miles. The line is well supplied with timber, and the maximum gradient will not, it is believed, exceed fifty or sixty feet per mile, and that for a comparatively short distance, near to the main summit.

In proceeding westward from the summit of Lewis' Pass, the first measurements met with on the route of the proposed railroad, are those made at Fort Colville on the Columbia, a short distance below the mouth of Clarks river.

The elevation of this place above the sea is given by Commander Wilkes at 2,200 feet. In another place as deduced from the temperature of

boiling water, it is given at 2049 feet. Assuming 2100 feet as the elevation of the line at the Chaudiere Falls ten miles below, the descent to it from the summit of Lewis Pass is 2500 feet. 2200 feet of this amount is assumed to be embraced in the distance to Clarks river, giving for the inclination of this portion of the line of the road an average of twenty-two feet per mile, the distance being 90 miles which is believed to be as great an inclination of the valleys of the Cokalahishkit and east branch of Clarks river, as is demanded from the description of them by Capt. Lewis. The remaining seven hundred feet is the assumed descent of the Clarks river valley to the Columbia near Fort Colville, a distance as estimated by the route of the proposed road of 260 miles. This, after making a liberal allowance for the increase in distance by the channel of the river, gives for the average inclination of the river, including the "cascades and falls" which extend thirty miles from its mouth, nearly two feet per mile.

Although the mean rate of descent of Clarks river is thus found to be only from one fourth to one-third that of the Salmon river, yet the salmon are not found in it for the reason already stated, that they cannot surmount the Falls near the junction with the Columbia.

The fact of the much greater elevation of the mouth of Clark's river as compared with that of the Salmon river, is evidence of the probable less inclination of the valley of the former.

Bradford, the author of a valuable atlas and statistics of the United States, says that "Clarks river is navigable in the upper part of its course down which boats may descend to within sixty miles of the Columbia, when it becomes so much broken as not to be navigable." Father DeSmet ascended it from St. Ignatius in a bark canoe 250 miles in 16 days, in 1845, to the Mission Station of St. Mary's and descended the same distance in four days. St. Ignatius is about midway between Lake Kalispel and the mouth of the river.

Gov. Simpson states that he left Lake Kulspelm (Kalispel) in the morning, and thence ran down the river until eight in the evening, making probably a distance of about fifty miles, in which but one portage was necessary. From this point his party travelled by land to Fort Colville, a distance it is supposed of sixty or seventy miles, the last fifty miles of which was over a prairie plain across which they moved with great speed.

From this account of the character of Clarks river, it is apparent that a very considerable portion of it is navigable, so much as to make it probable that the estimated descent of 900 feet along its valley to the Columbia is rather above than below the truth, seeming to confirm the conclusion arrived at from other sources, that the elevation of the summit in the Lewis Pass cannot very much exceed the estimated amount of 5000 feet above the level of the sea.

From Fort Colville it is proposed, as already intimated, to carry the line of the road down on the south side of the Columbia river to the Chaudiere Falls or to Thompsons rapids a short distance below, where a bridge can conveniently be constructed without interfering with the navigation of the river. From thence it is to be continued along the valley of the river on the north side to

Fort Okanagan or to some suitable point on the Okanagan river, a distance estimated at ninety miles, but which, following the course of the river, is much greater.

The river in this distance is navigable excepting the Chaudiere Falls and Thompsons rapids. It has a strong current and when swollen boats descend very rapidly, making easily, with but little labor, over 100 miles per day. The descent of the Chaudiere Falls and Thompsons rapids is given by Thornton at 50 feet, the perpendicular fall amounting to 15 or 16 feet. There is an island at the first fall, and at the foot of the fall the river is 2330 feet wide. At Okanagan it is 1600 feet wide, and its elevation above the sea, according to Wilks, is 2000 feet.

In respect to the character of the surface from the eastern branch of Clarks river to Okanagan, there is little doubt of its being generally favorable. If the portion of the valley of Clarks river from the upper forks to the eastern branch, as described by Lewis and Clark, is any indication of the character of the valley below, it certainly does not present any extraordinary obstacles to the construction of a railroad. The portion alluded to embraces a distance of sixty miles and is a beautiful valley 10 to 15 miles in width, through which meanders Clarks river increasing from 100 to 300 feet in width; its lower portion flowing over a gravelly bed, with low banks and with a current so equable as to be navigable. That the valley of Clarks river below does maintain a character not very dissimilar to this is in accordance with the statements of Father De Smet, and the best information to be had in regard to it.

If the Columbia is crossed at the Chaudiere Falls the line will probably leave Clarks river at some point below the Kalispel lake, and cross the wide prairie which lies between that river and the Columbia.

The banks of the Columbia between the Falls and Okanagan are described by Gov. Simpson as "monotonous" and "sandy with rocky ridges." The course of the river is very indirect and the line may occupy ground of a different character from that which is exhibited in the vicinity of the river, either more or less favorable, but in neither case will probably require any extraordinary expense, or the adoption of any gradient exceeding about thirty feet in the mile, and the same remark will apply, also, to the portion in the valley of Clarks river. This latter portion is abundantly supplied with timber, and although the banks of the Columbia are destitute, it can easily be obtained by means of the navigation afforded by that river and its tributaries. Timber also of the very best quality, and in the greatest abundance, is found in the remaining portion of the line to the Pacific.

Between Fort Okanagan and the Pacific, or the waters connected with the straits of Juan De Fuca, the direct distance is not more than one hundred miles. Intervening is the Cascade or Presidents range of mountains; a high range extending as already described parallel with the coast from the southern limit of Oregon to the northern limit of Washington, and having several lofty conical peaks, one of which, Mt. Baker, is situated near the latitude of 49° N., and another, Mt. Ranier, in lat. $46\frac{3}{4}^{\circ}$ N. nearly, the latter being a little to the south of the southern extremity of Puget Sound.

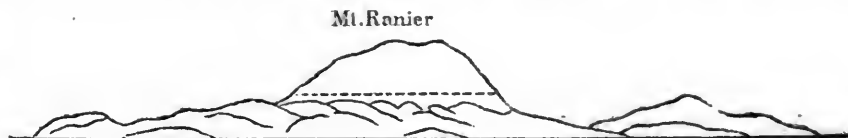
Commander Wilkes of the American exploring expedition when at Nisqually, dispatched a party under Lieut. Johnson with instructions to explore the country across to the Columbia river.

This party crossed the mountains north of Mt. Ranier and thence continued on in a north-easterly direction to Fort Okanagan.

Mt. Ranier was ascertained by triangulation to be 12,330 feet above the sea, while the greatest elevation attained by Lieut. Johnson in crossing the Range was found by barometrical measurement May 27th, 1841, to be 5,092 feet, from whence Mt. Ranier bore S. S. W.

The snow is described as ten feet in depth at the deepest point on the summit, and extending altogether eight miles, the summit being five miles across. On the 4th of June Lieut. Johnson broke his barometer, his last measurement being on the eastern side of the range, near the snow line at an elevation of 5,203 feet.

He gives a view of the appearance of Mt. Ranier with a portion of the Range on each side, as seen from an elevated point after passing the Range, a correct copy of which is annexed.



the adoption of what may be considered high gradients.—It is however limited in extent, and being near the terminus is favorably situated for the economical use of auxiliary power. The entire distance on the route as described from Chicago to the Pacific is 1,960 miles, and from the west end of Lake Superior 1,600 miles. These distances are 12 per cent greater than the direct distance between the points named, a percentage which is believed to be ample to cover the necessary deviations from a direct course.

The remarks above are predicated upon the supposition that no lower summit can be obtained than is assumed of 4,000 feet. The sketch presented affords encouragement of a still lower summit even upon or near the direct route. This in addition to the fact in which all the authorities concur, that the lat. of 48° N. is the limit or boundary between the trap and granite formations, indicate the possibility of a favorable change in the elevation of the range at that point. Near this line also, are the valleys of the Barriere and Tuxpam rivers, the former a tributary of the Columbia and the latter discharging into the Pacific, circumstances favorable and encouraging in respect to finding a lower pass for the road.

Again it appears from the surveys made by the exploring expedition that the latitude of 49° N. (the international boundary) is only five miles south of the mouth of Frasers river, where it meets the Pacific.

Fraser's river, like the Columbia finds its way to the sea through an opening in the Cascade Range and from its nearness to the line of 49° , there is reason to infer that the mountain range may be in a good measure avoided and still keep the line within the limits of the United States.

In respect to the selection of a point for the ter-

This view when considered in connection with the measurements described above, authorize the conclusion that there may be passes in this range, at no great distance even from Mt. Ranier, which do not exceed about 4,000 feet in elevation, or may be reduced to that amount at no very great expense.

A summit of this height will give 2,000 feet ascent from Fort Okanagan, which, if the line is carried directly towards the mountains, must be overcome in about 50 miles, at a maximum grade of probably 60 feet per mile, or, if laid obliquely so as to increase the distance, may probably be reduced to 50 feet per mile.

On the West side of the mountains, the descent to the Pacific, if made in a direct line of 50 miles in length, gives an average of 80 feet per mile, and a maximum probably of 100 feet per mile. If it amounts to 110 feet per mile, in any place it will then be less than the maximum on one of the principal railroads of the United States, the Baltimore and Ohio. This is evidently the only portion of the entire line from Lake Michigan to the Pacific requiring

minus of the proposed road a few words only will be necessary.

That point which possesses the requisite facilities in respect to harbor accommodations, on a large scale and in the highest degree, with ground the most suitable in elevation and extent for the site of a city of the first magnitude, with a country in the vicinity the most fertile, intersected by streams which afford abundance of water and of water power, and which withal is nearest to the entrance from the ocean by the straits of Juan De Fuca, is the best. This last consideration, that of a convenient communication with the sea is important to enable vessels, particularly coasters, and others running between the ports on the Pacific south, and those situated to the North and in Eastern Asia to enter and receive and discharge freight and passengers with the least possible loss of time and with the least expense.

Puget Sound, therefore, it will be seen is too far south for this purpose, and the proper point must be sought for on the eastern shore of Admiralty Inlet, near its northern extremity, or between this latter point and the international boundary, in what is termed the Archipelago of Arro.

ESTIMATE OF COST.

The portion of the line embraced in the States of Illinois and Wisconsin 70 miles in one and 200 miles in the other, being in a course of construction will not be included in this estimate.

This portion completed for a single track and equipped ready for use will probably cost not far from ten millions of dollars.

The length of the remaining portion from the west line of Wisconsin to the Pacific as estimated is 1,600 miles.

The cost of this for a single track complete, with the requisite turn-outs, the iron rails weighing

100 lbs. per yard, with all the necessary buildings and equipments is estimated as follows.

From the Wisconsin line to Red River the point of divergence of the branch to Lake Superior, 220 miles at \$40,000..... \$8,800,000

From Red River to the Great Falls of the Missouri, over the Missouri plains the surface being very favorable and distance 720 miles at \$45,000..... 32,400,000

From the Great Falls of the Missouri to Okanagan river, over ground more difficult of construction and access, 530 miles at \$60,000..... 31,800,000

From Okanagan to the Pacific including the passage of the Cascade mountains, 120 miles at \$70,000... 8,400,000

\$81,400,000

Add cost of branch to Lake Superior, 220 miles at \$40,000..... 8,800,000

\$90,200,000

Contingencies add..... 9,800,000

Total for 1820 miles..... \$100,000,000
Equal to \$55,000 per mile average.

The branch to Lake Superior is supposed to diverge from the main line at the Red River; thence across the *Hauteurs des terres* to the Mississippi at the mouth of Crow-wing river; thence in the vicinity of the Mississippi river to where it bends to the north; thence passing near Sandy Lake to its terminus at the west end of Lake Superior, where its elevation above the sea is supposed to be about 630 feet.

So favorable is the surface of the country generally along the proposed Northern route to the Pacific, that a road of the same character if located east of the Mississippi could be built and equipped complete at a cost not exceeding \$40,000 per mile. The addition to this amount of upwards of thirty per cent. is believed to be sufficient to cover the extra cost of transportation of materials and provisions and the other disadvantages incident to the construction of the road through a country the most of which is in a state of nature, having no other facilities of intercommunication than are presented by the navigable waters of the Missouri and Columbia; facilities which are indeed of very great importance, and which will contribute largely to diminish the cost of the road on the route in question.

The actual cost of the road will depend very much upon the time occupied in its construction. The revenue to be derived from it will be limited until the entire line is completed. It will be an object therefore to accomplish it in the shortest time possible consistent with a due regard to its cost. If immediately commenced and prosecuted with abundant means, it is not probable that it can be accomplished in less than from ten to twelve years, not including delays caused by negotiations with the Indian tribes. During this period if we may judge from the past, the increase in the population of the United States will not be less than ten millions, a large portion of which increase will undoubtedly be found located on and near the line of the proposed road. So that by the time it is completed it will have a large way business which will thence forward be constantly augmenting and form a very prominent item in the revenue of the road.

To be continued.

Nashville and Danville Railroad.

The construction of this road will complete an important link in the great north-west and south-east line, connecting Cincinnati with Charleston and Savannah.

A road is now in process of construction from Covington, opposite Cincinnati, to Lexington, and will be ready for the cars early in the coming year. The road from Lexington to Danville, Ky., is under contract and partly graded.

From Danville to Nashville, about 170 miles, it is estimated that the Nashville and Danville road can be built at a cost of \$28,000 per mile. South of Nashville, the Nashville and Chattanooga, Georgia, and other roads form continuous connections with Charleston and Savannah.

Independent of securing a large portion of the trade of the interior of Kentucky without competition, this road will connect at Lexington with the Maysville and Lexington, Maysville and Big Sandy Railroads, and the Virginia and Wheeling and Baltimore roads.

Several subscriptions have already been made by several of the counties along the line of the road, and by efforts making, a large addition will be made to the individual subscriptions of stock to the company. There will be a large accession to the stock by the counties that have not yet made subscriptions. The means for the construction of the road, consist of the stock heretofore subscribed as follows:

Subscription of stock in Barren Co....	\$130,000
" " " Green Co.....	100,000
" " " Taylor Co.....	100,000
Proposed subscription in Marion Co....	200,000
" " " Allen Co.....	100,000
" " " Boyle Co.....	100,000
Addition Individual subscriptions in	
Greene Co.....	50,000
" " " Taylor Co.....	50,000
" " " Barren Co.....	50,000
Subscription by Cincinnati.....	500,000

\$1,680,000

Add to this stock subscriptions by contractors..... 750,000

Amount stock north State line..... \$2,430,000

Say to be raised by Tennessee side..... 500,000

Further stock to be subscribed on Tennessee part of line..... 200,000

Securities of the company..... 1,630,000

4,760,000

Cost of the road, 28,000 per mile..... 4,760,000

Evansville, Indianapolis and Cleveland Straight Line Railroad.

The Directors of this company met at Indianapolis on the 11th ult., when the stock books were examined and their contents summed up.

The amount of reliable stock subscribed and pledged has already reached \$1,800,000, part of which comes from other corporations interested in the construction of the road.

Two new Directors were elected to fill vacancies Judge Hardin, of Morgan, and Wm. S. Turner, Esq., of Daviess. Mr. Ball resigned his position as Chief Engineer of the road, in consequence of other and prior engagements claiming too much of his time to be able to devote the necessary attention to the Straight Line. Henry C. Moore was elected Chief Engineer of the company.

The letting of the road from Evansville to the

crossing of the Ohio and Mississippi road will take place on the first Tuesday in December.

Portland Locomotive Works.

We take pleasure in transferring to our columns from the "*State of Maine*" the following list of the Locomotives turned out by the above establishment since the commencement of its operations. These engines are now widely known and approved of throughout the country, and the Portland Company are well prepared to complete extensive orders on the best terms. Such roads as supply themselves with motive power from these works will have the guarantee of good workmanship and prompt delivery.

PORTLAND LOCOMOTIVES.

The Portland Company has been one of the most fortunate and successful business operations of the city.

Mr. Robert Stephenson, the distinguished engineer, when in Portland, visited these works, examined fully their style of engines, and said "that this company turned out better work than any of the shops in Boston," which shops he had just visited.

The engines of the Portland company have maintained the very highest reputation, and the company have in this way secured an amount of work in every department of labor, that has made their operations profitable, from the start. In addition to a regular dividend of six per cent. per annum, they made a special dividend of 25 per cent. in July last. The works were started in 1818. In addition to Locomotive engines they have turned out Steamboat and Stationary engines, and a vast variety of other machinery. Of the locomotives, they built in

1848.....	5
1849.....	8
1850.....	5
1851.....	10
1852.....	11
1853.....	23

These locomotives have gone to the following purchasers:

Atlantic and St. Lawrence Railroad.....	21
St. Lawrence and Atlantic Railroad.....	14
Mad River and Lake Erie Railroad (Ohio)....	6
Covington and Lexington Railroad, Ky.....	6
Panama Railroad (Central America).....	3
Androscoggin and Kennebec Railroad.....	3
Portland, Saco and Portsmouth Railroad.....	2
John M. Wood.....	2
Rutland and Washington Railroad.....	1
York and Cumberland Railroad.....	1
Wood, Black and Co.....	1
Ontario, Simcoe and Huron Railroad.....	1
Lexington and Danville Railroad.....	1

Another curious fact appears in connection with these Locomotive Engines, illustrating the war of the gauges.

There are 44 on the gauge of.....	5	6
" 8 " ".....	5	
" 6 " ".....	4	10
" 5 " ".....	4	8 1/2

The gauge of Canada, and of Maine east of Portland, is five feet six inches. So of the lower Provinces.

The same gauge prevails east of the Mississippi.

South of the Ohio River, down to the Gulf of Mexico, the gauge is 5 feet. So on the Panama railroad.

In Ohio and New Jersey the gauge is four feet ten inches.

From Portland to Buxton, and so on south to New York, the gauge is four feet eight and a half inches.

The Erie railroad has a gauge of 6 feet.

The Portland Company has on hand patterns for all the different widths, except the six feet gauge.

LIST OF LOCOMOTIVE ENGINES BUILT BY THE PORTLAND COMPANY.

Weight Diam. Length

in of of No. and size of

tons. cylinder. stroke. drivers.

Gauge.

No.	Name.	To what Railroad.	tons.	cylinder.	stroke.	No. and size of drivers.	Gauge.
1	Augusta,	Portland, Saco and Portsmouth.	23	14	20	2 sett of 5 ft. driv'rs.	4 ft 8 1/2 in.
2	Montreal,	Atlantic & St. Lawrence.	25	15	22	" " " " " "	5 6
3	A. N. Morrin,	St. Lawrence & Atlantic.	25	15	22	" " " " " "	" " "
4	Portland,	Portland, Saco & Portsmouth.	23	14	20	" " " " " "	4 8 1-2
5	Machigoune,	Atlantic & St. Lawrence.	25	15	22	" " " " " "	5 6
6	Oxford,	" " " " " "	25	15	22	" " " " " "	" " "
7	Ticonic,	Androscoggin & Kennebec.	25	15	22	" " " " " "	" " "
8	Wm. P. Preble	Atlantic & St. Lawrence.	24	14	20	" " " " " "	" " "
9	Portland,	Mad River & Lake Erie.	23	13	20	" 4 1/2 " " " "	4 10
10	Oregon	" " " " " "	23	13	20	" " " " " "	" " "
11	T. Boutell,	Androscoggin & Kennebec.	24	14	20	" 5 " " " "	5 6
12	Franklin,	" " " " " "	24	14	20	" " " " " "	" " "
13	Waterville,	Atlantic & St. Lawrence.	25	15	20	" 5 1/2 " " " "	" " "
14	Coos,	" " " " " "	25	15	20	" " " " " "	" " "
15	Montreal,	St. Lawrence & Atlantic.	25	15	20	" " " " " "	" " "
16	Gen. C. Clark,	Rutland & Washington.	23	15	20	" " " " " "	4 8 1-2
17	Sherbrooke,	St. Lawrence & Atlantic.	25	16	22	" " " " " "	5 6
18	Jenny Lind,	Wood, Black & Co.	25	15	20	" " " " " "	" " "
19	Felton,	Atlantic & St. Lawrence.	25	15	20	" 5 " " " "	" " "
20	Railway King	" " " " " "	27	17	22	" " " " " "	" " "
21	Richland	Mad River & Lake Erie.	20	13	24	" 4 " " " "	4 10
22	West Liberty	" " " " " "	20	14	24	" " " " " "	" " "
23	Sandusky	" " " " " "	20	14	22	3 " 3 1/2 " " " "	" " "
24	Huntsville,	" " " " " "	20	14	22	" " " " " "	" " "
25	St. Lawrence,	St. Lawrence & Atlantic.	25	15	20	" 5 1/2 " " " "	5 6
26	Richelieu,	" " " " " "	25	16	22	" " " " " "	" " "
27	Yamassee,	" " " " " "	25	15	22	" 5 " " " "	" " "
28	Casco,	Atlantic & St. Lawrence.	25	14	20	" " " " " "	" " "
29	Forest City,	" " " " " "	25	15	20	" 5 1/2 " " " "	" " "
30	Danville,	" " " " " "	23	13	20	" 5 " " " "	" " "
31	Consuelo,	John M. Wood.	23	13	20	" " " " " "	" " "
32	Falmouth,	Atlantic & St. Lawrence.	25	14	22	" 4 1/2 " " " "	" " "
33	Lady Elgio,	Ontario, Simcoe & Lake Huron.	24	14	20	" 5 1/2 " " " "	" " "
34	Queen,	St. Lawrence & Atlantic.	26	16	22	" 5 1/2 " " " "	" " "
35	Massawippi,	" " " " " "	27	16	24	" 4 1/2 " " " "	" " "
36	Dan. Webster,	Atlantic & St. Lawrence.	25	15	20	" 5 " " " "	" " "
37	Nueva Grenada,	Panama Railroad.	23	13	20	" 4 1/2 " " " "	5
38	Panama,	" " " " " "	23	13	20	" " " " " "	" " "
39	Bogota,	" " " " " "	23	13	20	" " " " " "	" " "
40	Cumberland,	Atlantic & St. Lawrence.	27	16	22	" 5 " " " "	5 6
41	Norway,	" " " " " "	27	16	22	" " " " " "	" " "
42	Nulhegan,	" " " " " "	24	14	22	" 5 1/2 " " " "	" " "
43	Paris,	" " " " " "	25	15	22	" 6 " " " "	" " "
44	Gloucester,	" " " " " "	25	15	22	" 5 1/2 " " " "	" " "
45	Yarmouth,	" " " " " "	25	15	22	" 5 " " " "	" " "
46	Amonoosic,	" " " " " "	25	15	22	" " " " " "	" " "
47	Westbrook,	York & Cumberland.	20	13	20	" " " " " "	4 8 1-2
48	Vermont,	Atlantic & St. Lawrence.	27	16	22	" " " " " "	5 6
49	"	" " " " " "	24	14	22	" 6 " " " "	" " "
50	Oxford,	" " " " " "	25	15	22	" 5 " " " "	" " "
51	Bourbon,	Covington & Lexington.	23	15	20	" " " " " "	5
52	"	" " " " " "	23	15	20	" " " " " "	" " "
53	Falmouth	" " " " " "	23	14	20	" " " " " "	" " "
54	Harrison,	" " " " " "	23	14	20	" " " " " "	" " "
55	"	Lexington & Danville.	26	16	20	" 5 1/2 " " " "	" " "
56	"	Atlantic & St. Lawrence.	23	15	22	" 6 " " " "	5 6
57	"	St. Lawrence & Atlantic.	23	14	20	" 5 1/2 " " " "	" " "
58	"	" " " " " "	23	14	20	" " " " " "	" " "
59	"	" " " " " "	24	14	22	" 6 " " " "	" " "
60	"	" " " " " "	24	14	22	" " " " " "	" " "
61	"	" " " " " "	23	15	25	" " " " " "	" " "
62	"	" " " " " "	25	15	22	" " " " " "	" " "
63	"	John M. Wood.	24	14	22	" 5 1/2 " " " "	4 8 1-2

Maine.

Kennebec and Portland Railroad.—The Directors of the Kennebec and Portland Railroad have entered into a contract with the Somerset and Kennebec railroad company for a lease by which that road, when completed and ready for using, shall be run and operated by the Portland and Kennebec corporation for twenty years, the latter having all the receipts, keeping the road in repair and paying to the Somerset and Kennebec corporation six per cent. annually on the cost of the road, provided such cost shall not exceed \$700,000, and, at the end of twenty years, one half of what the net earnings of that road shall be found to have exceeded the six per cent. annual payment, repairs, &c. That road is to be completed next fall.

Lebanon Valley Railroad.

We learn from the Philadelphia News that two millions of dollars have been raised towards the construction of this work, one million by subscriptions to stock, and one million by loan. The making of the road is now a fixed fact. A corps of Engineers, under the direction of Richard B. Osborne, Esq., are now surveying the route, preparatory to letting out contracts, and, as we last week stated, the eastern division (between Reading and Lebanon) is expected to be put under contract before the first of January next. The contractors will be required to commence operations forthwith, so that in about two years from this time, we shall probably be able to make a trip to Lebanon by rail.

Lexington and Big Sandy R. R.

The work on this line was let about the 1st of Sept. to Messrs. De Graff, Foster & Co., well known contractors, on terms very favorable to the interests of the company; payable one-half in cash, one-quarter in the bonds of the company, and the remaining fourth, in stock in the road. The work is to be commenced immediately and completed within three years ready for the rolling stock; the company to furnish the ties and iron. It is expected that portions of the line from Lexington, east, and from Catlettsburg, on the Big Sandy, west, will be opened within the next eighteen months.

We learn from Mr. J. B. Westbrook, Chief Engineer of the work, that the company have propositions from the iron-workers on the route, to furnish rails for the whole line, from the ores in the vicinity. It is well known that both coal and iron are found in large quantities along the line of this road and the completion of the enterprise will accomplish much toward making them available to the people of Kentucky. Under these circumstances it is reasonable to suppose that the Lexington and Big Sandy Company can secure their iron, for the whole route, on more favorable terms, at home, than in a foreign market.

Alabama and Tennessee Railroad

The Uniontown Independent has the following information in regard to this road.

We learn that the grading of the road from Selma to Uniontown is all under contract, and will be completed at an early day. The first ten miles, commencing at Selma, was taken last Fall by Col. Goldsby, and is now ready for the cross ties and iron.

We are not informed whether a contract has been made for a bridge across the Cahaba river or not; a portion of the materials cannot well be gotten to the spot until the track is laid that far. We have no doubt, Mr. Troost, the Chief Engineer, who has this part of the work in charge, will have it ready in time for the next crop.

The grading of sections 11, 12, and 13, being the first three miles this side of Cahaba river, is under the charge of Messrs. Waddill & Co. They have a large force at work, and will complete it early in February next. Mr. L. W. Mc. Millan has the next two miles, and is now at work with a force sufficient to complete it whenever it is needed. The next eight miles has been let to Col. Goldsby, whose name in connection with improvements is a sufficient guarantee that it will be ready in due time. Mr. P. H. Pitts, also has a large portion of it graded, which will be ready at any time the Directors require it. The next contract is under the supervision of Col. Davidson—this includes the five miles next to Union town—the greater part of which is finished. He has a large force actively employed, and, with his energy, we may look for an early completion of his contract.

The Bibb County Steam Mills Company will, we understand, furnish cross-ties for the first ten miles—they having subscribed ten thousand dollars, payable in Lumber. These Mills are located in Bibb County, about twenty miles above Selma, on the Alabama and Tennessee River Railroad, in a region that abounds in the finest timber.

Messrs. Moore & Brown, William A. Jones, and Mr. McKellar, have each contracts for cross-ties, on this side of the river, and have a large number for delivery.

The right of way, with but few exceptions, has been given to the Company.—Major Price, the energetic President, is now at the North, and, we learn, has purchased iron for the road—how much or on what terms, we have not been fully informed.—We hope to be able to give something more definite in regard to this, in our next. Thus, it

may seem, from the zeal of our Board of Directors, the cheering news from the western end of the road in Mississippi, and the Mobile and Ohio road, that we may soon expect to travel East or West by railroad.

American Railroad Journal.

Saturday, November 12, 1853.

Pacific Railroad.

Certain parties who obtained from the Legislature of this State, at the last session, acts of incorporation for the purpose of building a railroad to the Pacific, organized on the 2nd instant by the choice of the following gentlemen as directors, viz: Levi S. Chatfield, Sanford E. Church, Orville Clark, Caleb S. Woodhull, of New York; Cyrus Moore, Maine; George Ashmun, Mass.; T. Butler King, Ga.; Alfred Gilmore, Penn.; Francis M. Dimon, Rhode Island; Robert J. Walker, Washington; Elon Farnsworth, Mich.; William Noyes, Penn.; Jephtha Fowles, Tenn.; Thomas J. Green, California; Anson Jones, Levi Jones, W. R. D. Ward, Texas; James H. Lucas, Mo.; Isaac E. Holmes, South Carolina; Nathaniel T. Green, North Carolina; Philip T. Thomas, Maryland; H. B. Spelman, Samuel Waggoner, Ohio; G. W. Underhill, Ark.; E. T. Bridge, New Jersey.

It will require very different timber from this to build the Pacific road. There is not what may be termed a first class name, in the whole list; nor a person calculated to command the confidence of that class of men who are to build the road. There are on the other hand such a sparkling of politicians and speculators as to throw doubt over the real intentions of the parties, and lead to the belief, that they have a very different object from the one set forth. At least one half of the directors must step aside, before they can secure the confidence of the public, or the cooperation of capitalists. Such being the fact, it may be well to say so at once. Under the present lead, the company will simply make themselves ridiculous, and will be equally powerless before the country, and Congress. No company can succeed in this work without the efficient aid and support of both. The more this company parade themselves before the public, the sooner will they be laid on the shelf. They do not even constitute a respectable vanguard of the army that is to follow to fight the battle. The latter does not want their services, will not follow their lead, and will be indifferent, even, whether they are found in the ranks; so that the Pacific Company may make themselves as happy as possible over the subject of a railroad to their road, for they will have precious little work to do.

Since the above was written we learn that the company has been organized by the choice of Levi S. Chatfield, a distinguished politician of this State, as President, and Mr. Leland of the Metropolitan Hotel, (*par nobile fratrurn*) Secretary. We also understand that Wm. J. McAlpine, Esq., of the Erie road has been appointed Chief Engineer, and Hon. A. C. Flagg, Comptroller of the City, Treasurer. If they accept, we must say we think they will find themselves in the wrong box.

It is also stated that some \$50,000,000 have been subscribed to the stock of the company—by "men in buckram suits," we presume.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for d.o.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	82
Androscoggin and Kennebec... "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland... "	72	952,021	2,110	2,514,067	168,114	100,552	none	45
Port., Saco and Portsmouth... "	51	1,355,500	123,884	1,459,384	208,669	...	6	98
York and Cumberland... "	20	285,747	341,100	713,605	23,946	11,256	none	—
Boston, Concord and Montreal. N. H.	93	1,619,278	622,200	2,540,217	150,538	79,659	none	35
Concord... "	35	1,485,000	none.	1,485,000	305,805	141,836	8	107 1/2
Cheshire... "	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern... "	82	3,016,634	...	...	328,782	163,075	5	47 1/2
Manchester and Lawrence... "	24	717,543	...	...	...	...	6 1/2	90
Nashua and Lowell... "	15	600,000	none.	651,214	132,545	51,513	8	169
Portsmouth and Concord... "	47	...	...	1,400,000	...	...	none	...
Sullivan... "	26	...	...	673,500	...	...	none	21
Connecticut and Passumpsic... Vt.	61	1,097,500	550,000	1,745,516	...	...	none	37
Rutland... "	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Vermont Central... "	117	8,500,000	3,500,000	12,000,000	...	...	...	12 1/2
Vermont and Canada... "	47	1,500,000	...	1,500,000	Leased to the Vt. C.	...	Cent.	100
Western Vermont... "	51	392,000	700,000	...	Recently opened.	...	none	...
Vermont Valley... "	24	...	...	...	...	...	none	...
Boston and Lowell... Mass.	28	1,820,000	...	1,995,249	388,108	130,881	7 1/2	94 1/2
Boston and Maine... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	102 1/2
Boston and Providence... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	86 1/2
Boston and Worcester... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101
Cape Cod branch... "	28	421,295	171,800	633,906	60,743	30,056	2 1/2	45
Connecticut River... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern... "	75	2,850,000	500,000	3,120,391	488,793	241,017	7 1/2	91
Fall River... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	106 1/2
Fitchburg... "	66	3,540,000	112,305	3,623,073	574,574	232,787	6	93 1/2
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7 1/2	117
Norfolk County... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony... "	45	1,964,070	282,300	2,298,584	322,213	101,510	none	90
Taunton Branch... "	12	250,000	none.	307,136	137,406	24,399	8	...
Vermont and Massachusetts... "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	13 1/2
Worcester and Nashua... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4 1/2	59 1/2
Western... "	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6 1/2	99
Stonington... R. I.	50	...	467,700	...	240,572	110,892	...	61
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	...
Canal... Conn.	45	...	...	...	...	...	none	...
Hartford and New Haven... "	72	2,350,000	800,000	3,150,000	639,529	294,269	10	118 1/2
Housatonic... "	110	...	...	2,500,000	329,041	168,902	none	...
Hartford, Prov. and Fishkill... "	50	...	...	In progress	69,629	...	none	...
New London, Wil. and Palmer... "	66	558,861	800,000	1,511,111	114,410	...	...	...
New York and New Haven... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	99
Naugatuck... "	62	926,000	440,000	...	...	...	...	...
New London and New Haven... "	55	750,500	650,000	1,380,610	Recently opened.	...	none	45
Norwich and Worcester... "	54	2,121,110	701,600	2,598,488	267,561	116,965	4 1/2	51 1/2
Buffalo and New York City... N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	...	none	85
Buffalo, Corning and N. York... "	132	...	...	In progress	...	...	...	65
Buffalo and State Line... "	69	879,636	872,000	1,921,270	Recently opened.	...	...	130
Canandaigua and Niagara F... "	50	...	...	In progress	...	...	...	...
Canandaigua and Elmira... "	47	425,509	582,400	987,627	76,760	39,300	none	68
Cayuga and Susquehanna... "	35	687,000	400,000	1,070,786	74,241	23,496	none	...
Erie, (New York and Erie)... "	461	9,612,935	24,003,865	31,301,806	3,537,766	1,691,623	7	74 1/2
Hudson River... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	65 1/2
Harlem... "	130	4,725,250	977,463	6,102,935	681,445	324,494	5	51 1/2
Long Island... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	28 1/2
New York Central... "	504	22,858,600	2,111,824	24,974,423	...	...	...	111 1/2
Ogdensburg (Northern)... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	26
Oswego and Syracuse... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal... "	23	174,042	131,000	349,775	Recently opened.	...	none	...
Rensselaer and Saratoga... "	25	610,000	25,000	774,495	213,078	96,737	...	...
Rutland and Washington... "	60	850,000	400,000	1,250,000	Recently opened.	...	...	...
Saratoga and Washington... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland... "	32	237,690	100,000	329,577	Recently opened.	...	...	33
Troy and Boston... "	89	450,936	700,000	1,043,357	Recently opened.	...	...	...
Watertown and Rome... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	100
Camden and Amboy... N. J.	65	1,600,000	...	4,327,499	1,388,395	478,413	10	145
Morris and Essex... "	45	1,022,420	128,000	1,202,325	149,941	79,262	4	...
New Jersey... "	31	2,197,840	478,000	3,245,720	603,942	316,259	10	131
New Jersey Central... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3 1/2	...
Cumberland Valley... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	...
Erie and North East... "	20	600,000	...	750,000	Recently opened.	...	...	125
Harrisburgh and Lancaster... "	36	830,100	713,227	1,702,523	265,327	106,320	8	...
Philadelphia and Reading... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	72
Phild., Wilmington and Balt... "	98	3,850,000	2,403,276	6,813,239	667,735	383,501	5	76 1/2

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	91
Philadelphia and Trenton.... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	102½
Baltimore and Ohio..... Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	46
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.. "	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	70
Richmond and Petersburg.. "	22	685,000	.....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac.... "	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side..... "	62	1,357,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,036	In prog.	176,485	74,902	none	61
Virginia and Tennessee..... "	60	3,000,000	1,500,000	In prog.	.....	.....	none	98
Winchester and Potomac.... "	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.... N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina. S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester. "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia..... "	211	4,000,000	1,214	.....	934,424	456,468	7½	.....
Macon and Western..... "	101	1,214,283	168,000	1,596,283	296,581	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point. "	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia.. Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.. "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.... Ky.	38	1,430,150	900,000	In prog.	.....	.....	.....	.....
Frankfort and Lexington.... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh.... Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, and Erie..... "	95	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.... "	135	3,027,000	408,200	3,655,000	777,793	483,454	12	116½
Columbus, Piqua and Indiana. "	46	.....	.....	2,000,000	.....	.....	.....	98
Columbus and Lake Erie.... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton "	60	2,100,000	500,000	2,659,653	321,793	200,967	.....	99
Cincinnati and Marietta.... "	.....	.....	.....	In prog.	.....	.....	.....	72½
Dayton and Western..... "	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	70
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,370,784	.....	2,634,157	526,746	314,670	10	119½
Mansfield and Sandusky.... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	95
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	97
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley.. "	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd "	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	.....
Xenia and Columbus..... "	54	1,092,137	119,500	1,257,714	237,506	135,363	15	116
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	.....
Indiana Northern..... "	131	.....	.....	.....	Recently opened.	.....	.....	115
Indianapolis and Bellefontaine "	83	.....	.....	.....	.....	.....	.....	105
Lawrenceburg and Ind..... "	90	.....	.....	In prog.	.....	.....	.....	82
Lafayette and Indianapolis.. "	62	.....	.....	.....	Recently opened.	.....	.....	78
Madison and Indianapolis.... "	88	1,650,000	750,000	2,400,000	516,414	268,075	10	65
Peru and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	70
Terre Haute and Indianapolis "	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.... Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.... "	113	2,400,000	4,000,000	4,600,000	.....	.....	.....	136
Illinois Central..... "	.....	.....	.....	.....	.....	.....	.....	100
Galena and Chicago..... "	92	1,932,361	500,000	In prog.	473,548	286,152	.....	116½
Michigan Southern..... Mich.	815	2,499,410	2,629,000	6,430,246	592,187	298,046	.....	108
Michigan Central..... "	282	4,000,000	4,067,396	8,614,193	.....	.....	8	.....
Pacific..... Mo.	88	1,000,000	none	In progress	Recently opened.	.....	.....	.....

Share and Money Market.

We are not yet able to report any particular improvement in the Share or Money Market. For all purposes money continues very tight, while for speculation, or for carrying on our public works, etc., it is hardly to be had on any terms. The consequence is, that most of our railroad companies, whose works are in progress, are in distress for money, and their wants add materially to the present stringency. The ordinary sources of supply are suddenly cut off, and where companies are somewhat extended, and where the domestic means cannot be made available, or are not sufficient to their wants, we see no other course for them to pursue but to curtail their operations to their means. Under the present state of the money market such must be the result, and the sooner our companies prepare for it, the better.

The present stringency contrasts strikingly with the easy money market, and the activity which prevailed a year since; and the great depreciation of railroad securities of all kinds, ranging in almost all cases from 10 to 20 per cent., naturally suggests the enquiry whether the usefulness of our railroads and their value in investments of capital, have been over estimated, and whether the confidence felt in these works a year since was well placed. This inquiry, which to a certain extent is the result of a distrust caused by the extreme depression of prices, may be best answered by reference to the *earnings* of the roads. In the case of every road certain results are predicted,—a given income upon their *cost*. When this is realized, a work may be said to be *successful*. Subjected to this test, we can hardly name a road that has been constructed the past five years, that is not eminently successful. We know of no completed road, in which the public are generally interested, that has not earned an ample return upon its *cost*. So far are our roads *successful*; and the fact that capital is suddenly withheld from them by an extraordinary state of affairs no more invalidates the soundness and value of these works, than the sudden decline in *Consols*, the safety of those securities. The earnings of our roads were never so large as at the present moment, and these, from the rapid development of the country, and the opening of *new*, which add largely to the business of the old roads, are increasing much faster than the cost of our roads. Every day's expense is calculated to increase the confidence felt in railroads as *property*.

The following table will show the earnings of several roads for October, compared with the corresponding month of the past year, viz:

	The earnings of the following roads for the month of Oct. are as follows:	1853.	1852.
New York and Erie.....	\$552,995	\$376,833	
Hudson River.....	153,258	104,309	
Michigan Southern.....	220,804	134,737	
Ohio and Penn.....	81,039	41,741	
Milwaukee and Miss.....	41,377	15,072	
Rock Island and Chicago...	67,097	new.	
N. York and N. Haven.....	93,252	64,524	
Norwich and Worcester....	31,867	24,886	
Cincinnati, Hamilton and Dayton.....	38,065	30,001	
Totals.....	\$1,282,774	\$797,113	
	797,113		
Increase.....	\$485,661		
Equal to 60 per cent, or over 50 per cent deduct.			

ing the earnings of the Rock Island road. We think the increase for the whole country for October, will be at least thirty-three per cent over the past year.

The following is a statement of the deposits and coinage at the Philadelphia Mint during the month of October:

GOLD.	
Double Eagles.....	\$860,685 00
Half Eagles.....	118,625 00
Quarter Eagles.....	239,660 00
Gold Dollars.....	582,956 00

Total.....\$1,801,926 00
In Bars.....3,515,236 87

Total Gold.....\$5,317,162 87

SILVER.	
Half Dollars.....	\$218,000 00
Quarter Dollars.....	775,000 00
Dimes.....	154,000 00
Half Dimes.....	63,000 00

Total.....\$1,210,000 00

COPPER.
Cents.....\$3,500

GOLD BULLION DEPOSITED.
From California.....\$4,327,000
From other sources.....125,000

Total.....\$4,452,000
Silver Bullion deposited.....\$620,000

The total gold deposits at the Mint in the first ten months of the last three years, compare as follows:

	1851.	1852	1853
Gold.....	\$36,795,526	\$50,439,354	\$46,146,714

The total coinage of the first ten months of the present year has been as follows:

Gold.....	\$43,456,466
Silver.....	6,007,668
Copper.....	44,315

Total.....\$49,508,158

Ogdensburg, Clayton and Rome Railroad.

The contracts for grading, masonry and bridging of the Ogdensburg, Clayton and Rome railroad, were awarded Oct. 31st, for the whole line of road from Rome to Ogdensburg, except two sections in Jefferson county. The contracts are with strong companies; the whole work is to be finished by the 1st of Sept. 1854, and the rails are to be laid between Rome and Lowville, and between Ogdensburg and Philadelphia, making a distance of about 90 miles, within a year from this day.

Cleveland, Madison and Louisville Railroad.

We learn that a company has been organized at Cleveland for the purpose of building a railroad from Bellefontaine, via. Troy, to Ealon, to connect with the Madison and Lake Erie road. Individual stock subscriptions have been made to the amount of \$500,000, and the people of Cleveland and along the line of the proposed road, stand ready to increase these subscriptions to the amount necessary to put the road through in the shortest possible time.

Saubury and Erie Railroad.

The difficulties between the County Board of Philadelphia and the above company have resulted in the resignation of the presidency of the latter by Christopher Fallon. John Tucker, of the Reading railroad, takes the post temporarily.

Editorial Correspondence of the Railroad Journal.

BUFFALO, Oct. 20.

Our letter of yesterday was devoted chiefly to a description of the topographical features of the route occupied by the New York Central railroad and Erie canal, with a brief review of the rapid increase, and of the present amount of the movement both of persons and property over it. An appropriate supplement will be a short notice of the city of Buffalo, which is the key to this route, and the great point of embarkation of this commerce and travel between the eastern and the western states.

In our previous letter we stated that the results which the Erie canal has achieved, could not have been effected without a remarkable adaptation of the route to its objects. It is not only the best one to be found, from one extreme of the union to the other, but is absolutely the best that could be formed, in having an uniform slope to tide water. When we gain the crest of the ridge dividing the waters flowing into the St. Lawrence basin, and the Atlantic, we are still one hundred feet below Lake Erie, and when we reach Buffalo, which is situated at its outlet, we stand upon the great Central plateau occupied by the Upper Lakes. These lakes, instead of lying in a deep gorge, or valley, as might have been expected from general analogy, are placed upon a summit from which the waters flow each way into the sea.

The dividing ranges between the lakes and the Ohio and Mississippi rivers, on the south and west, are in some cases only a few miles from the former, and in some instances so low that in seasons of high water, boats pass from one to the other. The room where I now write, which is elevated about fifty feet above lake Erie, is some thirty or forty feet above the highest ridge which separates the Illinois river from lake Michigan. It was the original plan to feed the Illinois canal from this lake, for which a cutting of only eight feet was required; but as this would have been through solid rock for some distance, it was deemed better economy to substitute a lock, and feed the level above the lake, from the Chicago river, without any cutting whatever. A dam of only a few feet high at this place, would turn the mighty torrent which is rushing past towards the gulf of St. Lawrence, into the Gulf of Mexico! These facts show how uniform is the elevation of the great plateau, and how slight has been the disturbance, forages, of the upper crust of the Great Valley. As geologists tell us that the Niagara river has been forty thousand years in cutting the channel it occupies from Lake Ontario to the falls, the balance of power on this continent must have been much better preserved than in Europe, and at vastly less expense.

The city of Buffalo being upon the same level with the great interior basin of the country, and being the point where its immense commerce debouches, if we may use the term, toward the sea, the value of its position will be at once appreciated. The lakes, of themselves afford an unrivalled medium of internal commerce. This commerce, before the opening of the canal had hardly an existence, nor was Buffalo anything more than an insignificant village. In 1820 it had a population of only 2099. In 1830, five years after the opening of the canal, its population went up to 8,668. In 1840, it numbered 18,213 and in 1850, 42,216 inhabitants. Recently the area of the city has been

enlarged so as to take in neighboring villages, which were in fact parts of the city, though under different organizations; and competent judges place its population at the present time, as high as 65,000. We presume that this is not an extravagant estimate. Its progress at the present time, is much more rapid than at any former period of its history. It is admirably built, and its principal street would do credit to the city of New York, to which, in its broad avenues, its spacious and elegant structures, in the activity and bustle in its streets and upon its docks, it bears a striking resemblance.

The growth of its commerce has kept pace with its population. The following statement will show the ratio of increase of some of the principal articles of export sent East, for a period of years:—

	1835.	1840.	1845.
Flour, bbls.....	86,233	633,790	717,406
Wheat, bushels.....	95,071	881,192	1,354,990
Corn, do.....	14,579	47,885	33,069
Butter, cheese, lard, lbs.....	1,030,632	3,422,687	6,597,007
Wool, lbs.....	140,911	107,794	2,957,007

	1850.	1851.
Flour, bbls.....	984,430	1,106,353
Wheat, bushels.....	3,304,647	3,668,005
Corn, do.....	2,608,967	5,789,842
Butter, cheese, lard, lbs.....	17,534,981	11,102,282
Wool, lbs.....	8,805,817	7,857,907

The exports East were through the Erie canal. Of the three articles first named, nearly the whole were received from the Western states.

We have not before us the means of presenting a comparative statement of the arrivals and clearances by the Lake for a series of years. For 1851 they were as follows:

Arrivals.....	4,533
Departures.....	4,517
Tonnage.....	1,536,189
Do.....	1,551,946
	3,087,530

We have not before us the means presenting a corresponding statement for 1852. Allowing, however, the same ratio of increase for the two past, as for the preceding years, the number of arrivals and departures for 1853 will exceed 10,500, and the tonnage 4,000,000 tons.

For 1851 the commerce of the ports were as follows:

Imports.....	731,462 tons, valued at...\$31,889,951
Exports.....	204,536 " " " 44,201,720

Totals. 935,998 \$76,091,671

The increase in 1851 in the value of the imports and exports over those of 1850 was \$9,064,153. At the same rate, the commerce of the port for the present year will equal \$90,000,000, a value which is greater than that of any city in the United States, with the exception of New York and New Orleans, and conclusive evidence of the immense internal commerce of the country.

The imports of Buffalo are chiefly the products of the western states. The exports consist mostly of merchandise received by way of the canal, and forwarded west. This commerce, vast as it is, is increasing with extraordinary rapidity. In addition to the produce of the north-west, the tobacco and cotton of the southern states, are already beginning to take the route of the Erie canal to market. Upon the enlargement of this work we see no reason why it will not command the trade of the Mississippi Valley above the mouth of the

Ohio, and a large amount below the point. The enlarged canal will have more than double its present capacity, and will be equal to a movement of 5,824,000 tons, in either direction, or 11,648,000 in the whole. The tonnage of the boats will be increased from 75 to 224 tons, and it is estimated that 26,000 lockages may be made each way. The enlargement will reduce the cost of transportation to one half the present charge, a saving in which the whole country will participate.

The present growth of Buffalo has been chiefly due to the Canal. Although the Central line of railroad was completed January, 1, 1843, the imposition of canal tolls upon all freights carried by it, restricted its business of the road almost entirely to passengers. These impositions have been removed from all the roads in the state, and all are now active competitors of the canal, for the business of which it formerly had an exclusive monopoly. These are so many new, and in many particulars, much more potent agents in their influence in promoting the prosperity of a city than even such a work as the Erie Canal, and the influence in the present case will be seen in the much more rapid growth of Buffalo, than at any period in her previous history.

With the completion of the Buffalo and Brantford, the Buffalo, Corning and New York railroad, and the road now in progress to the Pennsylvania Coal Fields, Buffalo, will have all the railway accommodations needed by her people, or that can contribute materially to the progress and welfare of the city. They will radiate in every direction, and bring her into connection with every important locality in the state and in the whole country. These roads will be the following:

- Buffalo and Niagara Falls.
- Buffalo and Lockport.
- New York Central.
- Buffalo, Corning and New York.
- Buffalo and New York City.
- Buffalo and Alleghany, (coal road.)
- Buffalo and State Line.
- Buffalo and Brantford, (in Canada.)

These roads not only give a choice of routes to New York, but to the western states. They will give to the city all the trade to which it is entitled, and will at the same time render it a convenient point in the great line of travel between the east and west.

The most important road entering Buffalo from the east is the *Central*. Of those completed, the next in rank is the *State Line* road. The two roads in progress, the Buffalo and Brantford, and the Buffalo and Alleghany, may be regarded as indispensable to the highest prosperity of the city. The former will give to it the trade of the Peninsula of Canada, one of the richest and most productive portions of this continent, a trade which bids fair, eventually, to equal in importance what this city now receives from the State of New York. Roads running west from Buffalo are much better adapted to increase its trade than those running east, owing to the tendency of the trade of the interior toward the city of New York.

The Buffalo and Alleghany road is indispensable as a means of ensuring a constant and steady supply of coal. At the present time the city is supplied from Erie. The coal reaches the lake through the Mahoning canal. This work being closed by ice a considerable portion of the year, involves the

necessity of laying in large stocks in the fall, which, with the present circuitous mode of transportation adds largely to the cost of this indispensable article. The Alleghany road will run direct to the coal fields, which it will reach in a distance of less than one hundred miles. The bituminous coal of Northern Pennsylvania is well known to be of the best quality; and as it is found in the greatest abundance above water level, it is believed it can be delivered in Buffalo, over the proposed road, at a cost, to the consumers, not exceeding \$2 50 per ton. At this price, the people of Buffalo expect to render their city the seat of manufacturing establishments, which shall in time fully equal its commercial interests. We know of no places more favorably situated to become manufacturing towns than the leading Lake cities. They can be abundantly supplied with coal at cheap rates. In no part of the world can all the prime articles of food be supplied at a cheaper rate, or in greater abundance. The climate is admirably adapted to a high development of mental and physical activity. The Lake constitutes an unrivalled medium for the distribution of fabrics to the consumer. The Sault Ste. Marie canal will furnish abundant supplies of fine copper, and the best iron ores in the world, which can very easily be brought into contact with coal found on the southern shore of Lake Erie. Upon the shores of the great lakes exist all the elements necessary to the formation of immense manufacturing communities, and will in time be surrounded by a vast population as consumers for the former. As sites for manufacturing, none of the Lake cities present superior advantages to Buffalo, while its greater wealth, and the more dense population by which it is surrounded, will enable it to take the lead in these new branches of industry.

An abundant supply of coal at Buffalo at cheap rates is a matter of great importance to the commercial marine of the lakes, and will render Buffalo still more than at the present time, the convenient point for the debarking of western produce designed for eastern markets. As the proportion of down to up freights, is as 4 to 1, most of the lake craft now return light to the upper ports. The construction of the Alleghany road would always give them a back freight, a full load in both directions. This fact, with the enlarged canal must forever establish Buffalo as the great entrepot of the commerce between the eastern and western States.

Chicago Locomotive Works.

We learn from the Chicago Press that a meeting was held recently at which \$65,000 was subscribed, and steps taken to perfect the organization of this company. It is intended to start with \$150,000 capital.

Among the stockholders are Thos. Dyer, Col. E. D. Taylor, Wm. H. Brown, E. H. Haddock, Geo. Steele, B. W. Raymond, I. H. Burch, E. W. Willard, A. G. Throop, and W. H. Scoville.

Northern Indiana Railroad Company.

At the annual election of Directors of this company, held at La Porte on the 25th ult., the following persons were elected Directors:

John B. Jervis, George Bliss, John Stryker, Edwin C. Litchfield, Charles Butler, Hugh White, Ezekiel Morrison, Elisba C. Litchfield, James Archibald.

Gauge of Railroads.

The railroad system of our country furnishes abundant examples of a want of conformation of gauge to an established standard. The question of the relative superiority of the gauges already laid down is not, however, closed from discussion. The common gauge of 4 feet, 8½ inches, being largely adopted and being still the standard of nearly all of the older roads, it is to be supposed that good reasons should exist for any change, reasons which must be based upon the mechanical and practical superiority of the standard proposed for adoption, and in no case for the purposes of obstruction or competition.

The advantages of continuous connections are sufficiently known so as not to require elaboration in this place. Since it has been determined to bridge the Mississippi at Rock Island, there is probably no road in America that would not be benefited by a conformation to a standard gauge. It is not urged that the great advantage of uniformity of gauge consists in the facilities for doing a through business without breaking bulk, for the local trade, which is independent of local divisions of a railroad system, is embarrassed as much in passing a break of gauge as if the source and destination were hundreds of miles apart; while the relative disadvantage is increased in inverse proportion to the distance for which the movement is made.

The objections against exchanging cars with distant roads do not have the same force in doing a business with adjoining roads, as in the latter case the empty cars can be at once returned to the owners without passing through third hands. If the best gauge be adopted, which would secure uniformity, it would not then be imperative that exchanges of equipment should be made if it was found that countervailing disadvantages existed in such a practice.

The changes made from the common or original gauge have always consisted in an increase of its width. The best gauge, without reference to any of those already in existence, cannot be determined except by a long course of experiment, but among those before us, experience, we believe, has indicated the most economical.

The arrangement of machinery of the locomotive has always been a favorite point for the advocates of a change of gauge, as it was premised that the prevalent gauge was not sufficient for developing the capacity of the engine. The experience of the present day has, however, adapted the engine to the narrowest gauge, and with a capacity not contemplated by any railroad men at the time this objection was originally urged. This has been attended with the greatest superiority of construction and perfection of action over the engines of former times; indeed, so perfect is the adaptation of the engine that it is questionable if an extensive change of gauge does not impair the value of its proportions and arrangements. We believe it does, and shall give our reasons in due course.

Throwing the question of gauge back on to its own merits, independent at least of the locomotive, (making that a separate consideration,) we have the illustrations for our argument in the extremes of the common and the New York and Erie gauges.

The least limit of the width of gauge is that which will afford the necessary capacity and in-

sure the necessary steadiness of the carriages to be used. The most advantageous application of the power of draught is that where the load tends to move in the direction in which the power is applied. The position of the wheels, or in common phrase the "tracking of the wheels" determines the direction in which the load tends to move. This direction may not be essentially the same as that in which the power is applied, in which case the flanges of the wheels are forced against the rails and produce much friction, or "binding." With the truck frame, in almost universal use in America, the center pin becomes a fulcrum upon which the wheels turn and adjust themselves to the track and to the direction of the draught. The distance of the wheels from this fulcrum is the amount of leverage which a resistance on one rail has to change the position or "tracking" of the wheels, and to give the car a tendency to move in a direction out of the line of traction. The truck, moreover, cannot turn beneath the car except by slipping the wheels on one or the other side, and the wider the truck the greater is the amount of slip and friction in obtaining the same angular change of position.

These considerations affect the subject of the relative resistances of the gauges and will be more fully considered hereafter.

An important, and with some a primary question in this discussion is the relative capacity of the gauges. The same load can be carried upon any gauge by varying the relation of the length, width, and depth of the train. To reduce the length of a train of given weight the width must be increased; the friction, dependent upon the weight, is not lessened, the resistances from concussions, etc., will be diminished by diminishing the number of wheels, but increased by increasing the distance between the rails for the reasons already given. The atmospheric resistance, upon any assumption, cannot be diminished, as while the weight and bulk are unchanged the *frontage* is increased.

There is one important consideration in any attempt to increase the capacity of a train by adding to its width and to that of the track on which it is carried. The influence of heavy loads on ordinary rails has been found to be a practical limit to the increase of weight. Now, to concentrate the bulk of a train by increasing its width, involves *concentration of weight*. As the train is widened no more wheels are added and the weight is concentrated, involving increased wear and deflection of rails, and of the road bed.

It will not, however, require any especial demonstration to show that the circumstances of railroad carriage have not yet made the capacity of the road an obvious and necessary consideration, and we may assume that so far as moving freight or extremely heavy passenger trains is concerned the capacity of the locomotive is the capacity of the road. By the capacity of the locomotive we do not mean its *size* but its *load*, a distinction which, while it may not appear to be founded on a difference is, nevertheless, authorized by abundant evidence that engines of the same size, on different gauges, do not have the same useful effect.

The advantages claimed for the broad gauge have been stated in previous articles in the *Journal*, but may again be enumerated to direct attention more clearly to both sides of the question.

1. The track being wider a depression of either rail produces less transverse inclination and preserves more nearly the equal distribution of weight on all of the wheels.

2. The center of gravity is relatively lowered, whereby the cars run steadier and are less likely to leave the rails.

3. With an equal relative height of center of gravity the wheels may be enlarged, whereby the axle friction is reduced.

4. Having the same steadiness the cars may be increased in width, giving better stowage of freight and more comfortable accommodations for passengers.

These are the sum of the advantages claimed for the cars for the broad gauge. They consist simply in less friction and superior accommodations, or, with the same friction and equal accommodations, more safety and steadiness, and more equal bearing on the rails. In either case some of these advantages are had at the sacrifice of some others.

Opposed to these assumed advantages, or as rendering them incapable of attainment, are

1. Increased resistance of a load supported on wheels at a wide distance apart, and due to the greater leverage of the wheels and axles to change their position under the car, and to acquire a tendency to run out of the line of traction. This resistance is encountered at every inequality in the resistances on both rails, either from obstructions on the rail, from unequal loading of the car, or from curves. The resistance is increased also by the greater intermediate distance at which the car is supported on the trucks, whereby the movements of the truck produce greater friction against the car, as the surfaces must move further to produce the same angular movement of the truck. Increasing the length of axles and distance between wheels tends to produce the increased resistance of drawing a load sideways instead of endways. In this respect a railroad with a single rail, if it could afford the necessary capacity and steadiness to the cars, would be mechanically superior to any system of double or triple rails, except that it would involve concentration of weight of which we shall speak hereafter. The friction of the journals is also increased in proportion as they are separated for the same reason already given that any force which operates to retard either wheel has a greater leverage, and therefore increases the side thrust against the bearing.

The resistances from "concussions" at high speeds are known to exceed those of friction and of the atmosphere. By concussions are understood all forces (except those from the atmosphere and gravity) which are exerted against the motion of the car in a longitudinal or transverse direction, the axle friction being due to vertical force. Concussions at joints, dragging of wheels, binding of flanges, etc., are all included in the general term "concussions," and it is to their resistance that we must charge the extreme consumption of power at high velocities. And as these resistances are indisputably increased by increasing the leverage of their force, an increase of width between the rails is equivalent to an increase of resistance.

2. Concentration of weight is the second objection. There is great temptation to this evil, in the use of the wide gauge. In fact, the extra strength of axles due both to wider gauge and larger wheels,

extra weight of car bodies, etc., almost necessarily involves concentration of weight. The result is known to be crushing or deflection of the rails, either of which is attended with a large expense for maintenance of track. Where deflection occurs, more power is required, the shocks from the load are increased and tend in a greater degree to destroy the road and the carriage; while the road-bed yields at successive points, eventually loosening and unsettling its foundations. Our own broad gauge roads have the heaviest equipments in the world.

3. The resistances are much greater on curves, and cannot be avoided by any limit of the radius of curvature. The difference in the lengths of outer and inner rail is always proportional, on any curve, to the difference of gauge.

4. By enlarging the wheels the leverage of the strain on the axle is increased whenever a curve is met. Besides, cast wheels of large diameter are more difficult of manufacture and are not as reliable. Besides also, of the weight of the wheels, (generally one fourth of the whole car,) is increased by an increase of size, in a greater proportion than in the advantages of reducing the friction. One wheel (of the plate form, which is the best for many strong reasons,) being of twice the diameter of another, and consequently having twice the leverage to overcome friction, has four times the weight.

It is in the increased resistances and in the concentration of weight involved in the broad gauge that it is mechanically inferior to the narrow gauge. Its advantages are neutralized in these circumstances. The lessened friction due to larger wheels is more than made up on ordinary curves and in the greater weight carried, as the car frames and axles are heavier, to possess the same strength as on a narrow road.

Superior accommodations for passengers involve also increased weight, and can be had on any road by increasing the proportion of dead weight to live weight. The extreme wide cars are not wide enough for any more than the usual number of passengers in narrow cars, and are yet wider than is necessary for the same number. All of their extra width and extra weight is mechanically wasted. The standard width of freight car affords all needed room for the stowage of any freight, as for instance the Erie road has nearly 2500 cars of the same width as for a narrow gauge.

The broad gauge engine is the next consideration in the discussion. The disadvantages of draught are such that we find the six feet track using engines of from 28 to 33 tons, for the same work as is done on the four feet eight and a half inch track with from twenty-one to twenty-four tons, a difference of weight alone of 33 per cent! The use of the 6 ft. gauge has shown its resistance as compared with the common track, as the proportion between an engine with 17 inch pistons, and one with 15 inches! an increase of surface of over 28 per cent.

This gauge, of six feet even, (the ultimatum of the broad gauge is 7 feet,) gives more room than is necessary for the arrangement of the machinery while its extreme width has induced a preference for the inside connected engine, of which we have spoken at length in a previous number of the *Journal*. The crank engine is therefore adopted with all its faults, on account of the unfortunate width of track.

While the inside connected engine is retained as a necessary attribute of the wide gauge, the narrow gauge has the advantage of allowing a larger size of driving wheel. The relative center of gravity is no higher in the outside connection of the narrow gauge than the inside connection, with same sized wheel on the wide gauge. The height of the center of gravity of engine is not perhaps, however, an essential point with those who advocate a broad gauge, as they generally prefer that arrangement of engine which involves the highest boiler.

So far we have placed the discussion on its own merits, without depending, to any great extent, upon illustrations of our conclusions. But the Erie road furnishes these in abundant instances. It is to be regretted that the claims made in favor of the gauge of this road should have never been realized. Let us see:

1. Equal bearing of weight on wheels. Neutralized from the ordinary weight exceeding the maximum on the narrow gauge, the Erie having the heaviest equipment in the country.

2. Larger wheels could be used. The Erie use 33 inches for all cars; other roads use 36 inches for passenger cars and 30 for freight.

3. Greater width of freight cars. Result: have been kept of the same width as on other roads.

4. From above, same load in less length of train. Lost from the reason given in No. 3. Would involve, besides, concentration of weight.

5. More comfortable passenger cars. Result:—the Michigan Central, (narrow gauge) have cars affording equal accommodations, safer, and having less dead weight.

6. Better arrangement of engine. Result: more room for "arrangement" than is wanted and the adoption of the crank engine with all its obvious and demonstrable imperfections.

7. Could get the same heating surface with shorter tubes. Result: the Erie road has the largest proportion of long tubed engines of any road in the country excepting the Baltimore and Ohio, which has far heavier grades.

8. Larger drivers. Result: only two engines on the road having drivers above the usual or standard size of six feet. Those two not used except for gravel and wood trains.

9. Larger engines working more economically. Result: the engines are necessarily larger (33 per cent heavier) to do the same work, and are working at a disadvantage as is shown by their contracted blast pipes.

Altogether, apart from the intrinsic merits of this gauge, it requires more land, wider cuts, embankments, viaducts and bridges, and ought to be laid with a much heavier and more expensive rail. It is a costly gauge, and requires a costly equipment.

As no reasonable claims can be urged for a gauge intervening between a four foot eight and a half inch and a 6 feet gauge, all such gauges can be regarded only as obstructions. They have produced one good however at the west, in encouraging the manufacture of cars upon the spot, and the manufacture of engines ought to and will soon follow.

The capacity even of the narrow gauge is beyond the demands of transportation, either in speed or capacity of trains. Its engines can be and have been arranged with 20 inch cylinders by 22 inch stroke, on the Balt. & Ohio road; 8 feet drivers on

the Camden and Amboy in America and on the London and North Western road in England; with two thousand two hundred feet of heating surface on the London and Northwestern road, and with a weight, on the same line, of 37 tons. Such extremes as these are perfectly admissible within the capacity of the narrow gauge, but are entirely beyond the wants of any legitimate transportation.

The present character of rails and construction of our roads limits the proper capacity of the locomotive to its distribution of weight. There are good reasons for believing that the locomotive is now developed. There is an analogy in all conditions of progress. There is a measure of means and of results. The railway has been wonderfully increased in capacity since 1830. But must this always continue to be the case? Must the child forever grow? Does not the development of a created work attain in time to its greatest useful efficiency, and has not the railway reached that point under the present principles of its construction?—We believe so.

Let us not forget the principles. Our loads must be arranged in the direction in which they are drawn; this is the principle of adjustment giving the least resistance; giving the greatest efficiency to our motive power. The train is flexible and easily admits of taking any length. Again, power in the locomotive brings weight, and this involves destruction of our road. When our motive power weighs all the road can bear, it must not be increased by widening that road and applying the additional power necessary to operate it. Z. C.

Central Railroad of Georgia.

William M. Wadley, Esq., the Superintendent of this road, has adopted the plan of making a monthly abstract of his pay rolls for transmission to the officers of other roads, whereby railroad companies may be enabled to make general comparisons of the extent and compensation of the operating and repair force for any definite amount of business. We believe the comparison of such statements, with the information such as accompanies the one by Mr. Wadley, would operate as a more direct test of the economy of working our roads than the publication of any other kind of information. Mr. Wadley has furnished us with an abstract of this kind, made up from the pay rolls of the Georgia Central road, for September, 1853.

From this we learn that the total number of employees of the company is 927, equalling 3,6-10 per mile for 257 miles of road and branches. Of this number there are 20 officers, 44 machinists, 32 blacksmiths, 29 engine men, 78 firemen, 85 carpenters, 26 masons, 38 warehouse men, 29 cotton yard men, 17 watchmen, 20 conductors, 67 train hands, 361 laborers, 21 station agents at way stations and 4 supervisors and 56 overseers on road repairs.

Of the machinists, eighteen receive \$1 per day, eleven \$2 25 per day, master machinists \$100, and \$150 per month respectively, while the remainder are employed at prices varying from \$1 25 to \$2 50 per day.

Of blacksmiths, seven receive \$2 per day, eight receive \$1 12½, while the others have from 75 cents to \$3 daily.

Of engineers, three receive \$60 per month, ten, \$85, and five, \$90 per month. The others receive from \$40 to \$75 monthly.

The larger number of firemen receive \$1 per day each.

Of conductors, four receive \$40 per month, five, \$50 and six \$60 per month; the others at intermediate prices.

The train hands are paid mostly \$1 per day.

Cotton yard and warehouse men and watchmen receive generally \$1 per day.

Of laborers the larger number (slaves) are paid \$12 50 per month.

The total amount of pay roll is \$21,378 37.

The following information relative to the character and business of the Georgia central road will facilitate comparisons of these statements with those of other roads.

Length of road, Savannah to Macon, 191 miles.
Augusta and Waynesborough branch, 27 "
Milledgeville and Eatonton branch, 39 "

Total miles of road and branches, 257 miles.
A day and night passenger train is run daily from Savannah to Macon, which, for September, gives as miles run, 19,100 "
57 freight trains left Savannah in Sept., 15,502 "
Mileage of Augusta and Waynesboro' branch, 1,674 "
Mileage of Milledgeville and Eatonton branch, 2,418 "
Lumber train running for repairs, 1,966 "
Gravel train, 594 "
Five irregular trains left Savannah, 1,910 "

Total mileage for September, 1853, 43,164 miles.

Earnings for September, 1853.

Passage and mails, main Stem	\$14,706 04
Freight do.	58,060 36
Passage and mails, A. & W. R. R.	594 23
Freight do.	354 29
Passage and mails, M. & E. R. R.	945 85
Freight do.	1,220 66
	<hr/> \$75,881 43

Total amount of pay roll	\$21,378 37
Amount of do. chargeable to new depot at Savannah	\$1,770 37
Amount of do. chargeable to new cars built over depreciation of old stock	453 32
Amount of do. chargeable to construction above original state of road	1,067 31

Total chargeable to capital, 3,291 00

Am't legitimately chargeable to expenses, \$18,087 37
Equalling 24 per cent. of total earnings.

Alexandria, Loudoun and Hampshire R. R.

The construction of this road, which is to connect the coal fields of Alleghany with tide water at Alexandria, cannot but be of the deepest interest to all the citizens in this region. The question heretofore has been as to the practicability of constructing a road across the Blue Ridge, east of the Shenandoah, and the mountains of Hampshire county. We regard this matter as at least approximately settled by the recent report of Charles P. Manning, Esq., the Chief Engineer of the company, to the Stockholders.

Mr. Manning has, for some time past, had five corps of engineers in the field, consisting of ten persons each, engaged in making surveys at different points along the line between Alexandria and Paddytown. In regard to that part of the route between Alexandria and the Shenandoah river, he presents the following as the results of the surveys as far as they have been completed. There are two practicable routes, one through Keyes' Gap and the other through Snicker's Gap,

within the limits of the following grades, viz: for grades ascending westward 79 2-10 feet per mile, grades ascending eastward 58 8-10 feet per mile, with curves of 1000 feet radius. On either of these lines a first class railroad can be constructed for two tracks, and provided with one, for a sum not exceeding an average of \$30,000 per mile, including tunnels. This would make the cost of the road from Alexandria to the Shenandoah river, by the Keyes' Gap route, (a distance of 65 miles,) \$1,800,000.

As to the surveys west of the Shenandoah, Mr. Manning says they have verified his expectations and confirmed his belief that a route can be obtained across the country to Paddytown, without exceeding the limits of grade and curvature assumed for the eastern end, at an average cost of \$50,000 per mile. The total distance from the Shenandoah to Paddytown is approximately estimated to be from 97 to 103 miles, which excess in length over a measured air line is deemed necessary to the acquirement of the proposed grades. Assuming the distance to be 100 miles, the cost of the western end of the road would be \$5,000,000. Thus it appears that the entire cost of the road from Alexandria to Paddytown will be near \$7,000,000.

Mr. Manning expects to be able in the month of January to make a report of facts sufficiently minute to develop all the merits and decide the great question of literal cost of construction.

Now that it is pretty conclusively demonstrated that a practicable route can be obtained for this great work, we hope to see it pushed forward with vigor. The advantages of its construction are too manifest to need any mention at our hand.—*Cumberland Miner's Journal*.

Journal of Railroad Law.

THE EFFECT OF SPECIAL AGREEMENTS WITH CARRIERS.

The fifth volume of Sandford's Reports of the Superior Court of the State of New York contains the notable case of *Stoddard and Lovering against the Long Island Railroad Company*,—a case which shows strongly the influence exerted in respect to commercial questions, by the National over the local courts.

The action was brought against the defendants as owners of the steamboat New Haven to recover damages for four cases of silk belonging to plaintiffs, which in January 1846 were at New York delivered on board of the said steamer, to be transported to Allyn's Point, and thence by railroad to Boston. The goods had been delivered for such transportation to Adams and Co., the common carriers at their office in New York. Shippers and consignees pay Adams and Co., freight for the whole route. On this occasion, they placed the goods on board of the New Haven, but they delivered the same to an agent of their own who took charge of the goods, and packed them in a crate furnished for the purpose. On the arrival of the boat at Allyn's Point, the crate containing the goods, from the gross negligence of the hands of the boat, fell over-board, and consequently the silks sold for \$1257 less than they otherwise would have done.

The defendants admitted themselves to be owners of the New Haven, which they had purchased from Cornelius Vanderbilt. It was proved that there was a special agreement between Vanderbilt when owner and Adams and Co., which agreement was by mutual consent renewed and adopted by defendants upon their becoming owners of the boat. By this agreement, Vanderbilt was bound to transport on the Norwich line of steamers, to which the New Haven belonged, on each passage between New York and Norwich, one messenger

and two crates of specified size. Adams & Co. agreed to be alone responsible for any losses or damage to merchandise, etc., transported as aforesaid, and to advertise proper notices accordingly.

From the evidence produced upon the trial, it was quite doubtful whether the hands who occasioned the loss were acting of their own accord, or whether they acted under the direction of Gould, the agent of Adams & Co.

Judge Sandford charged the jury substantially—That if defendants were common carriers of the goods in question, they are liable for the loss sustained, although it happened on an extra trip, and whether or not they are such common carriers depended upon the question whether the goods were in their keeping at the time of the loss.

If Adams & Co. were defendant's agents, or if defendant had authorized plaintiffs to believe them to be such agents, the jury would be warranted in finding that the goods were in defendant's keeping as common carriers, and that they were liable for the damage sustained.

On the other hand if plaintiffs dealt with Adams & Co., as principals, the defendants are not liable as common carriers, but Adams & Co., are alone responsible.

But it is contended that defendants are not merely liable as common carriers, but also upon the distinct ground of having been guilty of gross negligence.

To determine this, the jury will inquire whether the hands in running the crate ashore acted of their own accord, or whether they acted under the direction of Gould, the agent of Adams & Co. If Gould assumed to direct the operation, the defendants are not liable on this ground of negligence. But if the crew acted without reference to Gould's wishes, the defendants are liable, and this is so, although the Captain and First Mate had given them orders to the contrary.

The jury found for defendants. A motion was made for a new trial and denied, mainly upon the following grounds, on which was founded the opinion of Judge Duer.

1st. The liability of defendants as common carriers, was restricted by the terms of the special agreement between them and Adams & Co.,—and this restriction is valid in law, as was held in *Harden, vs. the New Jersey Steam Nav. Co.* 6 Howard Reports of the Supreme Court, 344. This being a commercial question the authority of the National Court is paramount.

2. But, notwithstanding the agreement between defendants and Adams and Co., the defendants remained liable for the wrongful acts or gross negligence of themselves or their servants, if any such acts there were. The plaintiff's claiming through Adams & Co., and being bound by their agreement the plaintiff's rights in this view of the case, must be tested by those of Adams & Co. But the jury having found that the goods at the time of the loss were in the keeping of a servant of Adams & Co., the defendants are exonerated and there is no ground for a new trial.

CONSTITUTIONALITY OF THE GENERAL RAILROAD ACT OF NEW YORK.

The following is the decision of the Court of Appeals, which lately, in consequence of a blunder, occasioned some little trembling among stockholders, the reporter having casually coupled the prefix *un* with the word *constitutional*.

The Buffalo & New York City Railroad, agt. Braynard.—The Court held the General Railroad Act to be constitutional; and it appearing that in regard to the other defects now complained of the defendants had not previously made any objections before the Commissioners or the Supreme Court, although they had ample opportunity so to do, the objections were to be considered as removed.

RAILROAD EMPLOYEES.

Antony Keary vs. C. C. & C. R. R. Co.—This case which occupied the District Court at Cleveland Friday and Saturday, was disposed of on Saturday evening. The jury returned a verdict for plaintiff for \$6050. Keary was a brakeman on a gravel train and was injured by a collision. The accident occurred by reason of the negligence of one Loper, who was engineer of the gravel train.

We understand that it is the intention of the railroad company to have the legal questions in the case reviewed by the Supreme Court. In the case of *Stevens vs. the Little Miami railroad company*, 20 Ohio Reports, the Supreme Court of Ohio decided that where a railroad company placed one person in its employ under the direction of another also in its employ, the railroad company was liable for an injury to the person of him placed in the subordinate situation by the negligence of his superior.

Judge Otis, who delivered the charge to the jury in the present case, so directed the jury, who brought in a verdict as above stated. The case in the 20th of Ohio Reports is directly in opposition to decisions in the States of New York, Massachusetts and also to the decisions of the English Courts. In the Ohio case Judge Spaulding dissented from the decision of the majority. And as we have stated it is the intention of the Railroad company to carry the question to the Supreme Court.

Norris' Locomotive Works.

The *Register* in a notice of recent improvements on Bush Hill, Philadelphia, gives the following account of the locomotive works of Messrs. Richard Norris & Son.

Among the manufacturing improvements is that of Messrs. Norris & Son, who have recently enlarged their establishment, until now they occupy a space of upwards of two acres of ground. The different departments of this mammoth locomotive works, are arranged in the best manner and contain facilities for the manufacture of locomotives, far surpassing those of any other establishment in this country or Europe. The steam hammer shop is on the south west corner of Schuylkill Sixth and Hamilton streets and is 104 feet long, and 80 feet wide. It contains two of Nasmyth's Patent Steam Hammers, 9 Smith's fires and a 10 horse power steam engine, which drives the fans for the furnace, as well as the Smith's fires. The iron yard adjoins this, 104 feet long and 40 feet wide. The truck-shop, at the north-east corner of these streets, is 68 feet on Schuylkill Sixth street, and 100 feet on Hamilton street, and the tank-shop adjoining, 30 by 100 feet. This building is also supplied with a 10 horse power steam engine.

The boiler shop extends to Fairview street 80 feet, and is 100 feet long on said street. These three latter occupy the lower story of one large building, while above, the rooms are divided into pattern shops. The completing shop on northwest corner of Hamilton and Schuylkill Sixth streets, is 60 feet by 179, and has stalls for finishing 12 engines. The second floor is occupied as a finish-

ing shop, and the third as a copper shop. An open space, 30 feet wide, extending the whole length, has a railroad, used for moving and loading the engines. Adjoining this is another large building, of the same dimensions, used for purposes similar to those the buildings on the opposite side of the area are used for. Another building on Hamilton street of 200 feet, and on Fairview of 254 feet, accommodates a large stationary engine of 100 horse power, additional smith shops, stables, coal yards, &c.

The principal blacksmith shop is at the northeast corner of Schuylkill Sixth and Fairview streets, 116 feet by 153, and contains 46 smith's fires and 3 trip hammers.

A passage way, 20 feet wide, leads from this apartment into a large yard, which separates the blacksmith's shop from a building three stories high, occupied as a finishing shop, planing-room and wheel shop. This has a front on Schuylkill Sixth street of 166 feet, on Morris street of 153 ft., and extends southward to the blacksmith's shop—the whole occupying a space of 252 feet on Schuylkill Sixth street, and 158 feet on Morris and Fairview streets. In this building has also been placed a stationary engine of 70 horse power, driving all the machinery of both blacksmiths, and finishing shops. The iron and brass foundries, carpenter shops, grindstone, paint and engraving shops, at the southwest corner of Schuylkill Sixth and Morris streets, are contained in a building 70 feet on the former and 103 feet on the latter street, which adjoins the counting-house, drawing-room and store rooms on Schuylkill Sixth street.

The whole number of hands employed in the works of Messrs. Norris & Son is 725. Since the works commenced in 1833, 723 locomotives have been constructed, and during this year 110 will be built. This firm has forwarded to England 24 locomotives, and upwards of 200 for the continent. The establishment is one of the most attractive in the city, and is daily visited by large numbers of citizens and strangers.

Circular of the Cleveland and Toledo Railroad Company.

On the first of September last, two railroad companies, which before that time existed as independent corporations, were consolidated into one company, under the name of the Cleveland and Toledo Railroad Company. This consolidated company took all the property and effects of the two corporations, and assumed all their liabilities.

One of the former companies was known by the name of the Toledo, Norwalk and Cleveland Railroad Company, and the other by the name of the Junction Railroad Company.

The first of these, (viz. the Toledo, Norwalk and Cleveland R. R. Co.) which is now called the Southern division of the Cleveland and Toledo Railroad Company, commences at the City of Toledo, and passing through Fremont, Norwalk, and several other flourishing towns, terminates at Grafton, where it connects with the Cleveland, Columbus and Cincinnati railroad, about twenty-five miles southwest of Cleveland. From thence, by the way of Cleveland, there is a continuous line of railway to the City of New York. At Toledo it connects with the Michigan Southern Railroad, and thus forms an important link in the great line of railway travel from New York to Chicago, and the country west of that City to the Mississippi river. This road is eighty-seven miles long, and is wholly completed, (unless the bridge at the City of Toledo, across the Maumee river, which is now passed by a steam ferry-boat, ought to be regarded as part of the road.) The bridge is now under construction, and will probably be finished early in the winter. This road through its entire length, was opened for travel about nine months since. Its present receipts are at the rate of about fifty thousand dollars per month, with an almost absolute certainty that they will be very largely increased as soon as the navigation of Lake Erie shall be suspended for the season.

The other (or Junction Railroad, as it was called, and is now named the Northern Division

of the Cleveland and Toledo R. R. Company,) commences at the City of Cleveland, and passing through the town of Elyria, Sandusky City, Maumee, and several other growing towns, terminates at Swanton, where it connects with the Northern Indiana Railroad. This line of road is one hundred and twenty-two miles long. That part of it (sixty miles) which lies between Cleveland and Sandusky City, has recently been finished, and the trains commenced on Monday last to run from Cleveland to Sandusky City, where it connects with the Mad River and Lake Erie railroad, and through it with Cincinnati—thus making through this line a continuous railroad from Cincinnati to New York.

The other part of this road between Sandusky and Swanton is in a state of such forwardness, that the Company's Engineer, on the 18th of this month, reports, that work to the amount of two hundred and sixty-five thousand dollars only remains to be done to complete the remaining sixty-two miles ready for the ballasting. This is exclusive of the bridge at Toledo, which will require an additional expenditure of thirty or thirty-five thousand dollars to finish it.

This last named road, when completed, will, in connection with the Northern Indiana Railroad, form a link in a continued railway from New York to Chicago, as well as from New York to Cincinnati, as already stated. As this road is but just opened, and in part only, a statement of its business cannot be made, and at present rests in opinion only. But any person acquainted with the Western country, and its railroad connections, will by a glance at the map perceive the power and importance of this road, as a link in these great lines of travel.

The united length of these two roads is two hundred and nine miles. The whole estimated cost of the construction of both roads (209 miles), including the machinery on hand at the date of the consolidation, is four millions and a half. These four and a half millions are represented in the following forms: two millions in the stock of the roads, which is paid in full; the remaining two and a half millions are provided for in the bonds of the Company, less than a million of which, are convertible into stock. The Company has sold of these bonds to the amount of \$1,600,000.

Forty per cent. of the receipts of the Company are absorbed by the expenses of working their roads, leaving for net profits sixty per cent. of those receipts. The Company, therefore, in the present partially developed condition of their road, are in the net receipt of thirty thousand dollars per month, or at the rate of three hundred and sixty thousand dollars per annum; which after paying one hundred and seventy-five thousand dollars for interest on two and a half millions of seven per cent. bonds, will leave one hundred and eighty-five thousand dollars of net profits to be divided out to two millions of stock, which is a fraction over nine per cent. per annum.

It may, therefore, from this view, be safely affirmed, that when both lines of the Company's roads shall be finished and developed, the stockholders may count upon dividends of ten per cent per annum, and leave in addition an accumulating surplus at the disposal of the Corporation.

S. F. VINTON,
President C. & T. R. R. Co.
E. LANE,
Former Pres't Junction R. R. Co.
New York, October 31, 1853.

New York Central Railroad.

The Albany Journal says the Central railroad company are pressing forward their improvements with unceasing vigor. There will soon be a double track the entire distance to Buffalo. By a notice elsewhere, it will be seen that proposals are to be received in a few days for preparing the line between Syracuse and Rochester for a second rail.

Ruttan's Ventilating Car.

Rochester, Oct. 26, 1853.

EDITOR OF RAILROAD JOURNAL—

Dear Sir: I notice in your paper of October 15th a letter from Mr. H. Ruttan referring to the removal of his Ventillation from a car belonging to the Central railroad company. The writer calls on me to give the reason for so doing.

The Ventillation seemed to answer a very good purpose in cool weather, but, after the intense heat came on in July there was great complaint from passengers, and I ordered the apparatus removed. In explanation I would say that to introduce the apparatus, and make room for the large stove the the seats of the car were elevated I think eight inches, this brought the heads of the passengers above the lower casement of the sash and the heat could not be endured. It is proper to say further that the car was one built several years ago and was not as high between-joints as those built the last two or three years. This was another reason of the intense heat, the seats were also, rather poorly put in, and some of them had got loose.

The foregoing were the principle reasons for removing the apparatus.

Yours Respectfully,
CARLOS DUTTON.

South Western Railroad of Indiana.

At a recent meeting of the directors of this company, held at Point Commerce, John H. Bradley was elected President, Jacob P. Chapman Secretary, and Thomas E. Hadley a director.

The Board accepted the proposition of Messrs. Story, Fuller, Cnaffier, and others, to build and equip the road, and for the erection of iron works and manufacture of iron upon the line.

It was announced that sufficient means had been subscribed to grade and bridge the road, and the location of the work for construction was ordered immediately.

A contract with the Ohio River and Wabash railroad company, (from Vincennes to Paducah,) for a connection of interests in through transportation was also ratified.

Evansville, Indianapolis and Cleveland Railroad.

Our types made us say in a recent number that the above road had been located permanently by the board at its recent session, on a straight line from Union to Cleveland, and from Evansville down the Valley of White River. We should have said that the road had been permanently located on a straight line from Union to Indianapolis, and down the valley of White river, on the east side of the river from Indianapolis to Evansville. The distance from Indianapolis to Evansville, we learn will be 150 miles. The distance from Evansville to Louisville by the Ohio river is 213 miles, and from Louisville to Indianapolis one hundred and twenty miles, the construction of this road will therefore make the travelled distance from Evansville to Indianapolis, one hundred and fifty miles, against three hundred and thirty-three miles by the present travelled route. The president and vice-president of this road were east last week, and we learn made the necessary monetary arrangements for the time being, for the prosecution of the work.

Notice to Contractors.



NORTHERN CROSS RAIL ROAD, STATE OF ILLINOIS.

MAPS, profiles and estimates for the work necessary to the complete construction of the NORTHERN CROSS RAILROAD, will be exhibited at the office of the company in Quincy, on and after the 12th November and proposals for the work are requested from contractors.

Meanwhile, as the preliminary lines have been taced on the ground which do not vary materially from the probable location, and as the work will be let by quantities with equitable provision for changes, it is entirely practicable by visiting the ground to obtain all the most important information necessary to regulate the bids.

The route extends from Quincy on the Mississippi river, in a direction east and north to the dividing ridge between the Mississippi and Illinois rivers, thence about midway between those rivers to Galesburg, in Knox county, a distance of about 100 miles. At Galesburg it connects with other roads leading to Chicago. The country through which it passes is well settled, healthy and fertile, unsurpassed in these latter particulars on this continent, and, as it is contemplated to build a road of the first class common in the United States, the work will be of sufficient magnitude to make the execution desirable including at many place good work for the winter.

The line will be divided into sections, and proposals will be received for the construction of one or more up to the whole road, the propositions being made for the grading and masonry-bridges, ties and sills—and complete construction, (excepting depots,) all in a single contract or separately for each item.

Contracts will not be closed before the 25th November, nor sooner thereafter than to afford sufficient time to decide on the most satisfactory offer.

Specifications for the mode of construction, with maps and profiles of the preliminary lines, may always be seen at the office in Quincy.

Quincy, Illinois, September 26th, 1853.

N. BUSHNELL, President.
W. H. SIDELL, Chief Engineer.

NOTE. From the point where the line to Galesburg leaves its easterly direction to turn northerly, an extension is projected to the Illinois river. This will be about 30 miles long, terminating opposite Meredosia, where it connects with the main line of The Great Western Road, which extends from thence east through the capitals of Illinois, Indiana, Ohio, &c. The construction of this part of the line was begun as a State work about fifteen years ago, and abandoned after a large sum had been expended in the graduation. The company will be ready to negotiate for its construction as a separate work.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Wason's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

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Cincinnati Ohio.

Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

HENRY TANNER vs. the Hudson River Railroad Company. Circuit Court of the United States for the Northern District of New York.

THIS was a suit brought by the plaintiff for an alleged infringement of letters patent granted to him as assignee of the inventors, L. H. THOMPSON and A. G. BACHELDER: 'for an improved Railroad Brake', by the use on the said road of brakes made on plans, alleged to have been invented by NEHEMIAH HODGE and also by F. A. STEPHENS and purchased by the said defendants, from the said Hodge & Stephens and also for use of the plan as patented to said Tanner.

The suit was noticed for trial at the October term of 1853, and put over the term by the motion of Defendant's Counsel by paying the costs of the term.

And thereafter the Defendant's Counsel made overtures for a settlement which resulted in the defendant's acknowledging the validity of plaintiff's patent, the infringement of the said patent by the use of double acting brakes on the plan of the said patents, and the Company paying to the said plaintiff for the right to use the said invention and for the withdrawal of said suit the sum of ONE THOUSAND DOLLARS and costs.

Having read the above I do certify to the correctness of the statements therein contained.

October 25th, 1853.

THOMAS M. NORTH,
Secret'y and Attorney of the
Hudson River R. R. Co.

New York, October 26th, 1853.

This is to certify that I was of Counsel for the plaintiff in the above entitled cause, that the suit was brought for the recovery of damages from the Hudson River Railroad Company for the use on their cars of brakes, made on the plans described in the patents granted to Charles B. Turner on the 14th, of Nov. 1848, to Nehemiah Hodge on the 2d, of October 1849, and to F. A. Stephens on the 25th, of November 1851. That in preparing for the trial of the above entitled cause I made a careful examination of all the facts, given in the notice of defence and became satisfied that Thompson and Bachelder, from whom Tanner derived title, were the original and first inventors of the Double acting Brake covered by the plaintiff's patent and that the Brakes of Turner, of Hodge, and of Stephens are infringements of the said Tanner's patent.

CHS. M. KELLER.

Notice to Contractors.

SEALED PROPOSALS will be received at the Office of the Mississippi Central Railroad Company in Holly Springs, Mississippi until one o'clock & P. M., of Tuesday the 15th day of November next, for the Clearing, Grubbing, Grading, Bridging and Furnishing Crossties for about 22 miles of said road between the Town of Holly Springs and the State line of Tennessee.

Plans and specifications may be seen at Holly Springs after the 10th day of November next.

Proposals will be received at Granada Mississippi until one o'clock P. M. of Wednesday the 7th day of December next for the same description of work and materials on the line of road between Water Valley and Granada being about 30 miles. Plans specifications may be seen at Granada after the 1st. day of December next.

Proposals will also be received at Canton Mississippi until one o'clock A. M. of Wednesday the 14th of December next for the same description of work and materials between Canton and the Big Black river, a distance of about 12 miles.

Plans and specifications may be seen at Canton after December 10th.

The work will be divided into sections of one mile each and proposals will be received for each item separately or for the whole work on one or more sections.

The right of rejecting such proposals as are not satisfactory is reserved.

HEALY, HOLMAN, SIMS & CO.

Holly Springs Mississippi.

October 10th 1853,

A Valuable Farm in Illinois for Sale.

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Aug. 10, 1853. 3m

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Mr. Wm. Naish,

OF NEWPORT, MONMOUTHSHIRE,

INSPECTOR of Rails, begs most respectfully to acquaint Importers of rails, Engineers and others connected with the railroads of America, that he still continues to execute orders of inspection throughout the various districts of South Wales and adjacent Iron Works, and confidently refers to the satisfaction which his supervision has given during the last ten years, to exporters of rails and others as below named as a proof of the fidelity, carefulness and promptitude of his inspections.

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giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

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CERTIFICATES.

Engineer Department P.R.R., Altoona, Feb. 8, 1853.

This is to certify that Messrs. BAKER & WILLIAMS, of 403 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.

STRICKLAND KNEASS,
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.

Messrs. BAKER & WILLIAMS,
Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,
OLIVER W. BARNES,
3m40 Principal Assistant Engineer P. R. R. Co.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
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The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, November 19, 1853.

ENTERED according to Act of Congress, in the year 1853, by EDWIN F. JOHNSON, in the Clerk's Office of the District Court of Connecticut.

Railroad to the Pacific--Northern Route.

Its General Character, Relative Merits, etc.

By EDWIN F. JOHNSON, C. E.

(Continued from Page 726.)

CLIMATE, SOIL AND PRODUCTIONS.

The portions of the States of Illinois and Wisconsin through which the proposed route passes are perhaps unsurpassed in fertility of soil and healthfulness of climate by any other region of equal extent in the United States.

The former is now too well known to need any especial notice in this place. As it respects the latter, the fact of an increase in its population of nearly half a million of souls in the last ten years, and the unexampled advance in the value of real estate within its limits, is evidence that in all the essentials which serve to render it a desirable habitation for man, it is not excelled by any other of the States of the Union.

In addition to its capabilities as an agricultural region, its south-western portion is rich in the ore of lead to a degree unparalleled; more than forty millions of pounds being now sent to market annually; the business of mining being still in its infancy,

only waiting the influx of capital and the facilities of communication, now in progress, to be greatly augmented.

The northern portion is also equally rich in copper and iron, and also in timber. These valuable resources, combined with its salubrious climate, and exceedingly advantageous position, being bounded by the navigable waters of the Mississippi on one side, and by those of Lake Michigan on the other, and Lake Superior on the north, give assurance that Wisconsin is destined soon to occupy a position in the rank of the most populous and influential States of the Union.

The territory of Minnesota through which the proposed route passes from its eastern to its western limits, and in which is located the branch to Lake Superior, although situated to the north and west of Wisconsin, with its surface more elevated above the level of the sea, possesses for the most part a fertile soil, capable of yielding largely under proper culture, and has also a very healthful climate. It has, moreover, a bountiful supply of timber in its eastern and north-eastern portions, and is doubtless rich in copper, and is in all respects well adapted for the purposes of a residence for man, and has from the great similarity of its climate and character of its productions justly received the appellation of the *New England of the West*.

The mean elevation of its surface above the level of the sea is about 1200 or 1300 feet; the highest ground within its limits being that of the Coteau du Missouri, over which the line of the proposed road passes, and which, as stated, is from 2000 to 2300 feet above the sea, forming there the highest or culminating point, as already stated, in the great plain which stretches from the Gulf of Mexico to Hudson's Bay. This highest ground has only one-half the elevation of the prairie plains at the base of the mountains about the sources of the Platte and Arkansas, a difference in its effect on temperature equivalent to eight degrees of latitude.

Of the capabilities of Minnesota as an agricultural region, a very correct idea can be formed from the statements of those who have explored it and resided within its limits.

Its central portion is represented by Nicolet as "a most beautiful tract of land diversified by hills,

dales, wood-lands and lakes, the latter abounding in fish."

From the most elevated points "grand views are presented." "There can be no doubt" he states, "that in future times this region will be the summer resort of the wealthy of the land." The valley watered by the Tchansansan or Jones river is described as an "immense prairie, deemed by travellers, perhaps, the most beautiful within the territory of the United States."

The valley of the St. Peters presents "a level country interrupted by moderate undulations of the surface and beautified by intervening prairie, tracts of wood-land, and lakes." The river "has gently sloping borders divided into natural terraces, covered by a luxuriant grassy sward."

The valley of the Mississippi from the Falls of St. Anthony is "wide, with river banks of moderate elevation, forming a retreating succession of terraces, delightful to the view," ornamented with a variety of timber.

Farther up about the *Hauteurs des terres* "the forests are more varied and the surface is variegated with a great number of lakes."

The valley of Red river has already been described, and its beauty and fertility noticed. The portion lying west of the James and Red rivers and embracing the vast plateau of the Coteau du Missouri has already been described as destitute of trees. This is probably owing mainly to the elevation of its surface, the comparatively limited supply of rains and the absence of streams of sufficient size to check the advance of the fires which sweep annually over all the wild prairies of the west. It is this cause, more than any other, which has denuded them of their timber, and prevented its growth, since, wherever the fires have been prevented by the improvements which have been made in fencing off portions for cultivation, a spontaneous and vigorous growth of timber succeeds. It is, therefore, not unreasonable to suppose that in time, there may be in all the fertile portions of the prairie plains of the west a fair supply of timber, both for ornament and use.

Capt. Jona. Carver, who, more than eighty years ago, spent three years on the Upper Mississippi, gives substantially the same account of the country as Nicolet. He states that "the river St. Pierre flows through a most delightful country

abounding in all the necessities of life. At a little distance from the river are eminences from which you have views that cannot be exceeded," a country which promised, in his opinion, at some future period "to be an inexhaustible source of riches to that people who shall be so happy as to possess it."

In looking abroad over the vast and fertile region before him he seems to have been deeply and justly impressed in regard to its future destiny, for we find him indulging in the following remarks:

"To what power or authority this new world will become dependent after it has arisen from its present uncultivated state, time alone can discover, but as the seat of empire from time immemorial has been gradually progressing towards the west, there is no doubt, but that mighty kingdoms will emerge from these wildernesses, and stately palaces, and solemn temples with gilded spires reaching to the skies, supplant the Indian huts whose only decorations are barbarous trophies of vanquished enemies."

Col. Long, who explored the region from the upper Missouri to the Red river of the north in 1822 and 1823, states that at Pembina, one of the Selkirk villages situated on the Red river in the latitude of the northern boundary of Minnesota, "agriculture is attended with success, wheat, barley, millet, pulse, potatoes, and other culinary roots" are cultivated.

Gov. Simpson in his journal of a tour to the Pacific already referred to, in speaking of the valley of the Red river at Fort Garry, 80 miles north of Pembina, describes it as being, on the west side of the river, one vast prairie, and on the other side as wooded with birch, oak, elm, and pine. That the soil yields forty bushels of wheat to the acre, and even after being cultivated twenty years yields 15 to 25 bushels per acre.

He describes the summers "the same as in Canada though not quite so long." "Cattle maintain themselves in the settlements seven months, and are maintained five months." He says also that the shores of the Lake of the Woods are fertile "bringing in maize to perfection."

Sir John Richardson states that the vegetation in the valley of Red river, 1000 to 1200 feet above the level of the sea, is similar to what it is in the State of New Hampshire at the same elevation. The difference in latitude of these two portions of the country being not less than about five degrees equal to 350 miles nearly in distance.

Schoolcraft informs us that "corn is a profitable crop at Red Lake (which is situated north of the Hanteurs des terres,) and has for many years been furnished in considerable quantities from this lake to the posts on the Upper Mississippi, and even as far east as Fond du Lac." The specimens of grains, etc., from Minnesota now on exhibition at the Crystal Palace in New York, are very conclusive evidence of the agricultural capabilities of the portions of the territory under cultivation.

In respect to climate, all the authorities concur in stating that Minnesota and the region west to the mountains possesses in general a very pure atmosphere, dry and bracing, remarkably salubrious, and a temperature, although at times tending somewhat to extremes, is not on the whole unfavorable to the growth and maturity of both animals and vegetables.

Although as a general rule the average annual temperature of places upon the earth's surface diminishes as the distance from the Equator or latitude increases, this relation is frequently varied by local and other causes, such as proximity to mountains, and to the sea or large bodies of water; the elevation above the ocean level, the direction of the prevailing winds, and character and temperature of the surface over which they pass.

The mean annual temperature of places on our Atlantic coast is known to be eight or ten degrees lower than it is in places in the same latitude upon the western coast of Europe. Paris which is in latitude $48^{\circ} 50'$ N. has the same mean annual temperature with New York City which is in latitude $40^{\circ} 42'$ N.

If a line be drawn from the Atlantic coast westwardly, passing along that part of the surface of the country which has a mean annual temperature of 50° F. it will commence at or near Providence, R.I., thence run south westerly, curving northwardly into the larger valleys, reaching as far as Newburg on the Hudson and Harrisburg or Sunbury on the Susquehanna, and in its southwesterly course rising as it proceeds until it attains an elevation which will carry it across the Alleghanies, thence descending northerly by an irregular line along the western slope of the Alleghanies to Pittsburgh, which is 700 feet above the sea.

From thence through the central portions of Ohio and Indiana to the Illinois line. Thence inclining more to the north, and curving into the Mississippi and Missouri valleys it will cross the latter near the mouth of the Sioux river, from whence it will sweep around to the southwest along the surface of the immense inclined plane which forms the western slope of the Mississippi valley, rising as it proceeds, to some point where its elevation is high enough, and the Rocky Mountains are low enough to allow it to pass over on to their western slope. Thence by a very irregular line caused by the deep valleys and high mountain ranges, which are found west of the main range of mountains, in a northwesterly direction, probably by the valley of Lewis River and thence to the Pacific at a point, a little north of the latitude of 49° .

If the line of temperature of 45° F. be traced in like manner, it will be seen to commence at a point on the coast east of Boston, thence southwesterly by a similar line to that above described, curving further up the valleys of the Connecticut and the Hudson, reaching to Fort Edward on the latter; thence passing along the north slope of the valley of the Mohawk, across to the valley of Lake Ontario, and along the east and north sides of that lake. From thence across the Canadian peninsula to Lake Huron and across that lake, the State of Michigan and Lake Michigan to Green Bay in Wisconsin.

From Green Bay it curves to the South in its passage to the Falls of St. Anthony, on the Mississippi where it crosses that river. Thence it takes a south-west course curving again somewhat to the North in passing the Missouri and Mississippi valleys at a higher elevation than the line first named of about 1600 feet.

To the south of the line thus described is an isolated portion or zone of the Appalachian chain of mountains which has a maximum temperature

of 45° , a feature in which this line differs from the one first described.

If the isothermal line of 40° be traced, it will be found to differ very widely in places in position from the line of 45° . It will commence near the head of the Bay of Fundy, thence south westerly passing south of St. Johns N. B. From thence it will be deflected successively to the South by the mountains of Maine, New Hampshire and Vermont, to the valley of Lake Champlain. Thence along the western slope of the Green Mountains northerly, crossing the valley of the St. Lawrence in Canada and thence westerly along the valley of the Ottawa, north of Lake Huron and near to the north shore of Lake Superior. Thence to the North and East of Rainy Lake and the Lake of the Woods, to the south end of Lake Winnipeg. Thence westerly across the prairie plains of the Saskatchewan, passing to the north of the south branch of that river, and curving around to the south as it approaches the elevated country near the Rocky Mountains, at the sources of the Missouri, where if not elevated enough to pass through the depression which there exists in the mountain chain, it will take an easterly course, doubling the Wind river or Black Mountains, and like the lines already described, will go on south increasing in elevation until it finds some opening about 1700 feet higher than the last, through which it can enter the valley of the Del Norte or Colorado, and thence ultimately into that of the Columbia.

The three lines of temperature above described, will be found all of them to terminate on the Pacific shore to the north of the national boundary, the mean annual temperature at the mouth of the Columbia having been ascertained, by observations to be about 55° , while that of Puget sound is but little different, a temperature as mild as that of Baltimore on the Atlantic, and said to be more equable, so great is the difference and so much milder is the climate on the Pacific than it is on the Atlantic coast.

These isothermal lines or lines of equal temperature will exhibit more irregularities west than east of the Rocky Mountains, owing to the number and elevation of the mountain ranges into which the surface of the country is broken, and will present more isolated districts or zones differing in temperature from other districts lying either to the north or to the south.

A correct chart exhibiting these lines of uniform temperature would be a very interesting addition to the stock of geographical knowledge, a desideratum which cannot be fully realized until observations have been sufficiently multiplied for the purpose.

To return now to Minnesota.

The mean annual temperature of Fort Snelling, by a series of observations, as already stated, has been ascertained to be 45° . This is the temperature nearly of Portsmouth N. H., of Windsor Vt. and of Oxford and Cherry Valley, New York.

On the *Haut terres* of the Mississippi, at Itasca Lake, the most elevated of the many crystal sheets of water, that gem that portion of the State, M. Nicolet found the mean temperature to be $43\frac{1}{2}^{\circ}$ F. and he says that, "having taken great pains in determining the temperature I have a right to believe that it represents pretty accurately the mean annual temperature of the country under examination."

This is the mean temperature of Burlington, Vermont, where the elevation above the sea is only 346 feet, and is three degrees milder than the temperature of Williamstown Vt., which has the same elevation above the sea as Itasca Lake.

From this it is inferred that the mean annual temperature of Minnesota is no lower and is in all respects equally favorable with Vermont. Of the character and capacity of the latter as an agricultural region there is of course no doubt, and there should be none in respect to Minnesota. For the growing of grains, and for grazing it will be found to be surpassed by but few other States in the Union.

The temperature at the sources of the Mississippi as ascertained by M. Nicolet is in accordance with the temperature of other places lower down in the Mississippi valley. At Baton Rouge for instance in lat. 30° 28' N. the mean temperature is 65° 10' F. At St. Louis lat. 38° 36' N. it is 53° 50' F. the elevation above the sea 400 feet, and at Itasca Lake lat. 47° 14' N. elevation 1575 feet above the sea, it is as stated, 43½° F. equal to about 44' of latitude or 50 miles nearly along the slope of the valley for each degree of temperature.

Seymour, in his "Sketches of Minnesota," informs us that "early frosts in the latitude of St. Anthony appear to be uncommon. Frosts seldom occur before the 15th to 20th September, or first of October." He names a gentleman now a resident of Minnesota, formerly from Galena, Illinois, who was "delighted with the climate and thought it superior to Northern Illinois, as it was not subject to sudden changes." He states that he has heard "the same views expressed by many settlers in Minnesota who formerly resided some four or five degrees further south." He says also that "the climate is well adapted to corn, wheat, barley, oats, pulse, etc.," and that "the potatoes are of a quality superior to those raised in the Middle States." That "many farmers say their cattle have a dry coat in winter and suffer less from cold than in a warmer climate," and that cattle ran at large the preceding winter in lat. 46° N. and were in a thriving condition in the spring."

Mr. Schoolcraft in a more recent work than the one already referred to, reaffirms his previous statements. He says that "the *Zea Mays* is raised in great perfection in the valley of the Red river and of great lake Winnipeg, which is north-west of the Mississippi. In the settlements of Lord Selkirk the grain crops are unfailing." "Indian corn which cannot be cultivated at Sault Ste. Marie in lat. 46½° N. is raised by the Indians annually, and ripens early in August at the very sources of the Mississippi, and at Red lake north of them. The latter point is but a few seconds south of latitude 49° N."

"It is certain," he states, "that the extreme upper Mississippi escapes those icy winds from Hudsons and Batfins bays which are often felt during the Spring months in Northern Michigan and Northern Wisconsin."

M. Nicolet states that, of all the Indian nations visited by him "the Chippeways inhabiting the country about the sources of the Mississippi, are decidedly the most favored. Besides their natural resources of fish, wild rice and maple sugar, with the addition of abundance of game, the climate is found to be well adapted to the culture of

corn, wheat, barley, oats and pulse. The potato is of a superior quality to that of the middle states of the Union."

More has been said upon the temperature and climate of Minnesota for the reason that whatever character it possesses in this respect has an important bearing upon the estimate to be formed of the climate of that portion of the proposed route embraced in the valley of the Upper Missouri, and included within the limits of what is still designated as the Missouri territory. This region, or the portion of it through which the proposed route passes, is in the same latitude with the *Haut terres* of Minnesota, lying in a direction from them nearly due west.

Pursuing this line to the Pacific it meets the coast where the mean temperature is 55°, or 11½° higher than at the *Haut terres* of Minnesota, an amount considerably greater than is due to any difference in elevation compared with the sea level; from 300 to 350 feet of elevation causing a difference in the mean temperature of one degree.

With no local causes to influence the temperature, it would be very proper to assume a gradual amelioration in proceeding westward from the *Haut terres*, particularly after leaving the Coteau du Missouri. Owing, however, to the gradual increase in the elevation of the country in part, and in part to the nearer approach to the mountains, an average of 41° for the region in question, corresponding to the temperature of St. Johns in N. Brunswick, or Halifax, N. S., is believed to be a very fair estimate. Lewis and Clark who wintered at the Mandan village, do not represent the weather as being on the whole severe, although at times extremely cold. They state that the "Rickarees cultivate Indian corn, or maize, beans, pumpkins, water melons, squashes, and a species of tobacco peculiar to themselves," productions similar to those raised in the valleys of New England. On the 22d Oct. a party of Sioux arrived with "no other covering but a piece of cloth or skin about the middle." Cold weather set in the last of November and on the 7th December the river was closed by ice. During the latter part of December the weather was moderate. It was cold again from the 3d to the 14th of January. After that moderate and pleasant to the breaking up of the ice in the river on the 26th of March. On the first of April was a heavy fall of rain noticed as the first of any consequence which had fallen since the 15th of October. The deer, the elk and the buffalo were found on the prairies during the whole winter. On the 13th of February 59 of these animals were killed, their condition of course not as good as in a more favorable season, but the fact that they are able to subsist on the open prairies, is indicative of a very mild climate for so high a latitude.

Gov. Simpson in describing the productions at Fort Carleton on the Saskatchewan river lat. 52° 51' N. 600 miles west of Red river, and 1100 feet above the sea, says that "the country in the vicinity produces potatoes and other vegetables. Wheat succeeds sometimes but is often destroyed by the frosts of Autumn." At Edmonton, lat. 54° N. on the same river near to the Rocky mountains and to the lofty peaks of Mounts Brown and Hooker, he states that "potatoes, turnips, and other hardy vegetables are grown, but the wheat is destroyed by the early frosts."

He informs us also that the buffalo are "incredibly numerous" in that region, and that in 1829 he "saw ten thousand mired in a single ford of the Saskatchewan."

This region is over four hundred miles to the north of the route proposed for the Pacific railroad, a difference as great as that between the cities of New York and Quebec.

At Fort Union at the mouth of the Yellowstone, where there is a post of the American Fur Company, the productions of the soil do not differ much from those at the Mandan villages. A gentleman residing in Missouri relates on the authority of one of the partners of the American Fur Company that "the Missouri at that place freezes over about the first of December, and opens about the middle of March. The upper Missouri among the Blackfeet being sheltered by the mountains, opens a little earlier, and the winter in that section is somewhat milder. With regard to the vegetables it depends very much upon the character of the season whether regular or wet or dry. Success depends upon this. Sometimes they have two months without rain, and then long spells of rain. The Indians cultivate a little of what is called the six weeks or Canadian corn, and also some of the garden vegetables. The soil varies, some of it is excellent, especially in the valleys; but on the plains there is but little soil. The grass is burned over twice a year, and remains green under the snow, and the cattle are not sheltered or fed, but dig away the snow and the cattle feed themselves.—The winters are probably about the same as in Northern New York. Were the fires kept out the timber would grow as on our Western Prairies."

The descriptions above given, including that of Lewis and Clark of the country about the Upper Missouri do not differ from that of Catlin, who spent some time at the mouth of the Yellowstone, and at the Mandan villages.

The character of the vegetation of the Upper Missouri, as described by Lewis and Clark and others, is evidence of its suitability for agriculture. Even in close proximity to the mountains, the climate does not appear to be so rigorous as to prevent its being an excellent grazing country. On the plain, above the Great Falls, in the vicinity of Medicine river, where the soil is represented as more thin and gravelly, the grass was nine inches in height, and the cactus was in bloom; berries of various kinds were abundant and the buffalo were numerous.

Following up the main river, three hundred miles from the Falls, the grass upon the river bottoms was one and a half to two feet in height. Gooseberries, service berries and several varieties of currants were abundant all along the river. A species of flax was likewise seen, and the sunflower also, and this vegetable was observed to flourish at least one hundred and sixty miles nearer to the highest and snow-capped portions of the Rocky mountains, than it is proposed to approach them by the railroad.

Further to the north, between the two branches of the Saskatchewan, Father De Smeth says that the country adjacent to the mountains is "extremely fertile, abounding in forests, plains, prairies, lakes and streams. Forests of pine, cypress, etc., occupy a large portion of it, covering the declivities of the mountains, and branches of the river.

The country is capable of supporting a large population, and the soil is suitable for the produce of

barley, corn, potatoes and beans, which grow here as well as in the more southern countries. An active and enterprising population are destined to fill this spacious void, and flocks and herds will graze on the beautiful meadows and plains of this extensive region."

The extract from the journal of Capt. Lewis, already given, confirmed by the statements of Sergeant Cass, relating to the Pass from Clarks river to the Missouri, when carefully examined, must produce conviction of its entire practicability for the purposes of a railroad, and that the temperature or climate cannot in any portion of it be much more severe or intolerable than is experienced during the winter season on some of the mountain passes, where railways are now uninterruptedly conveying passengers and freight in the northern portions of New York, Vermont and New Hampshire.

On entering the valley of Clarks river, we find a region where there is a rich vegetation. It was here that wild horses were seen by Captain Lewis, and they were represented by the Indians to be numerous. The region is now known by the name of the "Horse Plain," and it is here that the Mission Station of St. Mary is situated.

All accounts agree in stating that this valley is well timbered. Bradford represents the river as flowing through "extensive and fertile valleys and level plains."

Mr. Schoolcraft in a recent communication to the public respecting this portion of the Great Valley of the Columbia, describes it under the new name of "*El Hara*" as well timbered, with a productive soil, a favorable climate and capable of supporting a large population.

This also is the character given of it in Irving's *Astoria*.

Although elevated on the average twenty-five hundred feet above the level of the sea, in lat. 47° to 48° N., it has not a very rigorous climate. A series of observations continued through 3 years at Lapwai, in Middle Oregon, lat. 46° 27' N., long. 118° W., gives for the mean annual temperature at that place 53½° F.

Fort Colville is in the same valley in lat. 48° 37' N. The distance and difference of elevation being both taken into account, will make the mean temperature of Fort Colville about 48°, the same as Albany or Troy in New York, and give for the mean temperature of the Clarks river valley about 44°, the same nearly as Green Bay, Wisconsin, Cherry Valley, N. Y., or Dover, N. H.

Com. Wilkes, states that Lake Kalispel is 36 miles long and 8 wide. The country around is rich and beautiful, covered above and below with pines and spruces, with occasional spots of rich bottom land. At the forks 50 miles above, according to Farnham, is a post of the Hudson's Bay Company. He states that "a rich and beautiful country spreads off from Lake Kalispel in all directions," and that the "ridges" which separate the sources of the Clarks river from those of the Missouri and Saskatchewan, "are said to be *easy to pass*."

The Mission Station of St. Marys, already spoken of, is situated in the upper part of the Valley of Clarks River, on the main south branch, which Father De Smet calls the St. Marys, for the reason that the north branch, which passes through Flathead lake, being the longest, is properly the main

river. This latter, he says, is a beautiful stream, flowing through a "delightful valley" of 100 miles in extent north of Flathead Lake.

The soil of St. Marys he states "yields abundant crops of wheat, oats and potatoes. The rich prairie is capable of supporting thousands of cattle. St. Marys, or Bitterroot Valley, two hundred miles in extent, is one of the finest in the mountains. In the cultivation of the soil irrigation is necessary in consequence of the long summer drought that prevails, commencing in April and ending only in October."

"This difficulty, however, if the country should ever be thickly settled can be easily obviated as the whole region is well supplied with numerous streams and rivulets. These remarks apply also to the valleys contiguous to the St. Marys. The streams contain abundance of fish especially trout."

The Mission Station of St. Ignatius is situated on the north side of Clarks river, thirty to forty miles from its mouth, just above the portion which is "obstructed by insurmountable Falls and Rapids." It stands on a "beautiful prairie of three miles in extent, surrounded by cedar and pine."

Between Clarks river and the Spokane, and leading towards Colville, is a "beautiful valley, agreeably diversified by plains and forests." The upper portion of the Spokane valley is of a similar character, the trees attaining an immense size, but lower down it is denuded of timber, a character which appertains to the high plains of the Columbia, which spread off south towards the Lewis river.

The air of this whole region is pure and bracing and the climate excellent. In all the upper portion of the Columbia Valley it has the same character. The soil is good, though in some places light, and "the declivities of the mountains are studded with inexhaustible forests, in which the larch tree, pine of different species, cedar and cypress abound."

Joseph Dunn who was some time in the service of the Hudson's Bay Company states that "the country of the Flatheads presents a pleasing diversity of woods and plains, valleys and mountains, lakes and rivers, and is well stocked with deer, mountain sheep, beavers, otters, martins, wolves, lynxes, etc., wild fowl and fish, besides esculent roots, so that they have abundant means of subsistence and clothing, and of traffic as well." From the mouth of the Yellowstone, as far west as the Columbia, the country is now possessed mainly by three very numerous and powerful tribes of Indians, the Crows, the Blackfeet, and the Flatheads, as they are commonly called, although not entitled to that name from any custom they have of flattening the head which is practiced by some tribes nearer to the Pacific. The Crows occupy the country drained by the Yellowstone and its tributaries. The Blackfeet that of the Upper Missouri, extending across to the Saskatchewan, and the Flatheads the valley of Clarks river, and country adjacent to the north and south. These tribes may properly be considered as among the first, if not the very first of the tribes of North America. Their persons are finely formed, they possess great intelligence and practice many of the virtues of civilised life. They live in a country and a climate which they consider delightful, where game of all kinds abounds, and where the great-

est ills they suffer are those consequent upon their inter-tribal feuds, and contact with the Whites, or rather with that portion of the Whites who with more than savage appetites for what is vicious and base, flee the limits of civilization, and inflict by their example and otherwise, upon the untutored Indians, an amount of evil the magnitude of which cannot easily be computed.

The fact that the tribes named possess the character above described is evidence of the favorable soil and climate and great productiveness of the region of country which they inhabit, and of its capabilities for the development of animal life, and for sustaining a large population.

At Fort Colville as stated by Wilkes "wheat is the grain most cultivated, being considered more profitable than oats, barley or rye. Indian Corn (*Zea mays*) succeeds here admirably."

Gov. Simpson who crossed the Rocky Mountains as already stated some distance north of the national boundary, describes the country along the Kootenais and across to the Kalispel lake as densely wooded, the forests in many places intricate and difficult to penetrate. On the *Grand quete* branch of the Kootenais he saw "sixteen sorts of pine" and "twelve different kinds of berries." Soon after passing the main summit to the west side of the mountains he saw "recent marks of the *buffalo*, antelope, sheep, moose, and red deer."

From the Kootenais river he passed across to Clarks river valley, which he describes as "well covered with excellent timber, bounded on either side by a line of lofty hills, soil rich, and stream navigable, except at one cascade where a portage was necessary."

He informs us that the wheat grown at Fort Colville "weighs 63 to 65 lbs. per bushel. Maize flourishes but does not ripen until September. Peas, potatoes, oats, barley, melons, cucumbers, etc., are plentiful. The winter is many degrees milder than in the same parallel on the eastern side of the mountains." "Amongst the wild flowers in the neighborhood of the Fort are the helianthus, lupin, monks hood, and the fuschia, in great abundance." This latter particularly denotes a mild climate, and for ground elevated over 2000 feet above the sea and near to the latitude of 49° N. shows a great difference in the temperature between the eastern and western side of the continent. From the crops raised in the vicinity of Fort Colville most of the posts of the Hudsons Bay Company at the north get their supplies.

At the Chaudiere Falls salmon are taken in great numbers, as they are in all parts of the Columbia below. They ascend quite to the head of the main river, and will form a very important source of wealth to the country. This remark also applies to the waters connected with the straits of De Fuca, which are very richly stored with fish of all kinds.

From Fort Colville to Okanagan in the valley of the Columbia, the climate and temperature does not vary much from that of Fort Colville, the causes which have influence on both being nearly the same; but between Fort Okanagan and the Pacific are the Cascade Mountains, a serrated range about 5000 feet high with three or four conical peaks in the territory of Washington, rising to more than double that height. These latter only are covered with perpetual snow, the remainder of the

range is clothed with a dense forest to its summit. There are, doubtless, some twenty or thirty miles of the estimated entire distance of 130 miles, where the temperature is too low and the snows lie too long to render it available for other than grazing or pastoral purposes. This range although having, undoubtedly, a milder temperature than is found in the Rocky Mountains at the same elevation, and in the same latitude, yet from its exposed position is subject to snows of greater depth and to frequent and greater changes of temperature.

The mean annual temperature of 48° F. which is found in the valley of the Columbia at an elevation of 2000 feet above the sea undoubtedly prevails in the same latitude on the west side of the Cascade range at an elevation of nearly 3000 feet, and from that limit to the shore of the ocean goes on increasing until it reaches 53° or 55° as ascertained approximately by Com. Wilkes.

In the region between the Cascade Mountains and the Pacific, a temperature prevails which is even milder than in the same latitude on the western coast of Europe. Paris, which is situated in latitude 48° 50' N. has a mean annual temperature of only 51.6-10° F. or four or five degrees less than is found in the same latitude in the waters of the straits of De Fuca. Proceeding northward along the Pacific coast the same relatively mild climate continues. Wheat, barley, potatoes, and turnips are all grown at Fort Alexandria, two hundred and fifty miles north of the national boundary.

In Irving's Astoria the mildness and equability of the climate west of the Rocky Mountains in the valley of the Columbia is noticed as remarkable. "The rigorous winters and sultry summers and all the capricious inequalities of temperature prevalent on the Atlantic side of the mountains are but little felt on their western declivities." The weather for most of the year is "serene and delightful."

Of the country between the Cascade Mountains and the Pacific, a gentleman, Mr. Hall, thus speaks, after a five years residence at Puget Sound. "Having travelled through every State in the Union, I can safely aver that I have never found a place to equal that delightful country for healthfulness, beauty of scenery, and unvarying temperature." He represents the land in general as well adapted for cultivation and pasturage. Potatoes of a dry and excellent quality, onions, cabbages, turnips, carrots, parsnips, wheat and oats, all produce abundantly. "The pasturage generally is good throughout the year and no farmer thinks of providing fodder for his stock during the winter. The winters are very mild and snow is rarely more than an inch deep." He also states that "the timber, of which there is a great abundance, particularly cedar and fir, is of the largest and finest quality. In short the purity of the air, the luxuriant prairies, the forests of noble tall trees on every side, the never failing springs of purest water, the innumerable lakes, an almost profuse abundance of game and fish, all conspire to render it one of the most delightful countries of the world."

The soil near the sea coast is described in Irving's Astoria, as inferior in character generally compared with that of the interior, and in consequence, the vegetation of the latter is more abundant. "The face of the country is kept fresh and

verdant by nightly dews and occasionally by the humid fogs in the morning, the latter not prejudicial to health."

Com. Wilkes, Gov. Simpson, and other writers concur in giving to the region in question a remarkably favorable character in respect to soil and climate. Near the coast the soil is not so productive, but in the interior where the surface is free from rock, it is of an excellent quality in most places. The latter remarks, particularly of the country lying to the north of the national boundary on the sea-coast, that the region in which is included the southern part of Vancouver's Island "is well adapted for colonization, for in addition to a tolerable soil and a moderate climate, it possesses excellent harbors and abundance of timber. It will, doubtless, become in time the most valuable section of the whole coast above California."

South of Puget Sound for sixty miles he describes the country as "watered by many streams and lakes" and composed of belts of wood and plains well adapted to tillage and pasturage. The belts of wood composed of stately cedars and pines, many rising without a branch or bend to a height of 150 feet."

The extraordinary magnitude attained by the forest trees in that part of the coast of the Pacific has been remarked by all who have visited that region. This remarkable growth does not appear to be confined altogether to the country along the coast.

Mr. Douglass, a distinguished botanist, while passing up the valley of the Columbia to Fort Colville, saw many kinds of pines, some of which by measurement were thirty feet in circumference and "several which had been levelled to the ground by the storms were 145 feet long, with wood perfectly clear and strong."

Of the excellence of the climate and general good character of the soil of this portion of the country, no more will at present be said. Both are beyond question well adapted for the successful development of both vegetable and animal life.

MINERALS.

Of the mineral resources of the country through, or near which, the proposed northern railroad route to the Pacific passes, enough is known from such partial and imperfect explorations as have been made to make it certain that they are quite valuable and extensive.

The route after leaving Illinois passes along the eastern and north-eastern margin of the great lead district of south-western Wisconsin with which a connection is in progress by means of the Southern Wisconsin railroad from Janesville, a district which now sends annually to market forty to fifty millions of pounds of metal.

On the Upper Mississippi it passes near to the western extremity of the great copper region of Lake Superior with which it will be a convenient mode of communication, by branches leading northwardly up the valleys of the tributaries of the Mississippi, which have their sources in the region in question. From discoveries recently made it is probable that silver will also become one of the valuable productions of this region, and it is now known that in middle and northern Wisconsin there are ores of iron in various localities, some of which are now worked producing metal of an excellent quality.

Farther on in north-western Minnesota, extend-

ing into Canada, salt lakes and springs are known to abound. These lie to the West of what is called Devil's Lake on the map, the waters of which are slightly brackish. This salt region lies a little to the north of the line of the proposed road and covers a space not less probably than 6000 square miles within the limits of the United States, and judging from the account of Gov. Simpson covers even more space north of the national boundary. South of this line within our own borders there are places where the mineral is said to be found in great purity. From the remarks which follow it will be seen that there is probably in close proximity to this region, a supply of bituminous coal.

Should this opinion prove correct, salt will in time be manufactured here, in great amount, and become an important article of commerce. From this source, owing to the probable cheapness of its manufacture and facilities of communication most of the population of the Mississippi and Missouri valleys, as far down as the mouth of the latter, and of the Upper St. Lawrence valley, as far as Lake Erie, will most probably in time receive their supply of salt. The district which embraces the salt lakes and springs is elevated about 2000 feet above the level of the sea, and the atmosphere is in general very pure and dry, circumstances favorable to the cheap manufacture of salt whether produced by evaporation in the open air, or by the artificial means in use at most at the salt works in the country.

Within the limits of Minnesota, to the south of the proposed route are the famed red pipe stone quarries, which promise to be of considerable value in the arts. The locality of this stone nearest to the route is in Wisconsin at the head of a branch of Chippeway river which joins the Mississippi near the lower end of Lake Pepin.

Between Fort Clark or Fort Mandan and the Falls of the Missouri mineral coal of the bituminous character has been observed in various places where it appears in the banks of the Missouri river. Lewis and Clark testify to this and their evidence is confirmed by Culbertson. Wyeth informs us that the banks of the Yellowstone below the Bighorn "are in many places precipitous with strata of bituminous coal" and Capt. Bonneville mentions a mountain on the Powder river branch of the Yellowstone as "abounding in anthracite coal." The existence of coal near the surface and directly on the proposed route, extending through ten degrees of longitude is a consideration of great importance.

This immense coal field in all probability underlies the entire plain which stretches northwardly from the Missouri to the Saskatchewan and Assiniboine rivers, including the region occupied by the salt lakes and springs above described.

Gov. Simpson speaks of coal as appearing in the banks of the Saskatchewan river at Fort Edmonton, a point very near the eastern base of the Rocky mountains. Father De Smet saw coal on the banks of Red Deer River. He also saw "fountains which produce sulphur", and salt-petre he states "is found in abundance, and iron is not scarce in many parts of the mountains."

Lewis and Clark observed limestone at several points in the valley of the Upper Missouri. It extends in places far into the passes of the mountains. They observed it on the upper part of

Jefferson river. They also saw sandstone, on the Missouri, and granite was met with in the mountains. Materials of this character appear therefore to be abundant for construction, and being situated near the river, which is navigable for so many hundreds of miles, can be transported along the valley at no very great cost.

The existence of limestone in large quantities and spread over a great extent of surface, is evidence of the probability that localities may hereafter be found, producing marble of a quality suited to various purposes in the arts.

Robt. Stuart, who passed in 1812 from the Tetons easterly along the mountains which separate the waters of the Upper Missouri from those of the Columbia and Colorado, describes a species of clay, found in the mountains, "from which the Indians make pots, jars, &c. It is very fine and light, of a brown color spotted with yellow; vessels manufactured of it are said to impart a pleasant smell and flavor to any liquids." He states that "these mountains abound also with mineral earths or chalks of various colors, especially two kinds of ochre, one a pale the other a bright red, like vermillion, much used by the Indians in painting their bodies."

Of the region embraced between the Falls of the Missouri and the western slope of the Cascade Mountains, but little is as yet known as to its mineralogical character.

That it does contain minerals of value is to be inferred from information derived from various sources, and from the change in the geological formation of the country already alluded to as taking place at the 48th parallel of latitude.

Thornton informs as on the authority of Dr. Whitman, the Missionary who was murdered by the Indians at Wallawalla, that the latter "frequently brought copper from a place north of his station," and that judging from the information which he obtained "its locality was somewhere south of the 49th parallel." He also states that "Mr. Ricard, the late Attorney General of the Hawaiian islands, brought to Oregon a specimen of platina obtained from a Flathead Indian, which metal the savage affirmed was very abundant at one locality in the country of his nation, but he refused to indicate more particularly."

A Mr. Lattee who was, during many years, in the service of the Hudson's Bay Company informed Mr. Thornton that "the Indians often brought platina and silver ore to the trading post from the northern extremity of Queen Charlotte's sound" in lat. 51° N. which seems to confirm the truth of the previous statement of the existence of those metals in the vicinity of the latitude of 49. Father De Smet saw "large pieces of coal along the Kootanie river, and was convinced that it could be abundantly procured." He found also "great quantities of lead on the surface of the earth," and from its appearance he believed that "it contained a mixture of silver."

Sir John Richardson in speaking of the probable mineral resources of the region embraced in the British possessions to the north of the latitude of 49° states that "it would be true economy for the imperial government, or the Hudson's Bay Company who are the virtual sovereigns of the territory, to ascertain without delay the mineral treasures which it contains. I have little doubt," he says, "of many of the accessible districts

abounding in metallic wealth of far greater value than all the returns which the fur trade can ever yield."

Mr. Dunn states that near the Pacific towards the latitude of 54° N. "great quantities of virgin copper are found, some of it is worked by the natives into a kind of shield about two feet and a half long, and one foot broad."

West of the Cascade Mountains bituminous coal is now known to exist in large quantities in the vicinity of the waters of the straits of De Fuca. According to Thornton an "inexhaustible supply of a good quality may be had upon Vancouver's Island. It lies near the surface, is gotten out with crow bars and is near to a good anchorage." Dunn describes it to be of an "excellent quality, running in extensive fields and even in clumpy mounds, and most easily worked all along that part of the country."

Coal has since been discovered in the vicinity of Puget Sound, and to the East of Admiralty Inlet, and a company has been formed for mining it within the territory of Washington.

The "Oregonian" represents it as abounding in a range of hills, and that it appears in several places in the banks of the Inlets "within a few yards of deep water making the shipping of it quite easy."

This appears to be the southern limit, or very near it, of the bituminous coal on the coast within our own territories, none having as yet been discovered south of that point. Of its value in view of the immense steam marine which in a few years will be traversing the waters of the Pacific from the straits of De Fuca, an adequate idea can now scarcely be formed. Its existence there to the extent now indicated will be of greater importance to the future prosperity of the territory in which it is situated than mines of gold and silver, and if to this be added the wonderful resources of the country in its forests of timber and general character of the soil, it gives to the territory of Washington the means of creating and maintaining a commercial and military marine not possessed by any other section of equal extent within our own limits on the coast of the Pacific.

To be continued.

Manassas Gap Railroad.

The stockholders of this road have authorized the President and Directors to borrow the sum of \$600,000; and to issue the bonds of the company in payment thereof, with interest, at the rate of six per cent., payable semi-annually, the said bonds to be paid in twenty years or in less time. Authority is also given to execute such mortgage on the property of the company, as may be necessary to secure the payment of the amount borrowed.

Baltimore and Ohio Railroad.

We learn that the Board of Directors of this company, in pursuance of the project of laying a second track between Baltimore and Piedmont, have decided to apply to the City Council to endorse the bonds of the company, for five millions of dollars. Application will also be made to the Mayor to call an extra session of the Council to act on the subject, in order that an early decision may be arrived at. It will be necessary to obtain an act from the Legislature, authorising the city to endorse the bonds, before the transaction can be perfected.

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HOW FAR IS A CHARTER TO CONSTRUCT A RAILWAY COMPULSORY.

The English decisions upon this subject, do not accord, the Court of Exchequer having overruled that of the Queen's Bench.

The act for constructing the York & N. Midland railroad recited that "the formation of the Company praying to be incorporated promised to be beneficial to the community, and that the Company were willing to complete the proposed railway," and they were therefore duly empowered to take by compulsion, if necessary, the lands requisite for their purposes and invested with the ordinary powers conferred in such cases.

The Queen's Bench granted a Mandamus in order to compel the Company to finish the construction as originally contemplated.

But as above stated, the Court of Exchequer has reversed this decision, and declared that no duty to complete the work was imposed upon the Company by the Charter; there being nothing in the subject matter to which the Charter relates, nor anything in the language thereof which indicates any intention on the part of the Legislature of imposing on the Company the obligation of constructing the track in question.

Nor did the Court think that the merits of the question were in any degree affected by the fact that a portion of the road was already completed. *The York and North Midland Railway Co. vs. the Queen. Ellis & Blackburn England. Common Law R. p. 72.*

So too an Act in reference to the Great Western Railway Company, provided that defendant "might make a line to R. and if they should think fit, a branch &c.," and also that "the line to R. should commence at a certain place named and terminate at another" and that "the branch if constructed should be made" in a certain way.

This Act was also held by the Court of Exchequer not to be binding on the Railway Company. *Great Western Railway Co. vs. the Queen. 1, Ellis & B. 874.*

CUSTOM OF TRADE IN RELATION TO COMMON CARRIERS.

A common carrier who received on a canal boat a lot of household furniture to be carried from Lycoming County to Philadelphia, met with an accident by which the goods were partially damaged. No express contract had been made in the case. He undertook upon an action for damages brought by the owner of the goods to show that by the usage of the business he was not liable for damage by fire, navigation or unavoidable accident.

The Supreme Court disallowed this defense and observed that they looked very jealously at customs which trench upon common law. And that a local usage in order to be available must be ancient, uniform, and notorious.

If however the owner of the goods damaged had been shown to be guilty of fraud towards the carrier as by concealing the value of the articles entrusted to him, or by deluding him in regard to them by his own assumed carelessness of manners, or by making fraudulent representations concerning their value, then the carrier would have been discharged from his liability.—*Cone vs. Heisly, 19 Pennsylvania Reports 243.*

Distribution of Weight of Locomotives.

The greatest improvement in the railway has been its *development*; by extending its capacity through the best use of the principles already in possession. The duty of a railway is to assist the transportation of loads, and these are now heavier, more frequent, and must be moved at higher speeds than formerly. To do this, heavier, and more numerous engines and cars must be run at far greater speeds, and their effect is to hasten the wear of the road; involving now in a month, what would have once been the depreciation of a year. It is true that the road has been improved, but not in the same ratio of advancement as the machinery. The rails have been strengthened by which the relative loss of iron, taken up in renewals, has been reduced. The character of the road bed has been improved and the bearings of the rails increased in number and permanence. But the laws of pressure and resistance have not and cannot be changed. So long as the demands of modern transportation could be met without *extravagant*, although large, wear of rail, so long there was profit in accommodating these demands.

The wear of rail must proceed from one or all of the three causes named, viz: greater *weight*, greater *speed* and greater *frequency* of application of both these elements. Iron is however known to yield soonest to the heaviest loads or strongest percussions. Hence the increased *weight* of modern railway trains, aggravated very much by their increased *speed*, is the *principal*, and the greater frequency of their application the *secondary* cause of the rapid depreciation of rail on lines which are worked to their full capacity. A bar may be crushed by a single load of twenty tons, while the passage over it of ten loads of two tons each may produce little effect. Upon this principle, which seems equally well grounded in reason and supported in practice, it is the *distribution of the weight* of railway equipments which is of the first importance to the engineer, inasmuch as it is the only point which the circumstances of our transportation will allow of being controlled, while the relation of weight to the resistance of rails is the most important of any of the influences which tend to produce depreciation.

The greatest increase of weight has been made in the locomotive, and it is from this part of the equipment that the greatest amount of deflection and percussion of rail is suffered. The loaded cars seldom carries over two tons on each wheel, and on no road will the *average* tonnage be as much: the engine has wheels carrying from four to five and a half tons each, and upon which the load is constant. It is hard to estimate the precise influence of these loads, as the engine combines causes of unsteadiness by which the cars are unaffected. Experience however, some years since, declared the influence of the engine and tender to produce *one half* the wear of rail produced by the whole train. Engineers of high standing deduced and adopted this estimate at a time when locomotives had not reached their maximum of weight. In our own country this allowance was adopted as early as in 1816, by John B. Jervis, Horatio Allen, and others, in reporting to the New York Legislature upon the location of certain parts of the New York and Erie railroad.

Look for a moment at the number of engine and tender wheels compared with those of the train.

The engine say, has four wheels through which power is applied, and through which a weight of four tons is brought upon each bearing which they have on the rail. There are four truck wheels, carrying an equal load. The train suitable for such an engine would run on as many as two hundred wheels. The wear from the sixteen wheels of the engine and tender is equal to that from a train having twelve times the number, and the whole weight of which is perhaps nine times as much. And the *tender*, having half the number of wheels, and forming more than one third of the whole weight of engine and tender, is nothing in effect but one of the cars, and could not certainly produce one fourth nor one fifth of the wear produced by engine and tender both. It would seem as if the *limit* of economical resistance of the rails was under a pressure of not much over four tons. And yet many roads are contracting for equipments of engines wherein this limit will be passed. The broad gauge lines, which necessarily involve extra weight of equipments, and which certainly ought to afford the best inducement for *distribution* rather than *concentration* of weight, are equipped and equipping with engines of nearly unprecedented weight, and resting upon but eight points. Baldwin's great "pushers," as the Lanesboro grade engines are called, weigh 74,000 lbs. each, 44,000 lbs. of which are upon four wheels, giving five and a half tons on a single point. But as these engines were designed for special service at a difficult part of the line, this may not, perhaps, be wondered at. With a hearty disregard of the effects of a general equipment of such engines there are however, a large number now under contract which promise to involve even greater concentration of weight than these.

The relief for these excessive pressures, is in a *distribution* of the same adhesive weight between a greater number of connected driving wheels. The coupled drivers, where only two pairs of wheels were combined, was, we believe, original with Norris, of Philadelphia, but by whoever claimed, the plan was one great feature of American motive power. Those roads which operate their motive power the most economically have extended this principle to three and often to four pairs of drivers.

The great difference in the motive power of this country and that of England may be said to be chiefly in the disposition of weight. *There*, it has been sought to avoid the coupled drivers and to obtain the necessary adhesion by the concentration of sufficient weight on a single pair of wheels. *There* they have the same weight carried on two driving and two trailing wheels as on our four driving wheels, but the weight is unequally distributed in one case and equally divided in the other. The heavy English express engines have generally received an allowance of ten or twelve tons weight to a single pair of driving wheels, where our engines of a similar class have eight.

It is the results of this injudicious use of rail that have sustained the complaints of the English shareholders about "depreciation of permanent way," and the same cause has been the ground for advocating "lighter engines," which, other things being equal, are certainly *less* economical than heavy engines, provided the latter have a reasonable distribution of weight.

Freight engines require the most adhesive weight, as their traction, or steam power is greater from having smaller wheels, and consequently greater leverage in the application of power, and from the fact that by running slower they work at a somewhat higher pressure in the cylinder. Hence, for the proper adaptation of freight engines the principle of the distribution of weight is especially applicable, and upon many of our roads, of the highest importance.

Here we see the difference of our own and the English system. The English engine, weighing twenty-five or twenty-six tons, is distributed on six wheels having a wheel-base of twelve or thirteen feet. The American engine of the same weight has ten wheels, covering twenty to twenty-three feet, while the *truck* makes the extra length a matter of trifling importance in passing around curves.

The American engine runs over a light rail, and draws trains equal to its full power; the track does not require excessive repairs, nor is its depreciation regarded as the chief source of expenditure. The English engine deflects the heavy rail, increases the resistance, disturbs the ballasting at successive points, and eventually loosens and unsettles the whole superstructure of the road.

English engineers, we perceive, are beginning, however, to appreciate the advantage of distribution. Many of their recent passenger engines have coupled drivers. Daniel Gooch, of the Great Western railway, has built engines very much after the American model, having both coupled drivers and a truck. Messrs. Kitson, Thompson, and Hewitson, of Leeds, have also adopted the coupled drivers.

Cincinnati Western Railroad.

The President of this road, Hon. Caleb B. Smith has just made his first annual report.

This road is to run from Cincinnati to New Castle, a distance of seventy-three miles. At that place it will form running connections with the road now making through Logansport to Chicago. The entire cost of the road, including depot buildings, right of way, rolling stock, &c., is estimated at \$2,500,000.

The stock subscribed for the construction of the road up to this time amounts to \$1,724,839 12. Of this amount there is payable in cash \$698,081 57 payable in real estate, \$1,031,757 55.

The real estate subscribed has been conveyed to the Company, and is now held by undivided titles in fee simple. The most of it is situated in Cincinnati and the immediate vicinity, and has been taken by the Company at such prices that the larger portion of it, which has already been sold, has produced to the Company an advance upon its cost.

A portion of the real estate has been conveyed in trust to Hon. John McLean and G. Taylor, Esq., to be held by them as a security for bonds issued by the Company, payable in ten years. The present value of the property, embraced in the deed of trust exceeds the amount of the bonds by more than twenty per cent. The interest upon the bonds will be paid every six months by the Company, and thus, while the property transferred in trust, as a security for their payment, will be constantly increasing in value, and the security thus becoming better, the debt secured by it will be diminishing.

There has been expended on the road for construction, engineering, and right of way, the sum of \$162,625 50.

The graduation upon ten or twelve miles of the line has been completed, and the work on the heaviest sections is progressing in a satisfactory manner. Thirteen hundred tons of iron rails have

been purchased of an approved pattern, weighing sixty pounds to the yard.

American Railroad Journal.

Saturday, November 19, 1853.

Share and Money Market.

There has been a decided improvement in the Share and Money market since our last report. Money is much easier for all purposes and is readily obtained on call. The Bank statement for the week (which we give below) is regarded as very favorable.

	Nov. 5.	Nov. 12.
Loans.....	\$83,092,630	\$82,802,409
Specie.....	11,771,880	12,823,575
Circulation.....	9,492,158	9,287,629
Deposits.....	55,599,977	56,201,107

On the 6th of August last the loans were \$97,899,617, and the amount of specie held by the bankers was \$9,510,165. The curtailments which the above statements show, could not have been made at any period without producing the severest pressure and great distress.

The earnings of our railroads for October continue to show a large increase over the same month for the past year. Below we give the list as far as received.

	1853.	1852.
New York and Erie.....	\$552,995	\$376,833
Hudson River.....	153,258	104,309
Michigan Southern.....	220,804	134,787
Ohio and Penn.....	84,039	44,741
Milwaukee and Miss.....	41,377	15,072
R. Island and Chicago.....	67,097	new.
N. York and New Haven.....	93,252	64,524
Norwich and Worcester.....	31,867	24,886
Cincinnati, Hamilton and Dayton.....	38,085	30,001
Harlem.....	90,008	70,463
N. Y. Central.....	555,915	416,541
Pennsylvania.....	245,058	144,091
N. Haven & Springfield.....	74,613	40,503
Mich. Central.....	200,163	161,183
Balt. and Ohio.....	290,168	.....
Macon and Western.....	27,347	31,776
Mad River.....	75,048	54,199

The above shows an extraordinary activity in the internal commerce of the country. The increased earnings of our roads are undoubtedly due, to a considerable extent, to the opening of new lines which add very largely to the increase of the old. All the great staples of the country command high prices, which leads to very large movements of merchandise from the interior.

The share market for the week has shown a large advance, although it has fluctuated considerably. The following is a comparative statement of prices on the 9th and 16th instants.

	Nov. 16.	Nov. 9.
Erie.....	79½	74¾
Hudson River.....	69½	65½
Harlem.....	56	51½
New York Central.....	113	111
Cumberland Coal Co.....	38½	36
Michigan Southern.....	120	116
Michigan Central.....	109	105½

The rise has been participated in by nearly the whole list of stocks upon the market. The feeling is general, that the period of greatest stringency is passed. It is an encouraging fact, that it does not seem to have effected the great industrial interests of the country, which were never more prosperous, nor in a sounder condition than at the present time. The increased earnings of our

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for 40.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	82
Androscoggin and Kennebec... "	55	809,878	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland... "	72	952,621	291,80	2,511,067	168,114	100,552	none	45
Port., Saco and Portsmouth... "	51	1,355,500	123,884	1,459,384	208,669	.....	6	—
York and Cumberland... "	20	285,747	341,100	713,605	23,916	11,256	none	98½
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord.....	35	1,485,000	none.	1,485,000	305,805	141,836	8	104
Cheshire.....	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern.....	82	3,016,634	.....	.....	328,782	163,075	5	47½
Manchester and Lawrence... "	21	717,543	.....	.....	.....	.....	6½	90
Nashua and Lowell... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan.....	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic... Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	37
Rutland.....	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Vermont Central.....	117	8,500,000	3,500,000	12,000,000	.....	.....	none	18½
Vermont and Canada.....	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	100
Western Vermont.....	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley.....	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	94½
Boston and Maine... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	102½
Boston and Providence... "	53	3,160,390	390,000	3,546,214	469,656	227,431	6	86½
Boston and Worcester... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101½
Cape Cod branch... "	28	421,295	171,800	633,906	60,743	30,056	2½	46
Connecticut River... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern.....	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	91
Fall River... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	106½
Fitchburg... "	66	3,540,000	112,305	3,623,073	574,574	232,787	6	94
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	90
Taunton Branch... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts... "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	13½
Worcester and Nashua... "	45	1,124,945	171,210	1,321,945	162,109	66,900	4½	59½
Western.....	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99
Stonington... R. I.	50	.....	467,700	.....	240,572	110,892	.....	61
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal... Conn.	45	.....	.....	.....	.....	.....	none	.....
Hartford and New Haven... "	72	2,350,000	800,000	3,150,000	639,529	294,269	10	118½
Housatonic... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill... "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer New York and New Haven... "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
Naugatuck... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	101
New London and New Haven... "	62	926,000	440,000	.....	.....	.....	.....	.....
Norwich and Worcester... "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	45
Buffalo and New York City... N. Y.	51	2,121,110	701,600	2,596,488	267,561	116,965	4½	55
Buffalo, Corning and N. York... "	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo and State Line... "	132	.....	.....	In progres	.....	.....	none	65
Canandaigua and Niagara F... "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Elmira... "	50	.....	.....	In progres	.....	.....	.....	.....
Cayuga and Susquehanna... "	47	425,599	582,400	987,627	76,760	39,360	none	68
Erie, (New York and Erie)... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Hudson River... "	144	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	749
Harlem... "	130	4,725,250	977,463	6,102,935	681,445	324,494	5	56
Long Island... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	28½
New York Central... "	504	22,858,600	2,111,824	24,974,423	.....	.....	.....	113
Ogdensburg (Northern)... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	26
Oswego and Syracuse... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland... "	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston... "	39	430,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	100
Camden and Amboy... N. J.	65	1,500,000	.....	4,327,492	1,388,285	478,413	10	145
Morris and Essex... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster... "	36	830,100	713,227	1,702,522	265,227	106,320	8	.....
Philadelphia and Reading... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	77
Philad., Wilmington and Balt... "	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	76

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in	Funded debt.	Tot. cost of road and equip'm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	93 1/4
Philadelphia and Trenton..... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	102 1/4
Baltimore and Ohio..... Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	58 1/2
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,287	8	.....
Baltimore and Susquehanna.. "	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	70
Richmond and Petersburg..... "	22	685,000	.....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac..... "	76	1,000,000	503,006	1,531,238	254,370	113,256	7	100
South Side..... "	62	1,357,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,036	In prog.	176,485	74,902	none	61
Virginia and Tennessee..... "	60	3,000,000	1,500,000	In prog.	.....	.....	none	98
Winchester and Potomac..... "	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh..... N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina. S. C.	110	.....	.....	In prog.	.....	.....	.....	.....
Greenville and Columbia..... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester. "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia..... "	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western..... "	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston..... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point. "	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia. Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga. "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington..... Ky.	38	1,430,150	900,000	In prog.	.....	.....	.....	62 1/4
Frankfort and Lexington..... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort..... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh..... Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, and Erie..... "	95	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus..... "	135	3,027,000	408,200	3,655,000	777,792	483,454	12	122
Columbus, Piqua and Indiana. "	46	.....	.....	2,000,000	.....	.....	.....	80
Columbus and Lake Erie..... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton. "	60	2,100,000	500,000	2,659,653	321,793	200,367	.....	102 1/4
Cincinnati and Marietta..... "	.....	.....	.....	In prog.	.....	.....	.....	72 1/4
Dayton and Western..... "	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	60
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,370,784	.....	2,634,157	526,746	314,670	10	113
Mansfield and Sandusky..... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie..... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	90
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	87
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley. "	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd. "	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	.....
Xenia and Columbus..... "	54	1,092,137	119,500	1,257,714	237,506	135,263	15	116
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	80
Indiana Northern..... "	131	.....	.....	.....	Recently opened.	.....	.....	115
Indianapolis and Bellefontaine. "	83	.....	.....	.....	.....	.....	.....	166
Lawrenceburg and Ind..... "	90	.....	.....	In prog.	.....	.....	.....	05
Lafayette and Indianapolis. "	62	.....	.....	.....	Recently opened.	.....	.....	82
Madison and Indianapolis..... "	88	1,650,000	750,000	2,400,000	516,414	268,076	10	78
Peru and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	65
Terre Haute and Indianapolis. "	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago..... Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi..... "	135	2,400,000	4,000,000	4,800,000	.....	.....	.....	.....
Illinois Central..... "	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago..... "	92	1,932,361	500,000	In prog.	473,548	286,152	.....	100
Michigan Southern..... Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	120
Michigan Central..... "	282	1,000,000	4,067,396	8,614,193	.....	.....	.....	109
Pacific..... Mo.	38	1,000,000	none.	In prog.	Recently opened.	.....	.....	.....

railroads are much greater than at any former period.

The Philadelphia Bulletin publishes the following statement of the deposits of American gold at the Mint of the United States, and all the Branch Mints, from the date of the discoveries in California up to July 30, 1853:

DEPOSITS OF CALIFORNIA GOLD AT THE MINTS.

Philadelphia Mint.

1848.....\$	44,177 00	1852.....\$	49,821,490 00
1849.....	5,481,439 00	1853 (to	.....
1850.....	31,667,605 00	July 30)	33,080,253 85
1051.....	46,939,367 00	Total.....	\$172,034,231 85

Branch Mints.

Dahlonga. Charlotte. N. Orleans. Total.

1848.....\$	.....	1,124	1,124
1849.....	.....	669,921	669,921
1850.....	30,025 00	4,575,567	4,605,592
1851.....	214,072 00	15,111	8,993,865
1852.....	324,931 07	28,361	3,777,784
1853 (to	.....	.....	4,181,076
July 30)	269,007 78	15,399	1,339,208
Total.....	.....	.....	1,674,215

Totals...\$838,635 85 58,872 19,183,236 20,080,794
Add deposits at Philadelphia mint...\$172,034,231

Total California deposits to July 30, 1853.....\$192,115,025

Subsequent deposits at Philadelphia Mint.

August, 1853.....	\$4,469,000
September,	3,975,000
October.....	4,327,000

Total California deposits to Oct., 1853...208,886,026

The export for the same period has been \$75,-105,207, showing a coinage of \$128,780,000 in excess of the exportations, which amount is now in circulation, or in the banks and sub-treasury.

A Train of Locomotives.

It is but a few years since a train drawn by a locomotive was a novelty in the United States, and yet last evening we saw a train of locomotives upon a track which two years since was not completed. The train came up from Erie, under the direction of Mr. W. Marsh Kasson, junior partner of the firm, W. M. Kasson & Son.

The train was composed of seven locomotives, worth over \$60,000. The *Raritan* was at the head, and furnished the propelling power. The *Niagara* and *Hudson*, for the Mad River and Lake Erie Railroad Company, came next. The *St. Louis* and *Wabash*, for the Terre Haute and Richmond road, followed; "No. 17," for the Chicago and Mississippi road, was next; and "No. 17," for Illinois Central, closed the train.

That same Chicago and Mississippi Railroad is one of the leading thoroughfares of the west. At Joliet it connects with the Chicago and Rock Island Railroad, cutting off a "corner" of one hundred and fifty miles in the main route to St. Louis.

All the triumphs of that Rome which "sat upon her seven hills, and from them ruled the world," were not equal to those which that single locomotive train will accomplish.—*Cleveland Herald*.

Wisconsin Railroad Iron.

The Dodge Co. Iron Company, just organized, with a capital of half a million of dollars, in Dodge County, Wisconsin, are about going largely into the manufacture of railroad iron, so that Wisconsin will no longer need to go abroad for her rails. They have contracted for the erection of twenty blast furnaces and one large rolling mill to be devoted exclusively to railroad iron. The Beloit Journal states that they have already contracted to furnish to the Milwaukee and La Crosse railroad fifty tons of iron per day on and after the first of March next, until the track is laid to Portage City.

Baltimore and Ohio Railroad--Its Policy for the future.

The recent heavy decline in the market value of the stock of this road, shows that the result of its operation since its opening has not equalled public expectation. This want of success, may be referred to several causes; the unfinished condition of the road, incapacitating it for the transaction of a large business; the unfavorable character of the route; the lack of a dense and active population upon its line; the want of railroad connections at its western terminus, and the great delay and expense to which the traveller going to Philadelphia, New York and Boston, is subjected after reaching Baltimore. All these drawbacks have exerted their share of influence, and they have been so far potential as to disappoint the highly raised hopes of the friends of the road, both in regard to its earnings, and the addition it was expected to make to the trade and commerce of Baltimore.

We do not presume that the objectionable grades used are calculated to interfere seriously with a profitable traffic. They are so grouped together as to enable them to be worked in the most economical manner. A greater part of the route traversed is new, and comparatively undeveloped, but capable, in time, of supplying a very large business. The want of western connections is being very rapidly supplied by the construction of a number of roads, centering at Wheeling. At present both passengers and freight have to depend upon the Ohio river as a means of reaching their places of destination.

The imperfect success of the road therefore, may to a certain extent, be referred to causes temporary in their character. For a considerable portion of the year, however, the Ohio river offers the best means of forwarding merchandise to the leading points of consumption, and there is no reason, provided the route be the best between the Atlantic cities and the west, as is claimed, why the road should not immediately enter upon a freight business fully up to its capacity; the returns from which would yield a fair income upon the cost of the road.

In our view of the case the want of success referred to is due partly to the fact that the road has not yet become a part of a great *through* route between the leading Atlantic cities and the west. That it has not become so, has been owing to a mistaken policy which appears to have prevailed in its management. The Baltimore and Ohio road was proposed, and has been built, chiefly with a view to the promotion of the trade, commerce, and general welfare of Baltimore. The New York and Pennsylvania Works had nearly destroyed the trade between that city and the west, to regain which was one of the leading objects of the road. Its friends went a step further. By showing Baltimore to be nearer to all the leading commercial points in the great valley than either Philadelphia, New York, or Boston, they assumed that, cost of transportation being controlled by *lineal* distance, Baltimore could command the trade of the great interior basin of the country, as soon as it could be reached by her railroads. This assumption has led to some serious mistakes in the policy of the Baltimore and Ohio Company. They have lost sight of the importance of making their road the most convenient through route between New York, say, and the west. Its managers reasoned in this

manner. "The Baltimore and Ohio, is a *Baltimore* work, planned and executed for the purpose of promoting the prosperity of that city. If we transport over our road the merchandise purchased in New York, we make it a *New York* road, and thus surrender one great object of its construction," and although at the present time this company have an arrangement with the Philadelphia, Wilmington and Baltimore road, by which Philadelphia and New York freights are forwarded over it, and the Baltimore and Ohio, to the Ohio river, at the same rate as over the Pennsylvania Central road, this arrangement, we understand gives such dissatisfaction in Baltimore, that the directors of the Baltimore and Ohio road threaten to annul it, for the purpose of rendering it inconvenient for the Western trader to buy his goods in New York, and in the hope of compelling him to make his purchases in the former city. The result is, that Baltimore loses a trade sought to be gained, and the road a very large business, which an illiberal and unwise policy forces upon other routes.

The true policy is exactly opposed to the one which now seems to prevail. It is of a piece with what has too often characterised that of southern communities: an attempt to increase the business of a particular place by throwing impediments in the way of the *free* movement of persons and property. Till quite recently, the city of Augusta, Georgia, steadily refused to allow any connection to be made between the Georgia and South Carolina roads at that place, but forced all the freights to be trucked from one depot to the other, for the purpose of making a little money in *drayage*, of compelling travellers to make as long a sojourn as possible in the city, and for the purpose of rendering it inconvenient for the cotton planter, or petty trader, to go beyond it to make their purchases. The idea was, that the prosperity of the town could be advanced by such a course. Such a policy would be regarded as an absurdity in all the northern states, where a wider experience has developed juster notions upon such subjects. The better sense has recently triumphed, we are glad to say, even in Augusta. The city council has recently given permission for the building of a bridge over the Savannah river, and the connection of the two roads by a continuous track.

We think the same mistaken notions to which we have adverted, have exerted an influence prejudicial to the best interests of the Baltimore and Ohio railroad. We know that for years they have prevented the Philadelphia, Wilmington and Baltimore railroad from building a bridge over the Susquehanna river. They have exerted a paramount influence over the management of the B. & O. road, the object being not to secure to it the largest possible amount of business, but to render it the most efficient instrument in increasing the business of Baltimore. It is to be expected that the Baltimore merchant should feel some dissatisfaction in seeing the cars on a road which he helped to build for the purpose of enlarging his own business, filled with merchandise purchased in New York; and it is very natural for him to suppose that should the railroad discriminate in favor of merchandise purchased in Baltimore, he could have the sale of the goods purchased in the other cities. He thinks therefore that his interests and those of his fellows should be protected by *discriminating* charges in his favor; and we understand

that such a policy is very likely to be incorporated into the management of this road.

New York is *now* the great commercial city of the United States. She has been made so chiefly by her unrivalled system of public works. To a portion of the trade enjoyed by this city Baltimore claims to have a right, by virtue of the superior advantages of the position, secured to her by the Baltimore and Ohio railroad. But these claims, only recently put forth, are not recognized, nor is their validity understood. This can only be done by offering them to public inspection, by inducing every *Western* merchant coming *East*, to take the route of the Baltimore and Ohio road, to visit that city, to examine its facilities for business, to form acquaintance with its merchants, etc., etc. This kind of acquaintance must precede all business arrangements. Next to the Erie canal, N. York owes her commercial greatness more to the early completion of a line of railroad from Albany to Buffalo, than to any other cause. This line at once became the route *east*, for every western merchant, wherever might be his business relations. He was thus brought into immediate contact with the New York merchant, a step which gradually led to new business, and the abandonment of the old, till the New York merchants in time found themselves in possession of a trade which had been previously shared by the merchants of all of our leading Atlantic cities. If the merchant of Baltimore would recover a trade he has lost, and secure such additions to it, to which he believes himself entitled, the Baltimore and Ohio railroad must do for him what the Albany and Buffalo line did for New York. He must introduce himself to *new* customers, by bringing them to *him*. The Baltimore and Ohio railroad must be made the cheapest, most comfortable, and most expeditious route between all the great eastern cities and the west. In no other manner can the results predicated of it, both in respect to its earnings, and in its influence in promoting the prosperity, and advancing the interests of the city of Baltimore, be realized. Unless the route can be made what we have described, we fear that this great work will disappoint public expectation, and particularly the hopes of those who have labored so many years in its construction.

There is no doubt that the interests of every town or city, having any claims to business resources on the line of any road, are best promoted by the *unembarrassed and untaxed* movement both of persons and property through it. The people of Albany feel that they are as much benefitted in being able to make the trip to N. Y. in four hours, and at a cost of \$1 50, and in having the *through* passengers from the west, detained only ten minutes on their way to New York, as do the people of the latter city. By interposing obstacles to the free movement of either, all classes would suffer, even those who might be supposed to profit by them, such as hotel keepers, porters, draymen, etc.; for the reason that the increased movement more than compensates them for what they would gain by interposing delays upon the *fare*. So well understood is the value, to the towns themselves, of rapid and unrestrained movement through them, that in the northern states, when railroad companies have not the power, or the means, to secure uninterrupted connections through them, the cities generally execute the necessary works themselves,

and at great expense. The city of Portland aided at great cost, the connection of the Atlantic and St. Lawrence, and the Portland, Saco and Portsmouth roads, the respective depots of which are on opposite sides of the town. A new line of railroad has recently been constructed through the city of Troy, and partially, if we mistake not, at the expense of the city, for the purpose of enabling the locomotive, with its trains, to pass through it at full speed. It was considered necessary to the progress and welfare of that city, that a new road should be built for the purpose of preventing trade and commerce being drawn off into other channels where no such impediments existed. So of all the numerous cities between Buffalo and Albany. The traveller is whirled through them all nearly at full speed. It is this fact that has built up these cities and made the Central line the greatest route of travel in the U. States, and enables it to hold this travel from rivals having much shorter routes. Were passengers at every large town compelled to "break bulk," and be tumbled into dirty coaches, and jolted along from one side of it to another, this route would sink into one of second rate importance, and the cities themselves, would, we really believe, retrograde, instead of advancing with a rapidity that excites the wonder and admiration of the whole country.

The people of Baltimore assume their proximity to the western States to be a matter of great importance in a commercial point of view. The difference in distance, in favor of that city, between New York and Cincinnati, by way of the Baltimore and Ohio, Parkersburgh, and Cincinnati and Marietta route, over the New York Central, is 150 miles; yet were that route fully opened it would be at the difference of 250 miles the longer, measuring distance by time. It now takes just about as long to go from New York to Baltimore, a distance of 186 miles, as from New York to Buffalo, a distance of 444 miles. Here then is 258 miles gained in the first 12 or 15 hours! By the two routes, travellers reach Buffalo and Baltimore in the evening, arriving at each place at about the same time, and cost for transportation. At Buffalo the traveller by the northern route has made up the distance against him and gained 100 miles in addition, and is at a point from which he can reach Cincinnati at least 15 hours quicker than a person leaving Baltimore at the same time. The saving effected in cost will be fully equal to that in time.

The advantage of position about which we have heard so much, is more than neutralized by the superior energy and the liberal policy of her more enterprising neighbors.

The same policy to which we have adverted was the ground for withholding authority from the Philadelphia, Wilmington, and Baltimore railroad, to construct a bridge over the Susquehanna river. It was hoped that the river would constitute a sufficient barrier to prevent the southern and western merchants from going to Philadelphia or New York to trade. This policy seemed to work well enough so long as the line of the old National road continued the great route of travel between the east and the west. The opening of the New York line of railroad at once diverted this travel to the northern routes, so that the immense crowd that formerly passed over the Maryland route soon dwindled to an insignificant

number, affecting seriously the revenues of the Baltimore and Ohio road, then opened to Cumberland. The western merchants on reaching New York found it as inconvenient to go to Baltimore as it was to come from that city to New York. The result was, that owing, to an unwise and and illiberal policy which she had cherished so long, the former city lost much of its relative importance and a considerable portion of the trade and travel it once enjoyed.

As Philadelphia, to a certain extent was actuated by a similar idea, and as both were willing to see every obstacle interposed between them and New York, the tendency was to demoralize the tone of railroad management between these and the latter city, from which it has not yet recovered. The roads and their management between New York and Philadelphia are still far behind the average standard for the country. So long as this continues to be the case, the New York routes will continue to command the travel between the east and the west, and both the Baltimore and Ohio, and Pennsylvania roads must lose seriously thereby. On the other hand, were the roads connecting New York with Philadelphia and Baltimore run at the same rate of speed, and the same uniformity, as the Hudson River, there is no doubt that the great mass of trade which now crowds the New York roads would take the more southern and shorter routes. Whether these will secure a prize, which involves the abandonment of a policy so long and so sedulously cherished, but which still is within the grasp of the right kind of enterprise, remains to be seen. The Baltimore and Ohio railroad is more deeply interested in the result than is commonly supposed.

Indianapolis & Cincinnati Railroad.

This road (formerly known as the Lawrenceburgh and Upper Mississippi) was completed on the 29th October, and was formally opened for business on the first instant. Its entire length from Lawrenceburgh to Indianapolis is 89½ miles. From Lawrenceburgh to Cincinnati the distance is about 20, making the thorough route between the latter and Indianapolis 110 miles. That portion of the line from Cincinnati to Lawrenceburgh is now made by steamboat. This link will be supplied by the first of January, by the Ohio and Mississippi railroad; so that by that time, the political capital, and the central portions of Indiana will be brought within 5 hours time of the commercial metropolis of the Ohio valley. At present the trip is made in six hours, and with a degree of ease and comfort which makes the traveller quite contented to lose the hour which will be saved when the Ohio & Miss. railroad shall be opened.

The opening of the above road is an important event in the railroad history of Indiana. No greater improvement in locomotion can be imagined than that of bringing Indianapolis and Cincinnati within 6 hours of each other, a journey which a year since could hardly be performed in 24. Indianapolis is now one of the most central points in the railway system of the United States. The road which connects this with the leading point of trade in the Great Valley, must rank among our first class roads.

For the cheap movement of freight, the most important source of business of western roads, the Indianapolis & Cincinnati possesses peculiar facilities. In connection with the river, it will always

be the cheapest route between the above cities, and freights can be taken to and from any of the landings in the latter city, without truckage, or any extra charge. The charge to Lawrenceburgh, for freights coming down the river, is the same as to Cincinnati, a fact which will give the above road a decided superiority over any other route.

The road traverses one of the oldest settled most fertile and best cultivated portions of the west and will form a convenient outlet to the best market, for a number of local lines of roads which it intersects. It has been built, and its financial concerns have been conducted in the most economical manner; the iron and equipment having been purchased when those articles were at the lowest prices. It is fully equipped for a very large business, and under the superintendence of able and experienced parties, who have acquired a good reputation for the successful management of eastern roads. The road opens for business under excellent auspices, and bids fair to become one of the most profitable of our western roads.

Railways and Railway Investments in the West.

The immense sums now invested in railroads in the United States, renders the value of these works a matter of the gravest moment. Although the country at large may be the gainer by them to a vastly greater amount than their entire cost, (a point, we believe, conceded on all sides,) there are numerous parties who have contributed largely toward their construction, who cannot be recompensed by the general prosperity which they create, but who are interested in them simply in the capacity of stockholders. To such, our roads are successful or not, just in proportion to the dividends they earn, and could not prove unprofitable without the most disastrous consequences, the extent of which can only be measured by the utter ruin of vast numbers of individuals and families, who have no other means than the earnings of our railroads for their daily support. The securities of these works too, have become so interwoven in all the operations of business, are made the bases of so many transactions, that, should they become comparatively valueless, we do not see how the commercial community could survive the shock which would result, the injurious consequences of which would be heightened and aggravated by the destruction of all confidence in the soundness of human judgment even in ordinary affairs. Correct views of the real value of our railroad investments are, therefore, of the utmost importance, both as a means of allaying apprehension when no cause for alarm exists, or for the purpose of awakening it as a corrective of abuses, or of an unwise or improvident policy, before they shall have gone beyond the reach of remedy.

The present is a good time to look at the darker side of the picture. In the stringency in the money market, which prevails, nearly every active business man in the community finds himself involved in one way or another, in our railroad enterprises; finds his own means cut short, or large demands upon them, on their account. No matter whether he may own stock or not. His neighbors do, and their condition affects his own. A person who declaims against railroads finds a hearing now, when he could not have got a single listener a year since. The subjects of railroad in-

vestment can consequently be looked at with a more of impartial judgment, for the reason that a person is to a considerable extent relieved from the influence of sentiment in their favor, which only a few months since was universal, and because all that can be said, or exists, against them, in the present state of affairs, is sure to come out.

A trip west during the month of October gave us a pretty good opportunity of inspecting, personally, the roads of that section of the country, the general system of management which prevailed, of studying the sources, and extent of their traffic; the influence they were exerting in developing the natural wealth of the country, and in this way, creating a business for the future. We had the good fortune of being in company with several very intelligent German gentlemen, among whom were Mr. Schleiden, resident Minister at Washington, from Bremen; Mr. Rucker, charge d'affaires for the city of Hamburg, at Berlin, Prussia; Mr. Delbrueke of Berlin, holding an official position in the Prussian ministry; and Mr. C. G. Eschen, in behalf of the Banking House of Meyer & Stuken, of this city. Their object was precisely the same with our own, which was to form a correct opinion, for themselves, and for the numerous class of German and Continental capitalists interested, as to the value and commercial influence of our roads. As the railroad companies did all in their power to facilitate our objects, and offering to our examination every thing that could aid us in forming a correct idea as to the uses and value of their roads, we had the best possible opportunity of forming correct notions upon the subject of our inquiries. It is needless for us to say that the favorable opinions, which we had previously entertained, and so often expressed, were fully confirmed by what we saw, and were sustained, we believe, by those of the gentlemen named; and we are happy to refer to them in the general confirmation of our views.

The most prominent fact which strikes attention in travelling over western roads is ease and cheapness with which they can be constructed, and the capacity of the country to supply an abundant traffic. The valley of the Mississippi is one vast plain having a very slight descent in direction of the gulf. Wherever the general surface is broken, the irregularities are due to the action of the water courses. Many of the larger rivers, the Ohio in particular, have cut for themselves deep trenches in the friable soil of the great valley. The principal obstacles to the cheap construction of railroads are consequently found in the vicinity of such rivers. After leaving them, however, the table lands are soon gained, which preserve pretty much the same elevations above tide water, upon similar parallels of latitude; with these all difficulties in the way of construction disappear. The grades of the road accommodate themselves, to the general undulations of the country, and where curves are resorted to, they are used quite as often for the purpose of avoiding the buildings of farmers, or for the purpose of obtaining convenient approaches to the turns and stations on the line, as for any other cause. There is little, or no, rock cutting upon very many of the western roads, and there is frequently so little difference in the choice of routes, that tangents of from 50 to 70 miles are often used with very little additional cost.

The favorable topography of this section of the

country permits the opening of a road for business, with a comparatively small outlay. It frequently happens that roads are in the enjoyment of a very large and profitable traffic, when they are only *half* finished; even before the road-bed is in suitable condition for use, and before any suitable stations or depots are erected for the comfort and protection of persons and property. It is perhaps on the whole bad policy for many of the western roads to commence running their trains, as soon as they do; but it is hardly possible to resist the pressure, to put them in motion, as soon as the rails are laid. It is impossible to make a good road in the West, out of the soil. To make it passable it must be *McAdamized*. The moment that the fat, unctuous, soil becomes *wet*, travel over the highway is at an end. Consequently the railroad is pressed into service, at the earliest moment for the saving it effects in the carriage of the heavy bulky products of the great valley.

After the western roads are thoroughly built and equipped the difference in their cost, and that of eastern roads will be much less than has been generally supposed. The items of graduation, masonry, bridging and right of way, cost less than those of eastern roads. On the other hand, their iron and equipment cost more, and they generally are compelled to submit to larger discounts on their securities. But as the cost of roads in all parts of the country depend more upon the extent of the business, than upon any other causes, we must expect to see the cost of western roads run up to a high figure, to provide the necessary accommodations and equipments for their enormous traffics. Although fortunately they are able to *commence* business upon a very small outlay. We do not believe that any road can be built in the West, adapted to a large trade short of about \$30,000 per mile, while the cost of a majority of them will before many years exceed this sum. A low cost road is only compatible where its business is very small.

As a general rule, and we may say almost without exception, the money raised by western companies appears to have been judiciously expended. The facilities for cheap construction compensate for the want of engineering skill. Its place is made good by that practical sense which grows out of a constant necessity, in new countries, of supplying the absence of capital and labor, by expedients of one kind or another, for which our people are so justly celebrated. We know of but one instance of misapplication of funds from their ostensible objects. Parties at a distance, therefore, may be assured, that the means which they have contributed toward the construction of our railroads have been properly expended, a fact, which narrows down the question of the safety of their investments to a single point, that of the *income* of the roads.

In building railroads in a new country, certain results are predicated from well known data, such as the course of trade, the actual movement of persons and property over a particular route, the rates at which they can be transported, &c., &c. In presenting the claims of any scheme to the public, it is usual for the parties having it in charge to accompany it by a statement showing among other things its probable cost and income. It is upon the credit attached to this statement, that the securities of the various companies are

purchased. Now we know of no new southern or western roads recently constructed, the results of whose operations, is not much more favorable than the estimates. The cost of the road is not so much exceeded, as are the excess of earnings over estimates. The stock and bond holders get all and more, than they contracted for. If they have made unsatisfactory bargains, *they*, and not the railroad companies are at fault. The railroads of the entire country have been as profitable, and are as strong, as far as their revenues are concerned, and have as favorable prospect for the future, as was expected, and, on the whole, was claimed by sensible men.

A correct idea of the ability of the newly settled portions of the country to supply a lucrative trade to the railroads can only be formed from actual observation. It would very naturally be supposed that the labor of the *pioneer* would be unproductive; that supplying his own wants would occupy all his time and attention. Such would be the case in most countries. In the Mississippi we find a soil, the fertility of which years of cropping does not exhaust. Almost the only instrument used is the *plough*. The soil, broken for the first time in the spring, yields an abundant harvest in the fall. As agriculture is the simplest of all forms of labor, combination neither of numbers nor capital is necessary to a very large production. In the culture of wheat or corn, the labor of *two* men will produce one-twentieth as much as the labor of *forty*. A particular district which two years since was without a single inhabitant, may this year furnish a large business to a road. In the West too, the labor of the country settlers is not only as profitably employed, as in the Older States, but furnishes a much larger amount of freight for *exportation*. A single farmer may easily raise with the labor of his own hands, 1000 bushels of grain for sale. As by necessity, he confines himself to *one* staple, he is compelled to purchase from abroad whatever he requires, that his own farm does not supply. Railroads in the new States have therefore a double office. By giving the means for *selling*, they enable the farmer to *purchase*, to the same extent; and as our manufacturing and commercial communities are widely separated from the agricultural districts, a very considerable part of the transportation on our railroads, is a *thorough* movement both of property and persons. This fact adds very largely to the receipts, and is one cause of their extraordinary success.

The State of Wisconsin furnishes a striking illustration of the correctness of the above remarks. In 1840 its population was only 30,000 souls. In 1850 it reached 304,000. At the present time the number of inhabitants cannot fall short of 450,000. The increase for the past ten years has been just about 400,000. As we were desirous of seeing what ten years had achieved in what, prior to that period, had been an unbroken and uncultivated waste, we passed over the principal line of railroad in the state, the Milwaukee and Mississippi, and devoted a day to a pretty critical study of the city of Milwaukee. In no part of the west did we see a better settled, a better cultivated, or a more productive country; and no road groaning under the press of a larger business in freights than the above named. Wisconsin is one of the most attractive, because it is one of the best *wooded* of the

prairie states. It presents a constant succession of small prairie, and wooded knolls, enabling nearly every farmer to locate in the vicinity of timber and good water, with prairies spread out before him of the easiest cultivation and almost inexhaustible fertility. With such advantages ten years have been sufficient for the creation of a great and prosperous state, filled with large and flourishing towns, and whose people present every evidence of wealth and extraordinary prosperity. Milwaukee, at the lowest estimate, contains thirty thousand inhabitants, and is one of the best built and most beautiful towns in the United States, with a very large and rapidly increasing commerce. Although the area of the State is very large, nearly the entire population of it is embraced in that portion of it south and east of the Wisconsin and Fox rivers, a territory of less than ten thousand square miles. We cite the above illustrations for the purpose of showing that in no part of the west can the construction of railroads outstrip the wants of the people or their ability to supply to them an abundant traffic.

We give these general remarks for the purpose of showing the ground work, or *rationale* upon which our railway system rests. It is easy to point to the earnings of our roads in proof of their value and success: but all such, unless sustained by the results of their operations for years, may fail to command entire confidence, or remove all suspicion from the public mind, unless it be shown that they grow out of the very nature of the case. A fact stated by a railroad company may not establish a *principle*, because it may depend upon causes *accidental* in their character. But where such facts agree with the deductions naturally drawn from well established premises, their accuracy may be received without question. The extraordinary earnings of our railroads are no greater than what might have been anticipated by persons intimately acquainted with the relations they bear to the commercial and business wants of the country.

The railroad interest of the United States may be regarded as resting generally upon a sound basis. As an investment, our new roads cannot fail to pay a fair interest on their *aggregate* cost. When we come to compare different lines, there is, of course, every shade of excellence. As far as the purchase of their securities are concerned, we can hardly name an instance where parties will not receive all they contracted for. The amount of the *advance* expected, must depend upon the character of each particular work. With regard to *rival* works, we think less is to be feared from their influence than has been generally supposed. Western roads are costing much more than the original estimate, and the present stringency will postpone such as are of a *rival*, or competing character, till the above fact is fully understood. When parties see that they cannot construct a good road short of \$30,000 or \$40,000 per mile, which they supposed could be built for \$15,000 or \$20,000, their zeal will be very much abated. The demands of older companies who can offer the best securities for loans, will have the effect to crowd aside the claims of *new* or purely *rival* works. But the west will sustain a greater number of miles of railroad in proportion to its area, than any other part of the country.

Few railroads are projected or in progress in the former, that will not add more than they will subtract, from the business of the old roads.

We give these general remarks by way of introduction to others of a more pointed character; as the statement of a *principle* before making an application of *facts*. Our object is to convey a correct idea in reference to our railroads. As our views may be incorrect, we desire to state the *process* by which we arrived at them, assuring our readers that we intend to give them our *convictions*, however much mistaken we may be in our *logic*.

Nashville and Chattanooga Railroad.

V. K. Stevenson, Esq., in a recent communication addressed to the stockholders of this company, presents the following statement of the expenditures made thus far in the prosecution of their work. He observes that to the expenses there must be some addition for work done included in the account marked due from sundry persons and bills receivable, as well as a balance of 40,000 or 50,000 dollars to finish paying contractors just closing up, and to complete the outfit and station houses to be built under the resolutions of last May:

CONSTRUCTION.

Graduation, Culvert Masonry	1,087,483 89
Bridging	249,425 54
Laying Superstructure	122,480 17
Timber for do.....	147,471 14
Railroad Iron	710,783 26
Engineering	77,813 70
Gen'l expenses chargeable to construction..	50,000 00—2,445,457 70

EQUIPMENT.

Depot Buildings	74,877 88
Wood sheds and Water Stations	18,354 79
Division Houses	4,231 17
Construction of Machine Shop	1,798 37
Depot Lots	31,760 68
Cars	111,183 43
Tools	12,266 97
Locomotives	139,583 60—394,058 89

CONTINGENCIES.

General expenses not chargeable to construction	15,469 39
Interest on general account	170,951 83
Interest on No. 2. stock issued	2,598 89
Damage to M. & S. T. P. Co.	23,262 50
Discount on N & M bonds	66,321 98—278,604 59

SUNDRIES.

Real Estate	10,289 31
Slaves	6,051 25
Bills Receivable	55,985 99
Due from sundry persons	56,433 94—128,760 49
	\$3,246,881 67

Maine.

ANDROSCOGGIN RAILROAD.—The Second Division of the Androscoggin Railroad, extending from Livermore Falls to Bartlett's Corner, is to be graded, the work to be finished by the first of October next. When the road is built, and in running order to that place, it will command almost the entire business from Franklin County. The road has been doing a much better business than was anticipated by its friends. The third division of the road, from Bartlett's Corner to Farmington, will be put under contract as soon as the second division is completed.—*Lewiston Journal*.

Greenville and Miami Railroad.

From an exhibit made Oct. 17th, 1853, we have the following statement of the business of the Greenville and Miami Railroad Company from 1st January to 1st September, 1853:

EARNINGS OF ROAD.

Receipts for transportation	\$32,922 65
Receipts for passenger service	88,640 23
Receipts for mail	2,333 00
Total	\$73,895 88

DISBURSEMENTS.

For ordinary expenses, including repairs of machinery	\$24,233 98
For taxes and assessments	1,044 56
For payments to Dayton and Western Railroad for use of 14 miles of road from junction to Dayton	9,500 00
For interest on \$341,000 bonds not converted ..	11,935 00—\$46,713 52
Balance	\$27,182 36
Ten per ct. dividend on \$184,000 stock ..	18,400 00
Surplus	\$8,782 35

There have been expended for additional machinery and ballasting of road, erection of engine-houses, wood and water stations, etc., the following amounts, out of the earnings of the road since Jan. 1st, 1853:

For ballasting of road	\$16,000
For engine-houses, stations, etc.	5,352
For additional cars not provided for in former estimates ..	5,550—\$26,902 00

These expenditures, it will be seen, absorbed nearly the entire surplus of earnings for the period embraced in the above statement, beyond the actual expenses of running the road, and the payment of interest on bonded debt, and the agreed compensation to Dayton and Western railroad company for the use of fourteen miles of their track from the junction to Dayton, and it became necessary, therefore, to make the September dividend payable in the stock of the company, which was done.

EARNINGS FOR SEPTEMBER.

The earnings of the road for September are as follows:

Passenger service	\$8,268 21
Freight service	4,449 35
Mail service	333 30

Total	\$13,050 86
Amount of bonds not converted	\$341,000
Amount of stock outstanding	184,000
Total	\$525,000

European and North American Railway.

We learn that Mr. Reed, Engineer of the E. & N. A. R. R. Co., has extended his location to Bangor, intersecting the Newport line 54 miles this side of the city, instead of 13 miles, as first proposed. An important saving in distance has been made, so that the line from Augusta to Bangor will be but 60 miles, making a saving of between 17 and 18 miles between Portland and Bangor, over the Newport & Waterville route.—*State of Maine*.

Canada.

The contract for building the Stanstead, Shefford & Chambley Railroad from Derby Line to Montreal, has been let to F. O. J. Smith, of Me., and his associates. The price is \$3,000,000, of which \$600,000 is to be paid in municipal and stock subscriptions, and the rest in the bonds of the road. It is hardly possible now to prevent the extension of the Passumpsic road to Derby Line.—*Vermont Journal*.

Virginia.

Orange and Alexandria Railroad.—The stockholders of the Orange and Alexandria railroad held their annual meeting on the 27th ult. J. S. Barbour, Jr., was elected President for the ensuing year, and Henry Dangerfield to fill a vacancy in the Directory. We extract from the Treasurer's report the following statement, showing the receipts and disbursements, both from the organization of the company and for the past fiscal year:

Receipts from commencement.....	\$1,824,954 36
Disbursements from commencement..	1,778,488 00
Receipts for the past fiscal year....	655,138 97
Expended during the past fiscal year.....	608,672 61

We learn from the Charlottesville Advocate that the meeting was attended by a number of gentlemen from the counties of Nelson, Amherst, and Albemarle, who felt an interest in the construction of the Lynchburg road from Charlottesville. They went down for the purpose of pledging the line to a subscription of \$300,000, which amount it is thought will secure the location of the road. They calculated upon a subscription of \$50,000 by the citizens of Albemarle, \$20,000 of which it was expected that Charlottesville would subscribe.

Illinois and Wisconsin Railroad.

At an adjourned meeting of the stockholders of the Illinois and Wisconsin railroad, held at their office in the city of Chicago, on Thursday, October 18th, 1853, at 4 o'clock, P. M., the following gentlemen were elected Directors for the ensuing year:

Wm. B. Ogden, Walter S. Gurnee, John P. Chapin, H. H. Magie, George W. Snow, J. C. Walter, George Steel, Charles V. Dyer, of Chicago.

Daniel S. Miller, J. J. Phelps, Philip Dater, of New York.

H. Hotchkiss, of New Haven, Conn.
Alfred Smith, of Hartford, "

Canada.

At a meeting of the stockholders of the Stanstead, Shefford and Chambly railroad, held at the St. Lawrence Hall, pursuant to notice the following stockholders were present:

Hon. Judge Rolland, Hon. L. T. Drummond, Hon. Wm. Badgley, P. Baxter, Hon. F. O. G. Smith, Portland; Onslow Stearns, President Northern Road, N. Y.; Dr. Poulin, M. P. P., John Gale, Benj. Lyman, John Ostell, Col. Bouthillier, A. Knight, Chas. Allen, George Adams, George Giddings, John Borker, Jr., Ralph Mewry, Edmund Longley, Stephen R. Andres, Samuel Andres, R. A. Ellis, J. G. G. Loranger, A. B. Foster, Alonzo Wood, D. Russ Wood, J. E. Alsopp, L. S. Huntington, Esqrs.

The stockholders proceeded to the election of directors, and upon nomination, the following gentlemen were elected:

Hon. Erastus Fairbanks, Vermont, L. T. Drummond, Wm. Workman, Benj. Lyman, D. Russ Wood, John Ostell, John Yule, S. Poulin, A. Knight.—*Montreal Herald*, Oct. 27.

Nashville and Chattanooga Railroad.

We understand, that the cars will run from Chattanooga to Nashville on the 1st of December, and that the Atlanta and La Grange Railroad will be opened to West Point in six weeks, so that certainly by 1st of January, the communication by railroad from this city to Nashville and to Montgomery, and from those points by steamboats to the Cincinnati and St. Louis railroad, and to Mobile and New Orleans, will be completed.—*Charleston Courier*.

Wheat on Michigan Southern and Northern Indiana Railroad.

There was carried over this road, during the months of August and September last, 641,787 bushels of wheat; and of that amount Monroe had 283,182 bushels, and Toledo had 351,788 bushels, and other places had 6,867 bushels.

Illinois.

Aurora Extension Railroad.—This road was to be completed to the Junction with the Illinois Central railroad, sixteen miles from Lasalle on the 29th ult. It is to be extended still farther and will soon reach Galesburgh, where it meets the Burlington and Peoria road, and of course, taps the rich trade of a large and fertile section of Iowa. The Military Tract through which it runs, is one of the finest agricultural regions in Illinois.

Illinois.

Massac and Sangamon Railroad.—The subscriptions to the stock of this company, made at Metropolis, Ill., up to Oct. 20th, were \$48,450, which was subscribed by thirty-seven individuals. In Franklin county upwards of twenty-one thousand dollars have been also subscribed.

Milwaukee Railroad Subscription.

The Daily Wisconsin of 18th ult. says, in relation to the Watertown Railroad loan:

The vote yesterday determines in favor of the loan, and the last loan that the city can make—as a law at the session of the Legislature limits the loaning of city credit to \$1,000,000. The respective loans are, \$234,000 to the Milwaukee and Mississippi railroad; \$200,000 to the Lake Shore; \$200,000 to the La Crosse; \$200,000 to the Fon du Lac, and \$200,000 to the Watertown road.—This fills the limit of \$1,000,000.

1300 Tons Yorkshire T rail, weighing 56 lbs. to the yard, and of a superior quality daily due and for sale by,
NAYLOR & CO.

KRUPP'S
Celebrated Cast Steel Tire,
MADE FROM A SOLID BAR WITHOUT WELDING.

CLASS V,
EXHIBITION OF THE INDUSTRY OF
ALL NATIONS, NEW YORK, 1853.

THE above Tire is submitted for competition and FINAL DESTRUCTION after the severest tests that the Judges can suggest to prove its tenacity, elasticity and TOUGHNESS.

The quality of the Tire is fully equal to that of the Cast Steel Axles and Springs, so extensively used on the continent of Europe.

Krupp's
CELEBRATED CAST STEEL,

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATES and other Cast-Steel Rollers, of any dimensions not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines, not exceeding 3000 lbs. in weight.

Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

Orders received by

THOMAS PROSSER & SON,
28 Platt street, New York.

Sole Agents for the United States.
Nor. 19, 1853.

Machinists' Tools.

A SUPERIOR CLASS,

DESIGNED particularly for Railroad work, manufactured by **L. B. TING & CO.,** (late ALDRICH, TINK & CO.)
October 7, 1853. **LOWELL, MASS.**

Valuable Works on Railroads, Railway Engineering, Steam Engines, &c.

LARDNER'S RAILWAY ECONOMY, 1 vol. \$2 00
THE STEAM ENGINE, STEAM NAVIGATION, ROADS AND RAILWAYS, Explained and Illustrated by Dr. LARDNER, 8th Edition, revised and improved. 2 00
TREDGOLD ON THE STEAM ENGINE, 3 vols., 4 to., 1/2 calf. 50 00
TREDGOLD'S PRACTICAL TREATISE ON RAILROADS AND CARRIAGES. 1 50
PORTWINE ON THE STEAM ENGINE. 50
BURGOYNE'S ART OF BLASTING ROCKS, QUARRYING, &c. 31
TREATISE ON TUBULAR AND GIRDER BRIDGES. 31
BAKER'S LAND AND ENGINEERING SURVEYING. 62
BAKER'S RAILWAY ENGINEERING AND EARTHWORK. 1 50
PRIDEAUX ON ECONOMY OF FUEL. 31
SEWELL ON STEAM AND LOCOMOTION Vol. 1. 31
HERBERTS ENGINEERS AND MECHANICS ENCYCLOPEDIA, 2 Vols. 9 50
GARRS RAILWAY LOCOMOTION AND STEAM NAVIGATION. 1 75
TRAUTWINE ON EXCAVATIONS AND EMBANKMENTS. 1 00
Imported and for sale by **JOHN WILEY,**
167 Broadway, New York.

N. York and N. Haven R. R. NOTICE OF SUMMER ARRANGEMENTS,

 Commencing Monday, May 9, 1853. 

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	6.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	6.35 A. M.—Express from New Haven, stopping at Bridgeport, Norwalk and Stamford.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	4.00 P. M.—Special, from Port Chester.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Accommodation from New Haven.
5.35 P. M.—Commutation for N. Haven.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
6.30 P. M.—Special for Port Chester.	

GEORGE W. WHISTLER, Jr., Sup't.
New Haven, May, 1853.

Stuart, Serrell & Co.,

CIVIL ENGINEERS,

Rooms 22, 24, 26 & 27,
157 Broadway, New York.

CHARLES E. STUART,
DANIEL MARSH,

EDWARD W. SERRELL,
SAMUEL McILROY.

New Works on Civil Engineering.

THE Field Practice of laying out Circular Curves for Railroads.—By **JOHN C. TRAUTWINE,** Civil Engineer—2nd edition in pocket-book form.

A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates. Price One Dollar each—postage on the Curves Three Cents—and on the Excavations and Embankments, Six Cents.

For sale by

WILLIAM HAMILTON,
Hall of the Franklin Institute,
Philadelphia.

May 4, 1853.

ESTABLISHED 1796.**McAllister & Brother,**

OPTICIANS and Dealers in Mathematical Instruments, at the old established stand, 43 Chestnut street, Philadelphia, Pa. Mathematical Instruments separate and in cases, Protractors, Spacing Dividers, Drawing Pens, Ivory Scales, Tape Measures, Salometers, Spy Glasses, Microscopes, Spectacles, Hydrometers, Platina Points, Magic Lanterns, &c., &c.

Our Illustrated and priced Catalogue is furnished on application and sent by mail free of charge.
Nov. 19, 1853. 6m

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY SIX PER CENT. FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW, LANIER & Co. }
No. 52 Wall-st., Oct. 6, 1853. }

THE LITTLE MIAMI RAILROAD COMPANY offer for sale one million of their **SIX PER CENT. BONDS**, with coupons. Interest and principal payable in New York, the former half-yearly, 1st of November and 1st of May. They are in sums of \$1,000 each, payable the 1st day of May, 1858.

These Bonds are issued under the express authority of the Legislature of the State of Ohio; and are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station-houses, &c., up to this date \$2,708,109 19.

This Company hold stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also, in the Hillsborough Road the amount of \$11,716.

The receipts of the Road have been as follows:

For the year ending Dec. 1, 1844.....	\$18,623 36
For the year ending Dec. 1, 1845.....	46,327 58
For the year ending Dec. 1, 1846.....	116,052 02
For the year ending Dec. 1, 1847.....	221,139 52
For the year ending Dec. 1, 1848.....	280,085 78
For the year ending Dec. 1, 1849.....	321,398 82
For the year ending Dec. 1, 1850.....	405,697 24
For the year ending Dec. 1, 1851.....	487,845 89
For the year ending Dec. 1, 1852.....	626,746 85
The receipts from Dec. 1, 1852, to Sept. 1, 1853, 10 months were.....	544,625 59
For the same period year before.....	411,797 06

Increase in 10 months.....\$132,823 53

The position of this road, being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia Road, and runs in connection with the Cleveland and Columbus Road; in fact they are now run as one line greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of 5 per cent. in 1852. In 1852 two cash dividends of 5 per cent. were made.

The present surplus and reserve fund amounts to.....	\$98,516 10
The mortgage covers the entire line of road, costing to date...	2,708,108 19
To be expended on double track, &c.	1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is one of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the City of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. LANIER, Esq., of this city, in trust for the bondholders, with ample power to take possession of the Road, its real and personal estate, franchises, &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. The mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

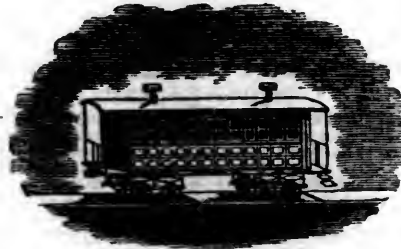
City of Cincinnati, and all other debts of the Company, excepting this loan of \$1,500,000.

These Bonds are offered at private sale by the undersigned, Agents of the Company.

Printed statements of the affairs of the Company, and any further information relative to the securities, will be given by

WINSLOW, LANIER & CO.,
No. 52 Wall-st.

Elmira Car Manufactory.



THE Undersigned is prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

WM. E. RUTTER.

Elmira, N. Y., June 1, 1853.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.
Sept. 11, 1852. ly*

Railroad Car Works.

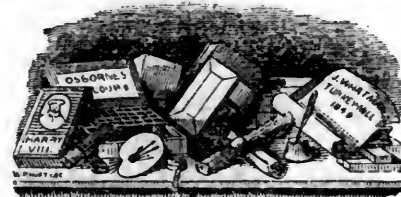
THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

F. HUNGERFORD & CO.

Maysville, Ky., Sept. 20, 1853.

Hufty's

Engineers, Architects and Draftsmen's STATIONERY EMPORIUM.



WHATMAN'S Turkey Mill Drawing paper, Tracing paper, Plan and Profile, Protractors, Drawing Pins, Faber's, Jackson's and other makers' Pencils; Field, Level, and Memorandum Books of various patterns; Mathematical Instruments, Tape-lines, Mouth Glue, Cross Section paper, Triangles, Sabel Brushes, Gum Bands, Malden Gum, Red Tape, Ink, Inkstands and Sand, Water Colors, Pallets, Patent Binders for letters, Portfolios, etc., together with a general assortment of Stationery and Blank Books. All goods packed with care, and forwarded to any part of the United States.

JOSEPH HUFTY,
Successor to H. L. Lipman,
139 Chestnut st., Philadelphia

May 15, 1851.

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—

Railroad Iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

February 22, 1854.

TOWNSEND & COIT, Buffalo.

A. N. GRAY, Cleveland, O.,

RECEIVER AND FORWARDER of Railroad Iron, Chairs and Spikes

Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.

Office next door to the Custom House, Main st. January 12, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHEAFF, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 103 Broadway, corner Dey-st., N. Y.

MONTREAL & NEW YORK AND Plattsburgh and Montreal RAILROADS.

Open through from Plattsburgh to Montreal.

Passenger Trains leave Montreal for Plattsburgh at 6 30 a.m. and 5 p.m., arrive at 8 a.m. and 7 30 p.m.

Leave Plattsburgh for Montreal 7 30 a.m. and 4 p.m., arrive at 10 a.m. and 6 50 p.m.

Trains connect at Montreal with Steamers for Quebec, and the St. Lawrence and Atlantic Railroad for Sherbrooke and intermediate station.

Trains connect at Moers Junction with Northern (Ogdensburg) Railroad for Ogdensburg and Lake Ontario Steamers for Lewiston, Niagara Falls and Upper Canada, and all ports on the Western Lakes.

Trains connect at Plattsburgh by Steamer to Burlington with Rutland and Burlington Railroad and connecting lines for Troy, Albany, New York and Boston, and all intermediate stations. Also with steamers for Whitehall to the Saratoga and Washington Railroad, and connecting lines of road to Troy, Albany and New York.

Passengers will find this route unequalled for comfort and dispatch, and attended with less fatigue and delay than any other. It possesses moreover the advantage of a short Ferrisage of only fifteen minutes across the River St. Lawrence at Caughnawaga, which has never been known to freeze, and can be confidently relied upon at all seasons of the year.

Freight Trains run daily each way.

For particulars see Freight and Passenger Tariff.

BAGGAGE checked through.

H. W. NELSON, Superintendent.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a.m. for Dunkirk and Buffalo.

Mail, at 8 1/2 a.m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Binghamton and Corning, and proceed the next morning.

ACCOMMODATION, at 12 1/2 p.m. for Delaware and all intermediate stations.

WAT, at 3 1/2 p.m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p.m. for Dunkirk and Buffalo.

EMIGRANT, at 6 p.m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 5 p.m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Supt.

HENRY TANNER vs. *the Hudson River Railroad Company.* Circuit Court of the United States for the Northern District of New York.

THIS was a suit brought by the plaintiff for an alleged infringement of letters patent granted to him as assignee of the inventors, L. H. THOMPSON and A. G. BACHELDER: 'for an improved Railroad Brake', by the use on the said road of brakes made on plans, alleged to have been invented by NEHEMIAH HODGE and also by F. A. STEPHENS and purchased by the said defendants, from the said Hodge & Stephens and also for use of the plan as patented to said Tanner.

The suit was noticed for trial at the October term of 1853, and put over the term by the motion of Defendant's Counsel by paying the costs of the term.

And thereafter the Defendant's Counsel made overtures for a settlement which resulted in the defendant's acknowledging the validity of plaintiff's patent, the infringement of the said patent by the use of double acting brakes on the plan of the said patents, and the Company paying to the said plaintiff for the right to use the said invention and for the withdrawal of said suit the sum of ONE THOUSAND DOLLARS and costs.

Having read the above I do certify to the correctness of the statements therein contained.

October 25th, 1853.

THOMAS M. NORTH,
Secret'y and Attorney of the
Hudson River R. R. Co.

New York, October 26th, 1853.

This is to certify that I was of Counsel for the plaintiff in the above entitled cause, that the suit was brought for the recovery of damages from the Hudson River Railroad Company for the use on their cars of brakes, made on the plans described in the patents granted to Charles B. Turner on the 14th, of Nov. 1848, to Nehemiah Hodge on the 2d, of October 1849, and to F. A. Stephens on the 25th, of November 1851. That in preparing for the trial of the above entitled cause I made a careful examination of all the facts, given in the notice of defence and became satisfied that Thompson and Bachelder, from whom Tanner derived title, were the original and first inventors of the Double acting Brake covered by the plaintiff's patent and that the Brakes of Turner, of Hodge, and of Stephens are infringements of the said Tanner's patent.

CHAS. M. KELLER.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by **POWERS & WEIGHTMAN**, manufacturing Chemists, Philadelphia.
Jan. 20, 1849.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Lignaceous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

Henry I. Ibbotson,
MANUFACTURER OF
FILES AND SAWS,

Warranted of superior quality.
Office and Warehouse, 218 Pearl st., New York.

Railroad Iron.

2,000 TONS FIRST CLASS WELSH RAILWAY IRON, to be made to any ordinary T pattern required by the buyers, and for shipment from Newport, Wales, in December, January, and March next, apply to the undersigned, for many years connected with the largest house in the trade.
JOHN H. AUSTIN & CO.,
44 St 2 Ingram Court, Fenchurch street London.

A Valuable Farm in Illinois for Sale.

SITUATED in the Village of Seward's Point in Montgomery County 7 1/2 miles North of Hillsborough, about 36 South of Springfield the Capital of the State, about 18 West of the Illinois Great Central Railroad, about 4 or 5 North of the Allon & Terre Haute Railroad and about 18 miles West of the intersection of the two, containing 80 acres of rich prairie land.

Apply by letter or in person to.

S. S. ROCKWELL,
No. 15 South Second str. Williamsburgh.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms.

Also, McMillen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.
Office No. 25 Cliff street,
Aug. 10, 1853. 3m New York.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by
JOHN H. HICKS, 90 Beaver st.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Wason's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, **HENRY SIZER, Agent,**
Cincinnati Ohio.

Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

To Railroad Companies.

COLLINS' PATENT VENTILATORS,

FOR

Ventilating all kinds of
PUBLIC AND PRIVATE BUILDINGS
Railroad Cars, Depots, etc.



The Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of, for giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P. R. R., Altoona, Feb. 8, 1853.
This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.
STRICKLAND KNEASS,
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.
Messrs. BAKER & WILLIAMS,

Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,
OLIVER W. BARNES,
3m40 Principal Assistant Engineer P. R. R. Co.

To Contractors.

CHIEF ENGINEER'S OFFICE, N. & P. R. R. Co.,
Norfolk, Oct., 13, 1853.

SEALED PROPOSALS will be received by the undersigned at this office from the 3d, until the 15th day of December next, at noon, for the graduation and masonry of 62 miles of the Norfolk & Petersburg railroad between the city of Norfolk and Warwick Swamp in the county of Sussex.

The line will be divided into sections of about 4 miles, and bids will be received for one or more of said sections.

Maps and profiles of the line will be ready for inspection and specifications with forms of proposals may be had of the undersigned on and after the first day of December.

Payments will be made in current money during the progress of the work in proportion of four-fifths of the amount due.

As soon as practicable after the examination of the proposals, those to whom the work will be allotted will be duly notified, and if deemed necessary required to give bond with satisfactory security for an amount not exceeding one-tenth of the amount of work to be done.

The company reserves the right to accept such proposals as in their judgment will secure the prompt and faithful execution of the work according to contract, or reject all, if none are satisfactory.

The line is easy of access, the country through which it passes is of mild climate and abundant in supplies. Postage on all communications must be prepaid.

W. MAHONE,
Chief Engineer.

Small Rails.

THE SUBSCRIBERS manufacture and keep constantly for sale, Light Rails of the most approved patterns, weighing 22, 26, 28, 30 and 50 lbs per yard, suitable for Colliers, Miners, Quarrymen and Contractors, or for turn outs, depot and branch tracks.

CHARLES E. SMITH & Co
Fairmount Iron Works, Philadelphia.
1744 CHAS. E. SMITH,
THOS. T. TASKER, HENRY MORRIS,
WISTAR MORRIS.

To Contractors.

PROPOSALS will be received till sunset Nov. 21st for the Graduation, Masonry, and Superstructure of the **CLINTON LINE EXTENSION RAILROAD** from Hudson to its intersection with the Mad River Railroad, a distance of about one hundred miles. The route occupies a perfectly healthy country, thickly inhabited, and accessible at all points.

Also, at the same time, for the construction of the portion of the Clinton Line Railroad not under contract extending to the Ohio and Pennsylvania State Line.

Specifications, Maps and Profiles will be ready for examination ten days before the letting at the Engineer's office in Hudson.

H. N. DAY, President.
W. B. BRINSMADE, Chief Eng'r.
Hudson, Ohio, Oct. 10th, 1853.

Book and Job Printing.

The undersigned have added to the **PRINTING ESTABLISHMENT** of the "RAILROAD JOURNAL," an extensive **OFFICE** for **BOOK AND JOB PRINTING**, which they are now prepared to execute in the **BEST** manner, and with **DISPATCH**. They respectfully solicit from **RAILROAD COMPANIES**, orders for the **PRINTING** of **Exhibits Time-tables, Circulars, Tickets, &c., &c.**

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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SECOND QUARTO SERIES, VOL. IX., No. 48.]

SATURDAY, NOVEMBER 26, 1853.

[WHOLE No. 919, VOL. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, November 26, 1853.

ENTERED according to Act of Congress, in the year 1853, by EDWIN F. JOHNSON, in the Clerk's Office of the District Court of Connecticut.

Railroad to the Pacific--Northern Route.

Its General Character, Relative Merits, etc.

By EDWIN F. JOHNSON, C. E.

(Continued from Page 742.)

OBSTRUCTIONS FROM SNOWS.

Objections have so frequently been raised to a route for a railroad to the Pacific, lying so far to the north as the one proposed, in consequence of apprehended greater obstructions from snows in winter, as to make it proper to devote some space to the subject.

In passing from the equatorial to the polar regions the rain and snow which falls annually is found to decrease in quantity, and a similar result follows in respect to places in the same latitude in passing from the seacoast into the interior. The density or rarity also of the atmosphere and its temperature have both much to do with its capacity for retaining moisture.

In ascending from the level of the ocean, a reduction of temperature usually accompanies the decrease in density, and both are unfavorable to the retention of moisture, and hence, where there is a very wide extent of elevated country, the

rains are often precipitated soon after entering the elevated region and the winds pass on over the remaining portion of the surface, incapable of contributing the rains which are needful for vegetation.

These causes conspire to produce a great diminution in the fall of rain and snow in the interior of continents compared with the quantity which falls in the regions near the sea coast, or in the vicinity of the larger lakes.

In very wide continents, this diminution is so great as to give to the interior often the character of a Desert.

Under the equator the annual fall of rain amounts to an uniform depth on the surface, as computed by Humboldt, for the mean of both continents of 96 inches.

In lat. 19°.....	80 inches.
" " 45°.....	29 "
" " 69°.....	17 "

The above is the estimated average for the latitudes named, varying of course in particular places from local causes and includes both rain and snow.

The portion of the proposed route extending from the Haut Terres of the Mississippi to the Pacific, being the part which will probably be considered the most exposed to be obstructed by snows in winter, is situated in latitude 48° N. nearly, where the average annual fall of rain and snow by the above would be about thirty inches, adding four inches for the greater amount which falls on the continent of America compared with Europe, as ascertained by numerous observations; a quantity which if uninfluenced by other considerations than that of the latitude would give about six inches in depth derived from the snow alone that being the proportion as ascertained by observations in the latitude of Vermont. It has also been ascertained that about twelve inches of newly fallen dry snow gives about one inch in depth of water. This makes about six feet of snow for the entire fall through the winter; a quantity which if not dissipated by the occasional thaws and rains will give when compacted by lying a long time on the surface, a depth of not more than 2 to 3 feet.

The actual fall of rain and snow throughout the region, is not correctly known from observation and can only be obtained approximately from such

evidence as is within reach.

At Fort Brady, Sault Ste. Marie, outlet of Lake Superior, lat. 46½° N., the mean for six years, of rain and snow is 29.58 inches. At Prairie du Chien, on the Mississippi, lat. 43° N., it is thirty inches. At the mouth of the St. Peter's it is a little less than this, while at Green Bay on Lake Michigan, it is thirty-five inches, owing to its position on the lake.

Observations made in Minnesota, show that the prevailing winds in winter, are from the north and west, occasionally from the south, but very rarely from the east. This is doubtless true of the country west to the mountains.

The northerly winds at that season bring no moisture the entire surface to, and including the Arctic sea, being fast bound in ice,

Those from the west and south-west, which are frequent in winter west of the mountains, bring with them from the Pacific a large amount of moisture, but meeting near the coast the snow capped summits of the Cascade mountains, the moisture is condensed rapidly, and falls the most of it in rain on their western slopes. Hence the winter in Oregon and Washington, as in California, is the rainy season, in which but very little snow falls in the region adjoining the coast, even as far north as the latitude of 50°.

Whatever moisture is not condensed in passing the Cascade range is probably mostly precipitated on the higher points of the Kootenai or Salmon River mountains, so that to the east of them in the vicinity of the Rocky mountains, on the route of the proposed railroad, and especially upon the plains of the Upper Missouri, it is fair to conclude, that but little snow or rain falls in winter, which can properly be considered as the result of the evaporation on the Pacific.

When the winds are southerly, as they are at times in the winter in the region in question, as elsewhere, the humidity with which they may be charged, if not condensed on the high plains of the Great Basin, the Colorado, the Del Norte, and Upper Arkansas, within the limits of which are many mountain ranges of great elevation, are very completely deprived of their moisture, by the cordon of mountains stretching from the Cascade Range of Southern Oregon to the Great Bend of the Missouri, including the Blue mountains, the Green

river mountains, the high summits of the Wind river chain and the Black mountains. North of these, upon the route of the proposed railroad, the quantity of snow or rain deposited in winter by the southerly winds must be very limited.

Farther to the east, in the vicinity of the great lakes which are never completely frozen over, about the Haut Terres of the Mississippi, in northern and eastern Wisconsin, both snow and rain would reasonably be expected to fall in larger quantities in winter than in places farther west, and this appears to be the case from the information obtained.

Such is the theory of the snows and rains in winter, throughout the entire region in question, from the Lakes to the Pacific, based upon the natural laws which govern the distribution of moisture over the earth's surface. In regard to the facts, it is known that in Northern Illinois but very little snow falls in winter.

In Wisconsin for the entire portion south of Green Bay, the snow seldom exceeds a foot in depth, and more than eight inches will not be found on the average at any one time. In the vicinity of Lake Michigan, it sometimes has a greater depth, but is seldom or never so deep as to render it necessary to resort to the usual means employed at the east for removing it from the railroads.

In the higher and wooded portion of northern Wisconsin, snow sometimes accumulates to a depth of three feet and upwards. In the upper peninsula of Michigan it attains at times a greater depth.

In Minnesota, about the sources of the Mississippi, its depth is somewhat less than in northern Wisconsin.

Seymour in his "Sketches of Minnesota," states that the snow in the pineries of the Mississippi the previous winter, (1849-50) was from "one to two feet deep, and free from crust. In milder winters a crust is sometimes formed." He also states that Dr. Williamson who has resided in that country fifteen years at the Winnebago Agency, above the latitude of 46° N. informed him that "the snow was deeper the last year than any winter since he had resided there. It was however, only 2½ feet deep." This is very much less than near the Atlantic coast in the same latitude, in the valley of the Mohawk, N. Y. in a more southern latitude and at a much lower elevation it has been known to be twice that depth. At Burlington, Vt., two degrees farther south and 346 ft. only above the sea, the average fall of snow for ten years past according to Prof. Thompson has been 85 inches, the maximum 123 and the minimum 48 inches.

In the narrow mountain passes of Vermont and New Hampshire, which are now penetrated by railroads on which the trains ran uninterruptedly at all seasons, the snow falls in greater amounts and accumulates to a greater depth than at Burlington.

The Upper Mississippi, unlike the rivers which have their sources on either side of the Alleghenies, has no winter or spring floods, none which can be attributed mainly to the melting of snows which have accumulated on the high grounds from whence it originates.

The river rises slowly under the influence of late spring rains, attaining its greatest elevation in June,

which at Dubuque is fifteen to eighteen feet, and falls in the same gradual manner, causing comparatively but little injury to property.

In respect to the country west of the Coteau du Missouri in the Missouri valley, we have the evidence of Lewis and Clark, and others, that the snow does not fall in any great quantity or attain any great depth in winter. In the journal of the former, and of Serjeant Gass, of their winter sojourn at Fort Mandan, they state that slight falls of snow were noticed on the 14th, 15th and 24th of November, amounting, altogether, to four or five inches only. On the 27th and 28th of November it fell to the depth of thirteen inches, and did not fall again until the 2d January. On the 8th and 10th of Dec., "the buffalo darkened the prairies in great numbers." They killed several, and "found the snow six to eight inches deep and sometimes eighteen inches."

On the 3d and 14th of Jan. were slight falls of snow and on the 14th February, the last during the winter. On the 18th February Capt. Clark returned from a buffalo hunt and he remarks, that on the last day he "walked 30 miles on the ice and through snow in many places knee deep." On the 6th of March the snow was evidently all gone as the Indians were burning the prairies to get an early crop of grass. No mention is made of the use of snow-shoes during the winter by themselves or by the natives, or of their having been used in former winters.

The fact that the buffalo and the elk were able to subsist on the prairies through the winter shows that the snow could not have been very deep. The rains through the winter were less frequent than the snows. In noticing a fall of rain on the first of April, they state that "with the exception of a few drops at two or three different times, (January 1st and February 2d,) this is the first rain since the 15th of October last," and they remark in another place that "the air is remarkably dry and pure in this open country, very little rain or snow either winter or summer."

Catlin states that "the horses which the Indians ride in this country, (the Mandan villages,) are invariably the wild horses which are found in great numbers on the prairies, and have, unquestionably, strayed from the Mexican borders, into which they were introduced by the Spanish invaders of that country, and now range and subsist themselves in winter and summer over the vast plains of prairie that stretch from the Mexican frontier to lake Winnipeg, on the north, a distance of 3000 miles." Writing from the mouth of the Teton river, on the Missouri, he says that, "it is very evident that as high north as lake Winnipeg, seven or eight hundred miles north of this, the buffalo subsists itself through the severest winters," and also that "the snow in these regions often lies to the depth of three or four feet, being blown away from the tops and sides of the hills in many places, which are left bare for the buffalo to graze upon."

In the Journal of Mr. Hunt, in Irving's Astoria it is stated that the Shayan Indians at the head of the Shayan branch of the Missouri, catch horses on the prairies and "repair to the Arikara villages, where they exchange them for corn, beans, pumpkins, etc." These villages are on the Missouri river in Lat. 46° to 47° N. a short distance below the Mandans.

At the mouth of the Yellow Stone, from information derived from a gentleman connected with the American Fur Comp'y, it appears that the snows seldom accumulate to a depth as great as three feet. The average or ordinary depth in that part of the Missouri valley is 18 to 24 inches only. This also appears to be about the average depth throughout the remaining portion of the valley to the mountains.

The Missouri, like the Mississippi, is not swollen by winter or early spring floods. At the period of the breaking up of the ice at Fort Mandan in March, the river, according to Lewis and Clark, rose but a few inches. The winter and early spring rains are not sufficiently copious, combined with the melting of the snows which cannot be very deep in the lower valleys, to produce floods at that season.

At a later period the rains, joined to the influence of a summer temperature upon the snows collected in the higher parts of the mountains, cause the river to rise very gradually, attaining its greatest height in July when it soon after subsides in the same gradual manner.

Such of the tributaries of the Missouri and of Clarks river as are situated in the vicinity of Lewis' Pass are never much swollen at any season. According to Lewis and Clark the banks of Medicine river near the Missouri, which do not exceed 3 to 5 feet in height, are never overflowed. The Cokalahishkit, although its banks are not high, is never overflowed. This could not be the case if there was any great accumulation of snow in the valleys of these streams in winter. Even the Missouri river at a point 100 miles nearer to the snow-capped summits of the Front group, with banks of only eight feet high, is never overflowed, and Capt. Clark says of the Yellow Stone, which has its sources still nearer to the snow-crowned summits of the Wind river and Black Mountains, that "its banks, although low, are never subject to be overflowed except in the vicinity of the mountains."

Lewis and Clark when passing the Kootenai Mountains found the snow in the last days of June from 2 to 8 feet deep, on the average, for 60 miles. One week afterwards they were on the summit of Lewis' Pass, between Clarks river and the Missouri, where every vestige of snow had disappeared and vegetation was in an advanced state; an evidence both of the less amount of snow upon that summit and of its lower elevation.

The obstruction offered by snows to the movement of trains on a railroad depends upon their depth, suddenness of their fall, and accumulation by drifting, and also by the width of the passage or valley through the mountains occupied by the road. It will be seen by the description already given of Lewis' Pass that the valley is an open one, and is not enclosed between very high mountains and consequently the land will not be exposed to slides or avalanches from adjoining slopes. Wherever accumulations of snow may chance to occur from drifts, ample space exists for its displacement by the usual and thoroughly effective means resorted to in similar cases on all railroads; means which, upon a road doing a large business, are always at command, and being constantly applied, will make it impossible for the snows to accumulate in so large a quantity upon the track,

in the region in question, as to form a very serious obstacle to the movement of trains.

Throughout the entire distance from the lakes to the Rocky Mountains, it is quite certain that the quantity of snow is very limited, and that it falls mostly in November and the first part of December. After that period there is very little humidity in the air or evaporation to produce it from local causes, and the temperature is then too low for it to reach that region from any very remote source. The winters are in general characterized by a fine bracing atmosphere, greater uniformity in the weather, more so than is experienced near the coast, the cold occasionally intense, but on the whole quite as agreeable and probably more favorable to health than the winters of New England.

Upon that portion of the proposed route lying between the Rocky and Cascade range of mountains the snow falls to a greater depth than upon the portion last under consideration. Com. Wilkes informs us that in the Columbia valley north of the latitude of 49°, a region covered mostly by dense forests, "the snow lies on the ground from November to April or May on an average six feet deep."

At the missionary station at Lapwai, on the Kootenai river 150 miles south and elevated 1600 feet above the sea, there is usually but little snow and the "grass continues green the year round." The mean annual temperature at this point is 53° F. At Walla Walla situated to the west of Lapwai and elevated 1300 feet above the sea, scarcely any snow falls the entire winter. On the plains of the Columbia 100 miles further north "the snow never covers the earth more than a foot deep."

Capt. Bonneville informs us that he left the Green River valley of the Colorado for the upper part of the Salmon river valley for the reason that the winters in the former were represented as more severe, the snow frequently falling to the depth of several feet. He remained, however, in the latter place no longer than the last of December, being obliged to remove to the valley of Lewis' river. The snow, while he remained, was not so deep as to prevent his horses from getting access to the grass, and during that period and for the remainder of the winter the incursions of the Blackfoot Indians, whose territory is east of the Rocky Mountains, were frequent, showing that the Passes through the mountains at that season were not only passable but afforded sustenance for the horses of the Indians, the number of which were increased on their return by captures from their enemies.

Capt. Bonneville, in his march to Lewis river, found the snow on the great lava plain, which forms a striking feature in the character of its valley, only twenty inches in depth. His encampment on the river was probably in latitude 43½° N. between Fort Hall and Henry's fork, at an elevation of about 4700 feet, Fort Hall being 4500 feet by Fremont's measurement. Towards the last of February he returned to the Salmon river. The snow upon the plains was then 30 inches only in depth. Upon these plains and in the mountain defiles leading from them, the buffalo remain throughout the winter. In one of these defiles Capt. B. found the "weather moderate" and "the grass sprouting more than an inch in height."

Father De Smet who ascended Clark's river in a canoe from below Kalispel Lake to the Mission of St. Mary's, a distance of 250 miles, in the beginning of February 1845, states the depth of the snow in the valley to be five feet. The mean elevation of the valley is probably about 2600 feet. From the preceding it is inferred that from three to four feet is probably a liberal estimate, for the mean depth of the snow upon the portion of the proposed route between the Rocky and Cascade Mountains.

In Irving's Astoria it is stated that "but little snow falls throughout the winter in the plains and valleys of the lower part of the Columbia, and that it rarely lies on the ground more than two days at a time."

The remaining portion of the route to the Pacific, lying west of the Cascade or President's Range, it is well known is not subject to falls of snow of any great depth. It is upon that part only which is situated in the more elevated portion of the mountains that the road will be liable to obstructions from this cause. Lieut. Johnson passed this Range the last of May in a lat. 47½° N. and found snow on the summit at the height of about 5000 feet. The summit was five miles across, and the snow extended down from it on the east side, making the distance covered by the snow in all, eight miles, and the greatest depth, ten feet. This snow being below the line of perpetual congelation was all accumulated the winter previous, and had probably wasted considerably, so that the depth was undoubtedly much greater, and it extended much farther down the sides of the mountain.

Whatever the actual depth or extent of the snow may have been, as an obstacle to the running of trains on a railroad it should not be considered very formidable. At a lower elevation such as there is much reason to expect can be obtained for the passage of the road, not exceeding, it is supposed, 4000 feet above the sea, there would not, it is believed, have been any snow visible at the period of Lieut. Johnson's visit unless in some very deep and narrow ravine where the sun's rays could not penetrate. The distance across the highest part of this range is short comparatively, so that in the event of its being deemed advisable to adopt a plan of construction for a road more than ordinarily expensive to obviate the liability to obstructions from snows, it will not enhance very materially the cost of the work.

The apprehension that any extraordinary expense will need to be incurred to prevent obstructions from snows on the Cascade range, may prove entirely groundless when the road comes to be located and constructed.

It is by no means certain that a pass, even lower than that assumed, may not be found, or that the mountains may not be in great part avoided and the gradients lessened, without very materially increasing the length of the road or carrying it into the territory of a foreign power.

It is known that a complete opening through the Cascade range exists near the international boundary, where it is passed by Frazer's river, and it is known also, that Frazer's river at that point is very near to the boundary, and may possibly be so near as to permit the location of the road within the limits of the United States, and thus

avoid the additional rise and fall and higher gradients and embarrassments from snows consequent upon the passage of the mountain by a more direct route. The branch to the main line which will doubtless ultimately be carried down the valley of the Columbia to the mouth of that river, will avoid entirely, all the difficulties of the Cascade range, whether proceeding from the snow or from any other cause.

When the New York and Erie railroad was projected, fears were entertained by many, that if built, it might be rendered useless for a portion at least of every winter because of the snows which fall and accumulate often to a great depth in the elevated country through which it passes. In a report in relation to that road in 1838 I remarked "that the snow in the latitude of New York does not fall on the average more than about 20 or 25 days in the year, and upon a road doing a constant business with locomotive steam power cannot as an obstruction exceed the ordinary interruptions to the transportation upon canals from breaches in the banks, repairs and floods and other failures during the season of navigation."

This opinion has been fully confirmed by the subsequent experience on that road, and upon other roads in the northern and eastern States where the snows constitute a more serious obstacle to the regular running of trains in winter, than any thing of a similar nature to be met with on the entire line of the proposed railroad of nineteen hundred miles from Lake Michigan to the Pacific Ocean, with the single exception of the few miles embraced in the passage of the Cascade Mountains already noticed.

It may be remarked in concluding this branch of the subject, that whatever may be the difficulties from snows on the proposed northern route, it is quite certain they will not only be equalled, but will probably be surpassed by those which will be experienced on any route which can be found between it and the 36th parallel of latitude and terminating not farther south on the Pacific than San Francisco.

This follows from the greater humidity of the atmosphere due to the latitude and from the great elevation of the Sierra Nevada and Rocky Mountains. It was, it will be remembered, not very far from Santa Fee that Col. Fremont lost one-third of his party and all of his animals in the snows of the Sierra San Juan, and although the elevation he attained was considerably greater probably, than that of the pass which he intended to take, still it is evident that the snows must at times fall to a depth sufficient to be an impediment of rather a serious nature to a railroad. Even upon the high plains of the Arkansas snow storms have been known to prevail with such suddenness as nearly to overwhelm men and animals when unable to find shelter from their violence. What is true of the mountains and plains of the Upper Del Norte in this respect, is also true in a greater degree of the Nevada Mountains in California, as may be seen by Col. Fremont's description of his passage across them in the winter of 1843-4, and also by reference to the journal of McKinstry who was one of a party of emigrants, numbering eighty in all, nearly one-half of whom perished in the snows in their attempt to cross the mountains in the fall and winter of 1846 and 1847.

For the reasons above stated, it is probable that

the obstructions which will be experienced from snows on any of the other proposed routes north of the latitude of 35° will be much greater than upon the one under consideration, while upon the latter they will not be of so formidable a character as not to be readily surmounted by a resort to the proper means, without involving any very great or unusual expense for the purpose, provided the road is judiciously located and constructed.

To be continued.

The Liverpool Docks.

The docks now in course of construction, as we learn from the *Liverpool Mercury*, at the extreme north end of the port of Liverpool, (the New York of Great Britain,) are rapidly approaching completion. The Huskisson dock, which is one of the largest in the world, is constructed for the accommodation of ocean steamships. The locks at the south end are finished. The dock itself is ready to receive vessels, water having been let in at the last spring tides; and workmen are busy paving the pier and parts of the quay, and constructing the locks at the north end. Large as the Bramly-Moor, Nelson, and other of the northern docks, finished in 1848, are, they are outvalled by this new evidence of what the genius and enterprise of Liverpool can effect. The width of the east lock-gates is 80 feet, 10 feet wider than the lock-gates of any dock hitherto constructed at this port; the west lock-gates, 45 feet. The water area of the dock, 14 acres 3,451 yards, with quay-space to the extent of 1,122 yards. The water area of the east lock is 4,682 yards, with quay-space of 242 yards; the water area of the west lock, 3,650 yards, with quay-space of 330 yards. No sheds have at present been erected on the dock-quay, which is still in an unfinished state; but sheds have been constructed on the lock-quay, where arrangements have been made for unloading vessels and for the reception of cargoes. A large space of the west end of the lock quay is set apart for a timber-yard, and the remaining portion by the side of the locks, will be used as the sites for sheds in which to stow away dry goods. The total water area of the wet-docks along the margin of the Mersey, belonging to the corporation of Liverpool, is now 177 acres 3,684 yards, with a quay-space of 12 miles and 1,412 yards; and of dry-basins, an area of 20 acres 892 yards, with quay-space of 1 mile 712 yards; making a total of 197 acres 4,576 yards of water area, and 14 miles 712 yards of quay-space; with a length of 5 miles and 20 yards of river wall. Independently of this large extent of dock space, other docks are yet to be formed, and excavations in reference to this object are going forward.—The walls surrounding the Huskisson dock, as well as the north dock, which have recently been constructed, and the Normanlike towers, to serve as offices to the gatekeepers, are built of granite, and combine considerable beauty and neatness with extraordinary durability and strength.

Red River Raft.

The removal of this obstruction has been again advertised for contract by the United States Government, the former contractor having failed to complete the work, and abandoned the enterprise. By a communication which appears in the *National Intelligencer*, it seems that the raft is so formidable that its removal is thought impracticable. According to this writer, the great raft was originally one hundred miles in length, and not ten miles of it has ever been removed. Through this whole extent the river is obstructed by an immense aggregation of logs and trees, which have to be dug up and sawed out. The attempt to remove this raft was abandoned many years ago, and a new route adopted for navigation, by way of Bayou Pierre, Shreveport, Lake Caddo, and a canal from thence into Red River above the raft, which is used to this day. This, however, is also annually obstructed by a raft at the upper end formed by every freshet.

On Hollow Railroad Axles.

By J. E. McCONNELL, of Wolverton.

[Paper read at the Institution of Mechanical Engineers.]

The selection of the tubular form of axle originated from the knowledge, that with a considerably less weight of material in the form of the tube, a much greater strength can be obtained to resist torsion, deflection by pressure or weight, or concussion from blows. The resistance of a solid system to deflection and torsion, increasing in proportion to the fourth power of the diameter (or the square of the square), but the weight increasing only as the square of the diameter, two solid cylinders, having the respective diameters of 4 and 6 inches, or 1 to 1½, will have a proportionate weight of 16 to 25, or 1 to 1½, but a resistance of 256 to 625, or 1 to 2½. Then, if a hollow of two-thirds the diameter be made in the larger axle, its weight will be diminished ½ ($\frac{3}{4} \times \frac{3}{4} = 4.9$ or $\frac{1}{2}$ nearly), and its resistance only one fifth ($\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4} \times \frac{3}{4} =$ sixteen-eighty-firsts, or one-fifth nearly), and the comparison with the smaller solid axle will then be 1 to 1½ in diameter, 1 to ¾ in weight, and 1 to 2 in resistance, being double the resistance, with ¼ less weight.

The use of hollow axles was tried some years ago, but was not continued, the main objection being, that there appeared a great difficulty of insuring, by the particular mode of manufacture adopted at that time, a sufficient uniformity of thickness of the sides of the tube throughout, and also of the soundness of material. The mode adopted consisted of rolling two or three bars of a semicircular cross section, which were welded together with butt-joints, but with no internal pressure, and with solid ends where the bearings came. These axles, having no mandril or internal pressure during the process of welding, were found to be of a very uncertain strength throughout the axle, and the weakest point might be close to that part where the greatest force or strain would be exerted.

To overcome these objections, a mode of manufacturing railway axles has been introduced by the writer, which, it is believed, effectually accomplishes the object in view, securing the utmost strength with the least possible amount of material, uniformity of structure of the iron, perfect equality of thickness of material, and soundness of manufacture.

The plan adopted is as follows:—A number of segmental bars of the best quality of iron are rolled to a section, so as to form, when put together ready for welding, a complete cylinder, fig. 1, about 1½ times the diameter of the axle when finished, the bars fitting correctly together, so as to have no interstices, and overlapping in such a manner as to insure a perfect and sound weld when completed, as shown in fig. 1.

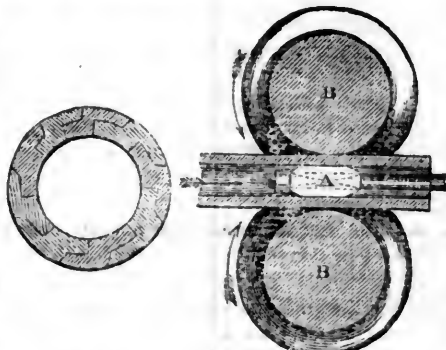


Fig. 1.

This cylinder of loose segmental bars is temporarily held together by a screw-clip, and each end being put into the furnace until a welding heat is produced, the bars are then partially welded together, and the clip removed. The whole cylinder is then placed in the furnace, and brought to

a proper welding heat; it is then passed through a series of rollers B, B, fig. 2, which have each a mandril of an egg form A, in the centre of the circular opening, which are attached and supported on the end of a fixed bar, the bar being firmly secured at the opposite end, to resist the end pressure or strain during the process of rolling. The mandrils are made of cast-iron, chilled, fitting on like a socket on the end of the bar to a shoulder, and they are secured by a screw-nut, so that they are easily removed when required.

The motion of the rolls is so arranged, by a reversing-clutch on the shaft, that as soon as the axle-cylinder has been drawn clear through, the motion is reversed, and the axle which has been drawn on the mandril-rod, is again drawn back through the same openings in the rolls; it is immediately passed through the next smaller groove of the roll, with a decreased size of mandril, and again reversed back through the same groove in a similar manner, and so on through a series of grooves in quick succession, each decreasing in size, and consequently increasing the compression and strength of the iron of which the axle is formed, and by the last groove it is passed through it is reduced to the proper diameter. At each time it is changed from one groove to another, the axle-cylinder is turned by the workmen a quarter round, so as to equalise the pressure on every part of its surface, to insure uniformity of the compression of the iron, and thoroughly complete a sound welding throughout every part of the axle.

The specimens before the meeting showed the soundness and perfection of the manufacture, as a proof of which, in every test applied, either by blows on the outer surface or by an immense splitting pressure, by driving a mandril in the interior, there has never been found in any one instance a failure of the weld, although the test has been applied to pieces cut off the extreme end, where it might be supposed the welding of the cylinder of the axle, from various causes, would not have so good a chance of being perfect.

The axle at this stage, after being welded and drawn down in the rolls to the proper size, is taken at once to a hammer, where it is planished between semicircular swages over its entire surface. A small jet of water plays upon it during this process, which enables the workman to detect at once, by the inequality of colour, any unsoundness in the welding. From the hammer it is taken to the circular saws, where it is cut accurately to the length required, and ready to have the bearings formed upon it.

On coming from the hammer, the axle is found to be perfectly clean both inside and outside, the scale being entirely removed. The ends are then re-heated, and gradually drawn down by a hammer to the proper dimensions and form of the journals, a mandril being inserted in the end of the tube during the process of hammering.

The formation of the journals can also be produced by a rolling-machine, constructed of tables the entire length of the axle, rolling transversely, each table being a duplicate of the other, and matrixes of the axle when finished. Or in another way, by two sets of rollers, each set consisting of three rollers running vertically, being of the same diameter, and driven at the same velocity, formed exactly to the shape of the bearing, and set the proper distance apart from shoulder to shoulder of the journals.

The manufacture of these axles has been intrusted to the Patent Shaft Company, and a great amount of credit is due to Mr. Walker, the managing partner of that firm, for the very excellent system he has adopted and carried out in the process of manufacture.

As an illustration of the saving in dead weight, take, for instance, a railway employing 15,000 wagons and carriages, and assume each of these vehicles to run on an average 10,000 miles per annum. The weight of two axles of the solid description finished, is say 6 cwt., and if replaced with hollow axles of equal strength, the weight per vehicle may be reduced 1½ cwt.; this taken over

one mile of the above stock per annum will be 11,250,000 tons, and assuming the cost of traction for locomotive power at $\frac{1}{4}$ l. per ton per mile, the saving will amount to £11,700, per annum, without taking into account the other advantages, and also the saving to the permanent way, &c.

In the samples of axles submitted to the meeting, two different kinds of bearings were shown, the parallel bearing with the rounded shoulder, and also the double conical bearing, such as is used on the Great Northern, Great Western, Bristol and Exeter, South Wales and South Devon railways. In either description of bearing, the hollow axle is good, although it is believed that the conical bearing for either the solid or hollow axle has less tendency to injure the texture of the iron during the formation of the journal than the parallel shouldered axle, and it appears a matter well deserving the consideration of the Institution, to ascertain what, under all conditions, is the best form of axle bearing.

Experiments, conducted by Mr. Marshall, the Secretary of the Institution, have been tried for the purpose of ascertaining the comparative strength of the hollow and solid axles to resist a transverse strain. Each axle was supported on massive cast-iron blocks, fixed at a distance of 4 ft. 11 in. apart, to represent the support given by the rails to the axle. A cast-iron block weighing 18 cwt. was then let fall on the centre of the axle from a height of 12 feet, and the extent of bending was measured. The axle was then turned half round, and another similar blow given on the opposite side, bending it in the opposite direction. This proceeding was repeated until the axle was broken. The general results of these experiments are as follows:—

An *Old Solid Axle*, $3\frac{3}{4}$ inches diameter in centre, and $4\frac{1}{4}$ inches at ends, which had been at work three years, was bent $8\frac{3}{4}$ inches by the first blow; it was nearly straightened by the second blow in the opposite direction, then bent 10 inches by the third blow, and with the sixth blow it was broken in the centre square across.

A *New Solid Axle*, of the same dimensions, was bent $9\frac{3}{4}$ inches by the first blow, then nearly straightened by the second blow, and bent $9\frac{1}{2}$ inches by the third blow, and by the fourth blow $2\frac{1}{2}$ inches, and by the fifth blow it was broken $\frac{3}{4}$ -inch from the centre. The appearance of the fracture was crystalline over three-fourths of the section, the remaining part tough fibre.

A *New Hollow Axle*, $4\frac{3}{8}$ inches diameter throughout, was bent 5 inches by the first blow, nearly straightened by the second blow, and bent again 5 inches by the third blow. The ninth blow bent it $4\frac{1}{2}$ inches, and the tenth blow $1\frac{3}{8}$ inch. Up to the fifteenth blow it was bent alternately, the bends varying from 2 to $3\frac{1}{4}$ inches. There was no appearance of failure or cracking, but a slight rising of the surface at the fifteenth blow. The blows were continued to the twenty-seventh, the bends varying from 2 to $3\frac{3}{8}$ inches, and at this blow a fracture took place across the middle of the axle $1\frac{1}{4}$ inch long. The twenty-eighth blow bent it $\frac{3}{4}$ -inch, and closed the fracture on the opposite side made by the preceding blow. By the twenty-ninth blow it was fractured two-thirds through, and bent $9\frac{1}{4}$ inches, the appearance of the fracture being very fibrous.

A second series of experiments was made, to ascertain the comparative strength of the journals of the hollow and solid axles to resist breaking.

Each axle was supported on an anvil, with the inner shoulder of the journal projecting $1\frac{1}{2}$ inch beyond the edge of the anvil, to represent the support of the axle in the nave of the wheel; 100 blows with two 24 lb. sledge-hammers were then struck upon the upper side of the outer end of the journal, the men being changed after striking each twelve or thirteen blows alternately. The amount of bending of the journal was then measured, and the axle turned half over, and another 100 blows similarly given on the opposite side of the journal; the same proceeding being then further repeated. The general results of these experiments are as follows:

An *Old Solid Axle* with 3 by 5 inch journals, that had been at work three years, had one journal broken off with 205 blows, and the other with 53 blows; both fractures were square across the journal at the shoulder.

A *New Solid Axle*, with 3 by 6 inch journals, had the journal broken off with 570 blows, the fracture being irregular in form, and fibrous.

A *New Hollow Axle*, with 3 by 5 inch journals, had 400 blows on the journal, which bent down the end $\frac{5}{8}$ -inch, and produced a longitudinal split on the under side $3\frac{3}{4}$ inches long, but no transverse fracture.

A *New Hollow Axle* same size journals, received 800 blows on the end of the journal, which bent it down $\frac{1}{2}$ -inch, and split the journal longitudinally on both sides, but caused only a slight transverse crack, near the shoulder, $\frac{3}{4}$ -inch long.

The experiments on transverse strength by a heavy weight falling on the centre of the axle, and giving the blow on opposite sides alternately, show that the hollow axle is nearly double the strength in that respect of the corresponding solid axle, the amount of bending being only 5 inches instead of $9\frac{3}{4}$ inches; and the number of blows required to break the hollow axle being 29, whilst the solid axle broke at the fifth blow, shows the hollow axle to be greatly stronger in resistance to fracture.

The hollow axle became $\frac{1}{8}$ -inch oval in the centre after receiving the seventh blow, and it was only $\frac{1}{4}$ inch oval after receiving the twenty-eighth blow just before fracture; being bulged outwards 1-16 inch at each side, and 1-16 inch inwards at top and bottom from the original circular section.

The experiments on strength of journals show, that instead of the journals breaking off square and short at the shoulder, as in the solid axles, the hollow axle journals stand a considerably greater number of blows, and then only split up longitudinally, instead of breaking off transversely, being a very important advantage in point of safety in working.

In the course of the discussion which followed the reading of the paper, it was remarked, that in the fracture of the hollow axle all the iron appeared fibrous, but the fracture of the solid axles was mostly crystalline; that the saving in weight of the hollow axles was about two-fifths theoretically to obtain the same strength, but it had been taken at one-third of the solid axles, to be on the safe side. The hollow axles were being extensively applied on the North-Western, Midland, and Great Northern Railways, and more than 500 had already been made; some had been at work for nine months with entire satisfaction.

Mr. McConnell observed, that whatever was the nature of the strain, and the change produced by concussion, the effect of the continued blows and concussion to which a railway axle was subjected, must be greatly diminished when the axle had a large hollow through the centre, instead of being entirely solid, as the effect of a blow on one side would be mostly lost in the vacant space of the centre, instead of being all communicated through the mass of the axle. He showed specimens of a hollow and a solid axle, which had been run hot for two hours without oil in a lathe, at a speed corresponding to about twenty miles an hour travelling; the solid journal broke off with 179 blows quite short and crystalline, but the hollow journal would not break transversely, and split longitudinally in several places with 400 blows, and did not appear injured.

Mr. Adams said, he thought the conical journals were preferable to the ordinary cylindrical ones, and they were particularly adapted to the manufacture of the hollow axles, by avoiding the sudden shoulder. He had found the conical journals less liable to heat than the others when well fitted; in the cylindrical journals, as square shoulders were found preferable in practice to shoulders much rounded, it was important to maintain a uniform strength of metal at the shoulder.—*Civil Engineer's and Architect's Journal* for October, 1853.

Motive Power on the Broad Gauge

The illustration which the equipment of the New York and Erie railroad furnishes of the necessity for excessive power for operating the broad gauge is a useful one in the consideration of the relative resistances of the gauges. The Erie road, when the nature of its traffic and the gradients of its route are regarded, shows a weight and capacity of motive power found on no other road in the country.

The trains are no longer, and the freight per train no heavier, than upon the majority of first class freight roads of the narrow gauge. Our object is to compare the motive power of this road with those of the narrow gauge, whereby a fair inference may be readily drawn of the increased resistance due to an increased width of track.

Engines, Nos. 1, 2 and 3, upon the New York and Erie road are outside connections, built by Wm. Norris. They have thirteen inch cylinder, twenty inch stroke, and four feet drivers and truck, 448 square feet of tube surface; forty-four and a half do. fire box surface, and ten and one-eighth do. of grate. Weight 32000 lbs., of which 22,300 lbs. are on drivers. Steam used at one revolution 6.145 cubic feet.

Engines 4 and 5, by Norris, have $10\frac{3}{4}$ inch cylinders, eighteen inch stroke, four drivers, 4 feet 7 inches in diameter, and four trucks. 243 square feet of tube surface, 33 do. of fire box surface, and seven and a half do. of grate. Weight, 30,700 lbs., of which 21,100 lbs. are on drivers. Steam used at one revolution 3.782 cubic feet.

No. 6, by Rogers, Ketchum and Grosvenor, weighs 40,625 lbs.; on drivers 24,250 lbs. No. 7, by same builders, weighs 48,200 lbs. of which 31,300 lbs. are on drivers. Cylinders outside, fifteen and a half by 22 inches, four five feet drivers, and truck.

No. 9, by Baldwin, has outside connection, cylinders fifteen inches diam., stroke 13 inches, 6 forty-six inch drivers, no truck; eight hundred and sixty feet tube, forty-two and a half fire-box, and eight square feet of grate surface. Weight, all on drivers, 44,200 lbs.

No. 10, by Norris, outside cylinders, twelve and three-eighths inches by twenty-six inches, four five feet drivers and truck; 708 square feet tube, fifty-four do. of fire box, and ten and a half square feet of grate surface.

Weight 42,920 lbs., of which 26,880 lbs. are on drivers.

Nos. 11, 13 and 17, by Swinburne, Smith and Co., have the half crank, cylinders seventeen inches by twenty inches stroke. Four six feet drivers and truck: 2434 square feet tube, sixty-eight and a half do. fire-box, and 12 7-8 do. of grate surface. No. 11 weighs 50,910 lbs., of which 28,750 lbs. are on drivers. No. 17 weighs 53,400 lbs., of which 31,900 lbs. are on drivers. Nos. 14, 15, and 16, by the same builders, same as above, only five feet drivers, fifty-nine and a half square feet of firebox surface, and twelve and one-eighth square feet of grate. Weight, 50,900 lbs., of which 27,500 are on drivers. Steam used at one revolution, 10,508 cubic feet.

No. 12, by Rogers, Ketchum & Grosvenor: half crank, seventeen inch cylinders, twenty inch stroke, six five feet drivers and truck, 1080 square feet tube, sixty-seven do. fire box, and fifteen do. of grate surface. Weight 58,000 lbs., of which

42,800 lbs. are on drivers. Steam used at one revolution 10,508 cubic feet.

Nos. 18 and 19, by Rogers, Ketchum & Grosvenor; half crank, seventeen inch cylinder, twenty inch stroke. Four six feet drivers and truck; nine hundred and twenty-two and a-half square feet tube, sixty-seven and one-eighth do. fire box, and thirteen do. of grate surface. Weight 56,500 lbs., of which 35,750 lbs. are on drivers. Consumption of steam same as No. 12.

Nos. 20, 21, 23 and 27, by M. W. Baldwin, same as eighteen and nineteen, except nine hundred and thirty-eight square feet tube, sixty-five and three-fourth fire box and $12\frac{3}{4}$ do. grate surface. Weight 56,500 lbs., of which 34,800 lbs. are on drivers. Nos. 22, 24, 25 and 26, by same builder, same as 20, except five feet wheel and sixty square feet fire box surface. Weight 54,500 lbs., of which 32,600 lbs. are on drivers.

Nos. 28, 29 and 32, by Rogers, Ketchum and Grosvenor, same as Nos. 18 and 19. Nos. 30 and 31 by same builders, have five feet drivers and sixty-one and a half square feet of furnace surface. Weight 54,500 lbs., of which 33,500 lbs. are on drivers.

Nos. 33, 34 and 35, first class freight engines, by Rogers, Ketchum & Grosvenor. These have halfcranks, eighteen inch cylinders, twenty inch stroke; six five feet drivers and truck. Boilers 48 inches diameter, containing one hundred and ninety-eight tubes, one and three-fourth inches in diameter, and thirteen feet long. 1179 square feet of tube, 72 do. of fire box, and $14\frac{3}{4}$ do. of grate surface. Weight, 65,000 lbs., of which 49,000 lbs. are on drivers. Amount of steam expended at one revolution 11,781 cubic feet. These engines, having twenty-four tons of adhesive, and eight and a half tons of truck weight, usually take 12 or 13 eight wheel loaded cars, as a full train, on the sixty feet grades, between Piermont and Sufferns.

Nos. 36 and 37 by Swinburne, Smith & Co., are very nearly the same as No. 17, by the same builders, but are about half a ton heavier. Nos. 38 and 39 are about the same as 15 and 16, only a little heavier. All the engines of this class have forty-four inch boilers, and from one hundred and seventy-five to one hundred and seventy-nine tubes, one and three-fourth inches in diameter and eleven and a half feet long.

Nos. 40, 41, 42, 43, 44, and 45, by Rogers, Ketchum & Grosvenor, have nearly the same dimensions and weight as No. 30 and 31 by the same builders. The general dimensions are identical. The weight may be given as twenty-eight tons, of which 16 tons are on the drivers.

No. 46 and 47, by Swinburne, Smith & Co., are the same as Nos. 14, 15, and 16, by the same builders.

No. 48 by Swinburne, Smith & Co., has half crank, sixteen by twenty inch cylinders, four 5 feet drivers and truck. Boiler has $781\frac{1}{2}$ square feet tube, sixty and a quarter do. fire box, and thirteen do. of grate surface. Weight 50,700 lbs., of which 32,100 lbs. are on the drivers. Steam used at one revolution 9,308 cubic feet.

Nos. 49, 50, and 51, and Nos. 67, 68 and 69, by Swinburne, Smith and Co., have halfcranks; seventeen inch cylinders, twenty inch stroke, six five feet drivers and truck. 1025 square feet tube; sixty-one and a half do. firebox, and thir-

teen and a half do. of grate surface. Weight, averages 62,500 lbs., of which 45,500 lbs. are on the drivers. Steam used at one revolution 10,508 cubic feet.

Nos. 52, 53 and 54, built by Boston Locomotive Works, have inside connections; cylinders fifteen inches diameter, twenty inches stroke. Four five feet drivers and truck. Seven hundred and eleven square feet tube, fifty-nine and a half do. fire box, and ten do. of grate surface. Weight 47,920 lbs., of which 30,050 lbs. are on drivers. Steam used at one revolution 8,181 cubic feet.

Nos. 55 and 56 are half crank engines of twenty-seven and a half tons weight, built by Rogers, Ketchum and Grosvenor. No. fifty-five uses 9,308 cubic feet, and No. 56, 8,181 cubic feet of steam at one revolution.

Nos. 57 and 58 are first class grade engines, by M. W. Baldwin. They are used as pushers on 68 feet grades. They have eighteen and one-fourth inch cylinders, twenty-three inch stroke, eight connected drivers of four feet diameter. The boilers are 46 inches diameter, and contain 147 tubes, two inches diameter and fourteen feet long. 1077 square feet of tubes, $67\frac{1}{2}$ do. of fire box, and 14 do. of grate surface. The four forward drivers are combined in a truck, although it would seem that the coupling rods would prevent any sensible vibration. The whole weight of these engines is 73,700 lbs. of which 45,700 lbs. are on the four forward drivers alone, giving 11,425 lbs., or nearly five and three-fourth tons, on a single wheel.—Steam used at one revolution 13,927 cubic feet.

Nos. 59 and 60, of the same general construction as the 57 and 58, are lighter. These have seventeen inch cylinders, twenty-two inch stroke, eight connected drivers of forty-six inches diameter. 938 sq. feet tube, sixty-one and one-fourth do. fire box and thirteen do. of grate surface. Weight 66,750 lbs., of which 39,450 lbs. are on the four forward drivers. Steam used at one revolution 11,559 cubic feet.

Nos. 61, 62, and 63, by Taunton Locomotive Manufacturing Company. These are inside connections with seventeen by twenty inch cylinders four five feet drivers and truck. Boilers forty-four inches diameter, containing 182 $1\frac{3}{4}$ inch tubes, $11\frac{1}{2}$ feet long. 959 square feet tube, 90 do. of firebox, and $16\frac{1}{8}$ do. of grate surface. Weight 59,400 lbs., of which 39,900 lbs. are on drivers. These engines have much dead weight, owing to heavy cast iron jaws, foot boards, steam pipes, separate cut off motion, etc. Steam used at one revolution 10,508 cubic feet.

Nos. 64 and 65 are extreme outside connections, built by Rogers, Ketchum & Grosvenor. They have 17 by 20 inch cylinders, four 5 feet drivers and a truck. 795 square feet tube, $57\frac{3}{4}$ do. fire box, and $13\frac{1}{4}$ do. of grate surface. Weight, 55,600 lbs., of which 35,600 lbs. are on drivers. Steam used at one revolution 10,508 cubic feet.

No. 66, inside connection, by Rogers, Ketchum and Grosvenor, 17 by 20 inch cylinder; four six feet drivers and truck, $872\frac{3}{4}$ square feet tube surface $75\frac{1}{2}$ do. fire box and 14 do. of grate surface, Weight not given; probably 28½ tons, of which about 18½ tons are on drivers.

Nos. 70 and 71, inside connections, by Swinburne, Smith & Co., seventeen inch cylinders, 20 inch stroke; four 6 feet drivers and truck. 948 $1\frac{1}{2}$ square feet tube, $71\frac{1}{4}$ do. fire box and 13 $1\frac{1}{2}$

do. of grate surface. Weight 53,800 lbs. of which 33,900 lbs. are on drivers. Steam at one revolution 10,508 cubic feet.

Nos. 72 to 83, inclusive. Inside connections,—freight engines,—by Swinburne, Smith & Co., used principally on Western division, upon 40 to 50 feet grades, and generally with light trains. 17 inch cylinder, 20 inch stroke, six four and a half feet drivers and truck. Boilers 46 inches diameter containing 157 tubes, two inches in diameter, and 13 feet long; $1068\frac{3}{4}$ square feet tube, $69\frac{1}{4}$ do. fire box, and $13\frac{1}{2}$ do. of grate surface.

We regret that these engines have not been weighed, but judging from other engines we should estimate that 31 tons would be a fair allowance, of which 23 tons are on the drivers.

Nos. 84 and 85, extreme outside connections, by Norris' Brothers. Cylinders 14 inches dia. by 32 inch stroke. Four 7 feet drivers and truck. $708\frac{1}{2}$ square feet tube, $54\frac{1}{2}$ do. firebox, and $11\frac{1}{4}$ do. of grate surface. Weight 57,450 lbs., of which 38,950 lbs. are on the drivers. Steam used at one revolution 11,403 cubic feet.

Nos. 86, half crank, by R. K. & G. 17 inch cylinder, 20 inch stroke; six five feet drivers and truck. $923\frac{3}{4}$ square feet of tube, $67\frac{1}{2}$ do. firebox, and $13\frac{1}{2}$ do. of grate surface. Weight 65,175 lbs., of which 47,000 lbs are on the drivers. Steam used at one revolution 10,508 cubic feet.

No. 87 and 112, inside connections, by Beston Locomotive Works. 15 inch cylinder, 20 inch stroke; Two $5\frac{1}{2}$ feet drivers, truck, and one pair of trailing wheels. 616 square feet tube, 66 do. of firebox, and $11\frac{1}{2}$ do. of grate surface. Weight not given. Steam at one revolution 8,181 cubic feet.

Nos. 88 and 89, extreme outside connections by Ross Winans. 19 inch cylinders, 22 inch stroke, eight connected driving wheels of 43 inches diameter. 918½ square feet tube, 85½ do. of firebox, and 20½ do. of grate surface. Weight, all on drivers, 56,000 lbs. Steam used at one revolution of drivers 14,439 cubic feet.

Nos. 90 to 99 inclusive; inside connections, by Boston Locomotive Works. Cylinders 16 inches by 20 inches. Four $5\frac{1}{2}$ feet drivers and truck $719\frac{3}{4}$ square feet tube, $62\frac{3}{4}$ do. of firebox and 10 do. of grate surface. Weight 49,510 lbs., of which 30,840 lbs. are on drivers. Steam used at one revolution 9,308 cubic feet.

Nos. 100 to 105 inclusive; inside connections, by R. K. & G. 17 inch cylinder, 20 inch stroke, four 6 feet drivers and truck. $772\frac{1}{4}$ square feet tube (except 102, which is $853\frac{1}{2}$ square feet,) $80\frac{3}{4}$ do. firebox, and $15\frac{1}{2}$ do. of grate surface. Weight averages 57,500 lbs., of which 37,400 lbs. are on drivers. Steam used at one revolution 10,508 cubic feet. Nos. 106 to 111 inclusive, by same builders, are the same as above, only having 5 feet drivers and $72\frac{3}{4}$ square feet of firebox surface.

Nos. 113 and 114, by Taunton Company; inside connections, cylinders 17 by 20 inches, four 5 feet drivers and truck. 939 square feet tube, 90 do. firebox and $16\frac{1}{8}$ do. of grate surface. Weight 59,450 lbs., of which 38,510 lbs. are on the drivers.

Nos. 115, 116, 117, and 118, by Taunton Company, have 18 inch cylinders and 20 inch stroke; four five feet drivers and truck. $857\frac{1}{2}$ square feet

tube surface. Furnace and grate area same as 113. Weight 58,060 lbs., of which 37,570 lbs. are on drivers. Steam used at one revolution 11.781 cubic feet.

Nos. 119 to 121 inclusive; extreme outside connections, by Boston Locomotive Works. 16 inch cylinders, 26 inch stroke, four 5 feet drivers and truck, 792 square feet tube, $82\frac{1}{2}$ do. firebox and $15\frac{3}{4}$ do. of grate surface. Weight 52,675 lbs., of which 31,775 lbs. are on drivers. Steam used at one revolution 12.101 cubic feet.

Nos. 125 and 126, by Amoskeag Manufacturing Company. Inside cylinders, 18 inches dia. and 20 inch stroke. Six $4\frac{1}{2}$ feet drivers without truck. $893\frac{1}{2}$ square feet tube, $71\frac{3}{4}$ do. firebox and 15 do. grate surface. Weight 48,235 lbs., of which 21,410 lbs. are on front, 14,385 lbs. on middle, and 12,440 lbs. on back drivers. Steam used at one revolution 11.781 cubic feet. No. 126 has since been altered to an eight wheeled engine.

Nos. 127 to 132 inclusive; inside connections, by Boston Locomotive Works. Cylinders 17 by 20 inches, four $5\frac{1}{2}$ feet drivers and truck. $871\frac{1}{4}$ square feet of tube surface. Weight 54,400 lbs., of which 31,950 lbs. are on drivers. Steam used at one revolution 10.508 cubic feet.

Nos. 133, 134 and 135, extreme outside connections, by New Jersey Locomotive and Machine Company. Cylinders 16 by 20 inches; four 5 feet drivers and truck. $670\frac{1}{4}$ square feet tube, $54\frac{1}{4}$ do. firebox and $12\frac{3}{4}$ do. of grate surface. Weight not given. Steam used at one revolution 9.308 cubic feet.

Nos. 136, 137, 138 and 141, by same builders, same as Nos. 72 to 83 inclusive, by Swinburne, Smith & Co.

Nos. 139 and 140, generally the same as Nos. 72 to 83, except $1,072\frac{1}{2}$ square feet tube, $82\frac{1}{4}$ do. firebox and $16\frac{1}{2}$ do. of grate surface.

Nos. 142 and 143, inside connections, by Essex Company. Cylinders 17 by 20 inches; four $4\frac{1}{2}$ feet drivers and truck. Boilers 49 inches in diameter, containing 190 17-8 inch tubes, 11 feet long. $1,025\frac{3}{4}$ square feet of tube, $76\frac{3}{4}$ do. firebox and 16 do. of grate surface. Weight 58,250 lbs., of which 36,450 lbs. are on drivers. Steam at one revolution 10.508 cubic feet.

We have thus given a very full statement of the motive power of the leading broad gauge road in this country, the one which is the longest continuous road in the world. We find there are 8 engines, only, having cylinders of less than 15 inches diameter; 10 with cylinders over 15 and less than 16 inches; 20 of 16 inches; 91 of 17 inches; 11 of 18 inches, and 2 of 19 inches.

10 engines have drivers of less than 4 feet 6 in. diameter; 23 have drivers of 4 feet 6 inches; 65 with 5 feet drivers; 18 with 5 feet 6 inches; 24 of six feet, and 2 of 7 feet drivers.

We see that the weight of the passenger engines is generally 28 tons, and that of the freight engines, generally from 29 to $32\frac{1}{2}$ tons. The passenger engines have from 8,000 to 9,500 lbs. on a single driver, the freight engines from 8,000 to 11,250 lbs.

The Erie road have now under contract for immediate delivery a large number of freight engines, 28 as we are informed, of extraordinary weight and power. They will be inside connected engines, having 18 inch cylinders, 20 inch stroke,

four 5 feet drivers and truck. The boilers will be of 48 inches in diameter and will contain 197 tubes, 2 inches in diameter and 10 feet 9 inches long. The furnace grate will be 48 inches by 57 inches, giving 19 square feet of grate surface. These engines must weigh fully 31 tons, of which 21 or 22 tons must be on but four drivers, giving from 10,500 to 11,000 lbs. on a single point.

The transportation effected by such heavy equipments must be compared with that of narrow gauge roads, when we shall find that generally the length and load of the Erie freight and passenger trains do not exceed those of the trains upon the narrow track. Frequent observation upon the line of the road shows this, while the average tonnage per train is shown by the State Engineer's Reports to be about the same upon the Erie as upon the Northern, the Central, and other roads.

In June, 1852, the Northern railroad of New York had 28 engines, the heaviest of which weighed 26 1-5 tons, when in full running order. Of this weight 17 1-10 tons were upon the drivers. The cylinders were of 15 inches diameter and 24 inch stroke; the drivers two pairs of $4\frac{1}{2}$ feet diameter. The freight engines were generally of $22\frac{1}{2}$ tons weight, having 16 by 20 inch cylinders with two pairs of 4 1-2 feet drivers each.

The passenger engines has mostly 15 by 18 inch cylinders, with 5 to 6 1-2 feet drivers, and weighed from 20 1-2 to 24 9-10 tons.

The Boston and Maine railroad, in Massachusetts, operating a heavy freight over 40 to 45 feet grades, employs no engines of over 24 tons weight. The heaviest freight engines have 16 by 20 inch cylinders, three pairs of 46 inch drivers and a truck. The usual load for such an engine, on 40 feet grades, is from 20 to 28 eight wheeled cars with usual freight. 61 cars of four wheels each, weighing with freight 391 tons, have been taken up a 47 feet grade and through a bad reversed curve, in the winter time, by one of the above described engines. This was an ordinary train and was by no means employed as a test. The usual pattern of freight engine upon this road has 15 by 20 inch cylinders, two pairs of 4 1-2 feet drivers and a truck; weight 44,400 lbs., of which 30,810 lbs. are on drivers. Steam used at one revolution, 8.181 cubic feet.

On the Fitchburg railroad, the heaviest engines are the same as upon the Boston and Maine railroad.

On the Western railroad, of Massachusetts, the freight engines have generally 16 by 20 inch cylinders, and four 4 1-2 ft. drivers and truck. The diameter of boiler is 42 inches, the length of tube 10 1-2 feet, and the whole weight about 23 tons. The Western road is the great avenue for western freight going to Boston. The grades of this road are in some places 80 feet per mile.

The Baltimore and Ohio road, working the most severe grades in the country, has freight engines of nearly equal weight with those upon the Erie road. But the transportation accomplished upon the two roads, by engines of nearly equal weight, is much in favor of the narrow gauge.

The Erie road has no grades to compare with those of the Baltimore and Ohio road, nor no great through traffic like that of the Reading road, and its motive power cannot be admitted to a comparison with that of those, and similar roads, with exceptional grades or regular maximum trains.

It must therefore be referred to a comparison with the ordinary traffic of roads of equal grades and doing a general business. Whenever such comparison is made it is found that the broad gauge has much the heaviest equipment for the same business, the amount of increase of weight being almost exactly proportional with the increased width of its track.

Virginia Central Railroad.

The Staunton Spectator has received, in advance, the President's Report to the Eighteenth Annual Meeting of the Stockholders of the Virginia Central Railroad Company, from which we gather the following—

The report urges the policy of pushing the work to an early completion, and for this purpose recommends an application to the Legislature for a sufficient increase of capital stock, and also for a loan, on mortgage, lest the money might not be speedily raised by subscription.

The President urges the construction of a short line from Charlottesville to Richmond, on good reasons both of expediency and necessity. A longer track on this end of the road will soon be indispensable, and the advantage is shown on the score of economy in cost and distance by making this second track on the shortest line, by which a saving of 25 or 30 miles can be effected. The old line by Gordonsville will, it is argued, be profitable still as a branch road.

The road is relaid with a heavy rail from Gordonsville to the Junction, and the report recommends the early substitution of the heavy rail throughout the line. The work shops of the Company have been removed to Richmond.

The receipts of the last year, ending the 30th of September, amount to \$210,052 11, an excess of \$33,306 17 over the previous year, while the expenses have not increased in the same ratio.—This gratifying addition to the revenues has occurred without any material extension of the road, having been advanced only 8 miles in the year.

The Board recently declared a dividend of 10 per cent, on that part of the stock created by the acts of 1836-'38-'47-'48 and '51, that being the stock expended on the part of the road now in use.

Indiana and Ohio Railroad.

The Directors of this company have been in session in this city for some days, and, as we understand, adjourned yesterday. A large amount of important business was before them, and was disposed of with entire harmony and unanimity. Full reports of the previous operations were submitted to the Board.

Upon comparing the books, the amount of local subscriptions were found to be \$819,000. And the directors from every portion of the line expressed the strongest assurance that the stock would be increased largely and liberally.

The entire work has been let to M. C. Story & Co., of New York, at \$22,000 per mile, to be completed by the 1st December, 1855.

A portion of the contractors were present during the meeting and announced their readiness to break ground so soon as a sufficient portion of the route could be located. The whole plan for the prosecution of the work was discussed and agreed on with entire unanimity. The Board and contractors agreed on a vigorous and systematic prosecution with a view to its speedy completion. A corps of engineers is now surveying westwardly from the Wabash, and another party will start from that point eastwardly so soon as it can be organized.

From the vigor and zeal displayed by the company and the contractors, no further doubts can be entertained that the road will be pushed to completion at the earliest period; and when completed, we have heard but one opinion expressed, as to its value and importance. Traversing as it does, the very best portions of Indiana and Illinois, connecting the capitals of two great States

of the West, by a direct East and West line, it cannot fail, when completed, to command an immense business, and its stock must be equal to that of any road in the West.—*Indiana Sentinel.*

American Railroad Journal.

Saturday, November 26, 1853.

Share and Money Market.

The favorable change in monetary affairs continues. The improvement has been as rapid as was the opposite tendency a short time since. The stringency, no doubt, was aggravated by the action of the banks, which, though salutary on the whole, could not fail of being productive of a good deal of distress. The curtailment in their loans, and the increase in the amount of specie, have placed the banks in a very strong condition, which will enable them to assist the upward tendency. The experience of the few months past will not be without its influence, proving, as it has, the general soundness of commercial affairs, and of the financial condition of railroad companies. The earnings of our railroads never presented so flattering a result as at the present time.

The stock market has shown a very decided advance as will be seen by our tables. The improvement of many of the leading stocks from the lowest point of the recent depression, has been from ten to twelve per cent. The tendency still appears to be steadily upward. Money is abundant on call, and is daily becoming easier on time contracts.

The Bank Statement for the week ending Nov. 19, was as follows:

	Nov. 19.	Nov. 12.
Loans.....	\$83,717,662	\$82,882,409
Specie.....	13,691,324	12,823,575
Circulation.....	9,151,443	9,287,629
Deposits.....	57,446,424	56,201,107

Covington and Lexington Railroad.

The line of this road is completed forty-seven miles from Covington, and is making rapid progress toward Lexington. It has already reached a section of country capable of furnishing a lucrative traffic, and up to this point, the road will find active and profitable employment, which will be largely increased as the road progresses.

Though the cost of the above road has been somewhat greater than that of most of the new lines in the west, this fact is more than compensated for by the superiority, in a commercial point of view, of the route it occupies. It will connect the "garden of Kentucky" with the great city of the Ohio valley, and will form the base of numerous branch roads radiating from it at Lexington, and other points in its line. The tendency of the Kentucky trade, north and east, becomes stronger every year, and the opening of the roads now in progress from the interior portions of the state, to the Ohio river, will complete the revolution now going on. Cincinnati will then become the principal local market for Central Kentucky, for the trade of which, the above road must form the chief medium of communication. We know of no road in the country having the prospect of a better business, and which can neither be accommodated, nor drawn off, by other roads. The above road is being pushed rapidly forward, notwithstanding the recent severe pressure in the money market, and is too far advanced toward comple-

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	80
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,053	none	30
Kennebec and Portland..... "	72	952,621	297,80	2,514,067	168,114	100,552	none	41
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	90½
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,256	none	24
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	104½
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern	82	3,016,634	.....	328,782	.....	163,075	5	47½
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6½	88
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic.. Vt.	61	1,097,800	550,000	1,745,516	.....	.....	none	37
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	13½
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	100
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7½	92½
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	103½
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	87½
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101½
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2½	45
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	56
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	91½
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	106½
Fitchburg..... "	66	3,540,000	112,305	3,623,073	574,674	232,787	6	93½
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	90½
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	13½
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	94½
Stonington..... R. I.	50	.....	467,700	.....	240,672	110,892	.....	61
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal..... Conn.	45	922,500	500,000	1,400,000	.....	.....	4	65
Hartford and New Haven.... "	72	2,350,000	800,000	3,150,000	639,529	294,269	10	118½
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill. "	50	.....	.....	In progress	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	101
Naugatuck	62	926,000	440,000	.....	.....	.....	8	.....
New London and New Haven. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	52
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	55
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progress	.....	.....	none	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	none	130
Canandaigua and Niagara F.. "	50	.....	.....	In progress	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna.... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie)... "	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	74½
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	65½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	56
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	31½
New York Central..... "	504	22,858,600	2,111,824	24,974,423	.....	.....	.....	113
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	28
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	267,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,367	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,692,711	225,152	116,706	8	100
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,495	1,388,355	478,413	10	145
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	181
New Jersey Central..... "	63	980,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrisburgh and Lancaster.. "	36	830,100	713,227	1,702,523	265,327	106,320	8	.....
Philadelphia and Reading.... "	96	6,656,832	10,427,800	17,141,987	2,480,626	1,251,987	7	83
Philad., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	76

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	25
Philadelphia and Trenton....	"	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	"	47	.....	.....	.....	.....	.....	.....	102 1/2
Baltimore and Ohio.....	Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	616,384	7	56 1/2
Washington branch.....	"	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna....	"	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange.....	Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	"	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	"	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville.....	"	73	1,372,324	200,000	In prog.	.....	.....	.....	70
Richmond and Petersburg.....	"	22	685,000	.....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac.....	"	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side.....	"	62	1,857,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central.....	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	61
Virginia and Tennessee.....	"	60	3,000,000	1,500,000	In prog.	.....	.....	none	98
Winchester and Potomac.....	"	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N. C.	161	1,338,878	1,184,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina..	S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.....	"	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina.....	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester..	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	"	211	4,000,000	1,214	.....	924,424	456,468	7 1/2	.....
Macon and Western.....	"	101	1,214,283	108,000	1,596,283	296,584	153,697	9	109
Muscogee.....	"	71	.....	.....	In prog.	.....	.....	.....	.....
South Western.....	"	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River..	Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	"	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	"	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point....	"	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern.....	Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia....	Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga....	"	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky.	38	1,430,150	900,000	In prog.	.....	.....	.....	62 1/2
Frankfort and Lexington.....	"	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	"	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh.....	Ohio.	100	1,239,450	1,371,000	2,965,756	194,429	123,306	6	93
Cleveland, and Erie.....	"	95	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.....	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	122
Columbus, Piqua and Indiana....	"	46	.....	.....	2,000,000	.....	.....	.....	80
Columbus and Lake Erie.....	"	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton...	"	60	2,100,000	500,000	2,659,653	321,793	200,967	.....	102 1/2
Cincinnati and Marietta.....	"	.....	.....	.....	In prog.	.....	.....	.....	72 1/2
Dayton and Western.....	"	40	310,000	550,000	925,000	.....	.....	.....	80
Dayton and Michigan.....	"	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton.....	"	36	.....	.....	.....	.....	.....	.....	60
Greenville and Miami.....	"	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro.....	"	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami.....	"	84	2,370,784	.....	2,634,157	526,746	314,670	10	113
Mansfield and Sandusky.....	"	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.....	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central.....	"	57	.....	.....	In prog.	.....	.....	.....	90
Ohio and Mississippi.....	"	.....	.....	.....	.....	.....	.....	.....	87
Ohio and Pennsylvania.....	"	187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley....	"	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd....	"	87	552,000	800,000	1,317,140	.....	.....	.....	.....
Xenia and Columbus.....	"	54	1,092,137	119,500	1,257,714	237,506	135,363	15	116
Evansville and Illinois.....	Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central.....	"	.....	.....	.....	.....	.....	.....	.....	80
Indiana Northern.....	"	131	.....	.....	.....	.....	.....	.....	115
Indianapolis and Bellefontaine	"	83	.....	.....	.....	.....	.....	.....	166
Lawrenceburg and Ind.....	"	90	.....	.....	In prog.	.....	.....	.....	05
Lafayette and Indianapolis.....	"	62	.....	.....	.....	.....	.....	.....	82
Madison and Indianapolis.....	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	78
Peru and Indianapolis.....	"	40	.....	.....	In prog.	.....	.....	.....	65
Terre Haute and Indianapolis...	"	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.....	"	135	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central.....	"	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago.....	"	92	1,932,361	500,000	In prog.	473,548	286,152	.....	100
Michigan Southern.....	Mich.	315	2,499,410	2,629,000	6,430,246	592,187	293,046	.....	120
Michigan Central.....	"	282	4,000,000	4,067,396	8,614,193	.....	.....	8	109
Pacific.....	Mo.	88	1,000,000	none.	In progres	.....	.....	.....	.....

tion to suffer to any considerable extent from an adverse state of the times.

Earnings of Railroads.

The large, and rapidly increasing, earnings of railroads, is a most gratifying feature in the times. In the aggregate, they are doing much better than was expected, or claimed by parties most interested in presenting favorable estimates. This fact cannot fail to exert a beneficial influence upon public sentiment in reference to the safety of our roads as investments of capital. The larger proportion of earnings being from *freight*, proves an abundant supply of the right kind of material for a lucrative business, and is a good proof of the wealth and prosperity of the country. The success of our roads shows that our people have not been acting upon an unsound hypothesis in reference to their uses and value. It serves as a "healing act" upon the means employed. The roads, providing good investments, will relieve the various municipal corporations that have in one way or another become connected with them, of their liabilities, by enabling the companies to assume them, as they have contracted to do, in most cases. The proceeds of state, county and city bonds, having been well invested, the above bodies reap a double advantage, a remunerative return upon the investments, and the vastly greater incidental benefits, to secure which was the moving cause that led them to encourage railroad enterprises. The extraordinary stimulus communicated to the business of the whole, shows the value of our railroads in a still wider scale. The nation at large would have been sufficiently compensated for their construction, should the value of the stocks and securities have proved comparatively worthless. That this advantage has been realized, with a good profit upon the cost of our roads, should be a matter of general congratulation.

Montreal Screw Steamship Company.

It is with pleasure we learn that the first vessels for this Company, of which Messrs. Edmonstone, Allan & Co., are the Agents, have been contracted for, and are now building in the Clyde. They are of 1875 tons, new register measurement, and will be fitted up with engines of 350 horse power, which are guaranteed to propel the vessels ten knots an hour, and enable them to make the passage from Liverpool to Quebec in a period not exceeding twelve days.

The first vessel is to be completed by the 1st June next; and will be put into the trade immediately thereafter. The others will follow in quick succession. Arrangements are also in progress to put a similar vessel into the trade from London to Montreal. When these vessels are ready, the merchants of this Province will have nothing to envy in the steamers trading to the United States, either for speed, safety or accommodation.

Messrs. Edmonstone, Allan & Co., are also making the following additions to their line of sailing vessels. A splendid Iron Clipper Ship of 850 tons register, building by Messrs. John Reid & Co., of Port Glasgow, and a wooden one of similar dimensions under construction by Messrs. Robert Steele & Co., of Greenock, the celebrated builders of the Cunard Steamers. These ships will take their places in the line early next spring.—*Transcript.*

In addition, we hear from Quebec, that Messrs. Gilmour & Co. are also about to enter extensively in the trade; intending to build not less than seven ocean steamships of about 2,000 tons each, to form lines of packets between Quebec and Liverpool, Glasgow, and London.

Railroad to the Pacific.

In considering the subject of a railroad to the Pacific, we are saved the discussion of its necessity to accommodate the wants of commerce and travel, or its probable value as an investment of capital. The sentiment of the country is fully agreed upon these points. Were there any doubt or difference of opinion, in reference to them, the importance of the road, in a political point of view, would at once secure an unanimous voice in its favor. It *must* be built, and speedily, is the opinion, and we may say the conviction of all parties. The only question remaining is the *modus operandi*. This appears a formidable one only on account of want of knowledge as to the proper route and method. But we shall not long remain in ignorance even upon these points. In reference to the former, every person in the United States who possesses any information upon the subject has taken the stand, and is giving in his testimony. The public will soon be in possession of the evidence, and will be busy at work collating and comparing the different statements and reports with each other, in sifting the true from the fictitious, until a tolerably digested body of evidence be presented. In the mean time, further explorations, carried on both by government and individuals, and guided by a more definite object and better plans, are adding rapidly to the stock of information already possessed; so that we are really making rapid progress without any apparent movement. So too, with the question of *ways and means*. We are satisfied that the practicability of accomplishing this work by private capital, assisted only by grants of land, and mail contracts, is *first* to be demonstrated, before the general government will aid it by direct appropriations of money. Such undoubtedly will be the policy of the Administration, and which, we have no doubt, it will be sustained by the sentiment of the country. We do not see how it would be possible for government to undertake this work without being swindled out of a greater part of the money. We doubt whether Congress would allow the road to be entrusted to competent and faithful hands. Too many members would wish to be interested in the *job* to allow it to go out of their hands. Congress too, would not agree, probably, upon any *one* route, which will be an additional reason for withholding aid. The conviction of the country is, we think, strongly against any responsible connection of the general government with the matter, and this is probably the principal reason why so few prominent men take the ground that the road is to be a government work. Mr. Benton's plan takes the affirmative side of this proposition, but we believe the reason of his difference from the general voice of the country, is the utter impossibility of constructing the road upon his route, by private means. Hence he naturally assumes the proposition that the road should be constructed, and owned by the United States, as every other would at the present time be fatal to his project. At any rate such is our view of the case.

We do not regard the construction of a railroad to the Pacific as beyond the well directed efforts of a private company, aided it would be by liberal grants of lands. Properly managed it is a work which would command the co-operation of capital throughout the world. It would be a work, the influence of which would reach far beyond the boundaries of this country. Sustained by such an

universal sense of its necessity and value, its construction would certainly not prove an insuperable ten years task for a nation that is constructing more than twice its length of line each year!

The first and great question to be solved is that *route*, which should be made a matter of *evidence*, simply. This disposed of, that of *means* would not long occupy the public mind. Towards determining the first, should the entire energies both of the government and the people be directed. We hope and believe that the former will immediately place a number of parties in the field, sufficient to give us the physical features of the country traversed by the proposed routes with the least possible delay.

Lexington and Big Sandy Railroad.

We have received the report of Professor W. W. Mather upon the Geology of the country intersected by the route of the above road. The report states that this country abounds in mineral resources available for profit to the owners, for profitable transportation by the railroad company, and for supplying the wants of the country along the line of the road. The line traverses a rich agricultural country from Lexington to the Licking river, where it enters the mineral region. The mineral materials available along the road, and easy of access, are coal, both common bituminous and cannel—iron ore in numerous workable beds of great extent and good working qualities—building-stones and freestone of the very best qualities, in inexhaustible quantities, where quarries can be opened directly along the railroad—limestone of various qualities, adapted for making white lime and hydraulic cement. Fire clay and fire stone are also abundant in the coal region.

The following table shows the order of superposition of the principal masses of the rock formations, strongly marked as distinct in their general characters, and each gives its distinct topographical as well as its agricultural character to the country occupied by it.

Coal formation.	{ Containing common and cannel coals, and numerous workable and some worked seams of iron ore.
Carboniferous limestone.	{ Called the white limestone, and covered by a seam of workable and worked iron ore.
Fine grained sandstone.	{ The same as the Waverly sandstone of Ohio, so much worked in Ohio as a fine building stone.
Black slate.	{ The source of many mineral springs.
Buff colored limestone.	{ Contains cement rock, and some beds of iron ore.
Blue limestone.	

The Blue limestone region is eminently the agricultural region of Kentucky. It occupies the country along the line of the railroad from Lexington through Mount Sterling to near Owensville.

The Slate furnace ore bed is an enormous bed of iron ore, intersected by the line of the road. It is described as an oolitic limonite, lying on the buff limestone, and occupying fifty acres or more and where the road crosses it is fifty feet in thickness. The ore from this bed if mixed with other ores may be made, it is believed, to produce good iron.

The fine grained sandstone forms the body of the hills along the railroad line from the mouth of Triplett's creek to near its source. Its thickness

is 300 to 400 feet. This rock is deemed very important to the road and is destined to furnish a large amount of freight. It is the same quality of rock that is quarried for the Cincinnati, Columbus, and other markets in Ohio, at Waverly on the Ohio canal, and at the quarries below Portsmouth. Quarries can be opened directly alongside of the railroad, inexhaustible in quantity, in many places from near the mouth to near the source of Triplett's creek, a distance of 16 or 18 miles.

The Carboniferous limestone appears at several points on the located line, and is important as a source of inexhaustible quantities of white lime—as a flux for iron ores—as a building stone and as a floor on which almost everywhere a bed of iron ore of workable thickness and superior quality is found wherever there is a few feet of earth to cover it. The iron over this lime stone has been examined in several places and found to be of superior quality. It is called limestone ore and is generally from 8 to 18 inches thick.

Many distinct beds of coal are found over many miles, along and on both sides of the railroad line. Coal beds deemed worthy of extensive working, to supply the wants of the country to the west along the line of the road and thence to Frankfort and towards Louisville, exist on the waters of the Little and East Forks of Little Sandy, and on the waters of Big Sandy. They are also destined to be used extensively for the manufacture of iron with stone coal.

Cannel coal of good quality is also found in several places.

The bituminous coal formations are large and widely distributed. Of these Professor Mather estimates 5000 tons of coal accessible per mile on the land within a mile of the road or 3,000,000 tons per square mile for 20 miles on each side of the road or one hundred and twenty million of tons. This, if demanded by a steady and reliable market, would afford transportation for 600,000 tons per year for 200 years, from within a single mile of the road. The country for miles in width on each side of the road is equally well provided with coal, so that the resources of the country along the railroad line in Greenup and Carter counties may be considered inexhaustible, and will furnish all needed supplies of this useful fuel for ages of time, to all the country bordering on the line of the road. The expenses and risks of river transportation have prevented bringing this coal into extensive use in Lexington and other points west.

The expense of this coal delivered at points 100 miles distant from the mines, including value of coal in ground, all charges of mining, moving, &c., is estimated by Professor Mather at \$2.33 per ton.

The iron ores abound on the route of the railroad from the head of Triplett's creek to the mouth of Big Sandy, but are most abundant between the Little and Big Sandy. There is probably no region of equal extent, says Professor Mather, supplied with a greater quantity, or with more varied qualities of good, easy working iron ores. The iron formations, like those of coal, already noticed, are numerous and widely distributed, besides being generally accessible to the line of the road.

Professor Mather's estimate of the extent of the

deposits of iron is that of 500 tons per acre, which for 800 square miles of land along the railroad, adapted for furnaces, would give a capacity of production of two hundred and fifty six millions of tons of iron.

From the details given it is inferred that the resources of the country on the railroad line are inexhaustible, and the construction of the railroad will lead to a development of those resources and afford much transportation and give rise to much business.

Many matters of minor importance have been passed by in the consideration of the principal resources of the country.

White sandstone for glass, fire clay for fire bricks, stones adapted for whetstones and grind stones are widely diffused along the route. The products of the forest such as lumber, bark, cooperage stuff, &c., are also important and will swell the freight seeking a market through this road.

From these facts, disclosed by the survey of so skillful a geologist as Professor Mather, there appears no room for doubt that the resources of the country, intersected by the route of the Lexington and Big Sandy railroad, are of the most ample and valuable character; that the value of that section, as it becomes known, will appreciate largely, and that the avenue of communication afforded by the proposed road will be occupied to its full capacity by the business, of which the elements already existing need only to be developed by its construction.

Indiana Central Railroad.

We had the pleasure a few days since, of passing over the Indiana Central Railroad, then only recently opened. There are few routes in the West better calculated to impress the traveller favorably than the one occupied by this work. Following immediately upon the line of the *natural* road, it traverses the *best* improved portion of the State, presenting an appearance of culture and wealth, uncommon in any portion of the West. In fertility of soil, that portion of Indiana traversed by the above road, is not exceeded by any part of the country that we have ever seen: The road is well built, pursues very nearly a *direct* course, has abundant sources of a large *local*, and is remarkable well situated to command a large *through* business. Already is its traffic fully up to the capacity of a large equipment, and will be rapidly increased by the development of the country upon the line of the road, and the progress of similar works on other parts of the State.

Very few roads make a better show of business in the outset, than above. By all parties acquainted with the line, we found it regarded as one of the best for business, in the State. Such was our opinion from what we saw.

The road occupies an easy route, with the exception of the crossing of the *White-water* River, which required a very long *hill*, with equally long and expansive *cuts*. The work at this point delayed the opening of the road a long time beyond the expectations of the Company. The *White-water* Valley is depressed very curved oval below the general surface of the surrounding country, rendering, either very steep gradients, or deep cuts and high embankments, unavoidable by all roads crossing it at right angles.

The Central road was opened about the 10th ult.

in season for the heavy fall business, which is fully up to the expectations of the Company.

Cleveland and Toledo Railroad Company.

It will be remembered that the Journal of the 12th inst. contained the circular statement of the affairs of this Company, and the condition and cost, of the work, &c., on both lines of the road, with an estimate of the fall revenues. The facts represented were, briefly, as follows: The Toledo Norwalk and Cleveland, and the Junction railroad companies united their interests under the name of the Cleveland and Toledo Railroad Company; the former being known as the Southern, and the latter as the Northern, line of the Company's road. The southern line has been in successful operation some months; the Northern line is recently opened from Ohio City to Sandusky City, where it connects with the Mad River Road to Cincinnati: when completed, the length of both lines will be two hundred and nine miles; estimated to cost four and one half millions, represented as follows: Stock paid in, two millions. Bonds of the Company two and one-half millions; less than a million of the latter being convertible.

We now publish the following Appendix to the Circular mentioned, which exhibits some new facts with reference to the future prospects of this important link in the chain of railway communication between New York, and Cincinnati, Chicago and St. Louis. It will be observed that the actual receipts show a gratifying excess over the estimates of the President's Circular.

The Directors relied upon bringing into use, early in the autumn, so much of the Junction railway as lies between Sandusky and Ohio City; but unavoidable causes postponed the completion until the present month.

The earnings of the Southern line (excepting a few hundred dollars from the way business of the Northern line,) were as follows:

September.....	\$36,878
October.....	57,253
	\$94,131

At this rate, the annual gross receipts will be \$564,000. Deducting running expenses from this, will leave \$340,000 net earnings; from which after paying interest on the bonds issued for the construction of the Southern line, and the sixty finished miles of the Northern line, \$249,000 will remain applicable to the dividends upon \$2,000,000 of Stock—being over 12 per cent.

A large increase of revenue from the Northern line is expected to arise from the communication with Cincinnati, Hamilton, and Dayton railroads.

The work on the unfinished portion of the Northern line is far advanced. The iron has been purchased and is on the ground. All will be finished in season to connect with the Air line of the Northern Indiana railroad, which will be opened in September next.

The following persons compose the present Directory:

SAMUEL F. VINTON, of Ohio,	}
WILLIAM H. RUSSELL, of New York,	
D. B. FEARING, of New York,	
C. L. BOALT, of Ohio,	
E. LANE, of Ohio,	
WILLIAM JARVIS, Middletown, Conn.	
E. B. LITCHFIELD, of New York.	

Illinois and Michigan Canal.

On Monday last the trustees of the Illinois and Michigan canal paid the last instalment of the principal, with interest, of the canal loan of \$1,600,000. The canal will now revert to the State, and be under exclusive State jurisdiction.

Finances of Georgia.

Governor Cobb has submitted his annual message to the State Legislature of Georgia. The document is dated November 9th, 1853, and contains the following statement of the finances of the State up to that time.

On the twentieth day of October 1851, the public debt amounted to \$1,687,472 22. By the act of December 4th, 1851, ratifying the contract of my predecessor and the Chief Engineer of the Western & Atlantic Railroad, for the purchase of iron for the State road, it was increased \$200,000. By act of January 12th, 1852, providing for the repairs and equipment of said road, it was still further increased the sum of \$525,000—and by the act authorizing a subscription to the Milledgeville and Gordon railroad, there was added the sum of \$20,000, making the total amount of the State debt \$2,432,472 22. To this amount should be added the bonded debt of the Central Bank, which is now \$369,500; having been diminished by the payment of \$5,500, since the 1st November 1851. The total liability of the State is thus seen to be \$2,801,972 22, from which must be deducted the sum of \$166,500, which has been paid during the past two years, under the provisions of the act of February 11th, 1850, providing for an annual Sinking Fund for the payment of the public debt. The present debt of the State therefore is \$2,635,472 22.

Maine.

Kennebec and Portland Railroad.—The annual report of this company has been published, giving a statement of the condition, business and prospects of the road for the year ending Sept. 30th, 1853.

It states that the stock of the Yarmouth portion of the road has been arranged or exchanged so as to make it a six per cent stock instead of a ten per cent—that a large portion of the ten per cent preferred stock has also been surrendered or exchanged for new preferred stock bearing six per cent, and the hope is expressed that the balance of the old ten per cent stock will shortly be exchanged in a similar manner—the effect of the two arrangements being to save the company in the way of interest, about \$15,000 annually.

The report states that the directors have entered into a contract with the Somerset and Kennebec railroad company for the lease of that road for twenty years, when completed on the conditions authorised, and heretofore made known.—The additional equipments required for the road, will occasion an outlay of \$50,000.

The report of the treasurer makes the following exhibit of the financial condition of the road:

The total expenditures up to Sept. 30, 1853, have been as follows:

Now charged to construction.....	\$1,755,506 03
Land damages.....	161,332 93
Fence account.....	31,385 29
Engine account.....	53,787 46
Car account.....	54,807 68
Interest in stock paid and to be paid to original stockholders to January, 1, '52.....	\$118,000
There will be a further payment of stock at par to contractors, of.....	70,900
	188,900 00
Interest in preferred stock paid and to be paid to preferred stockholders to July 1, 1853.....	56,400 00
Amount to be paid to redeem the Yarmouth road.....	202,400 00
Sundry accounts.....	9,547
Total.....	\$2,514,067

The means to meet the above expenditures have been derived from the following sources:

City and town loans.....	\$755,000 00
Company's bonds in place of Richmond and Bowdoinham....	45,000 00
Balance of bonds due Sept. 1, 1853, outstanding.....	4,800 00
Bonds issued to Clapp, Dec. 10, 1850.....	12,000 00
Bonds issued to Fuller, August 25, 1851.....	1,100 00
Bonds issued to October, 15, 1851.....	230,000 00
Bonds issued to October 15, 1852.....	250,000 00
Preferred stock.....	178,115 06
Partial payments on same.	12,408 21
Stock interest paid and to be paid.....	56,400 00
Yarmouth road.....	246,923 27
Amount received of P. S. & P. R. R. Co. for 1000 shares, upon which six per cent dividends are guaranteed.....	100,000 00
Bills payable.....	84,757 48
Original stock.....	608,606 52
Add stock interest.....	118,000 00
Add stock due contractors.....	70,900 00
Sundry accounts.....	19,997 21
Due to Reuel Williams for cash loaned.....	6,191 16
Due Edgerton and Marsh merged in G. S. Marsh's new contract, to be settled with him.....	17,661 59
	\$2,768,237 23
Balance of Assets.....	\$251,170 16
as follows, viz:	
Amount charged commissioner's sinking fund.....	\$37,750 00
Bonds pledged and on hand.....	177,200 00
Bills receivable.....	5,385 85
Due from station agents.....	6,475 58
Due from post office department.....	2,000 00
Fuel on hand.....	7,066 00
Stock in machine shop on hand.....	4,326 78
Cash in treasury.....	13,965 95
	\$251,170 16
The receipts for the past year ending Sept. 30, have been as follows:	
From 223,565 passengers.....	\$127,127 72
From freight, 23,014 10-100 tons....	33,604 55
From transportation of mails, express-es, etc., etc.....	7,381 61
	\$168,113 88
Less running expenses as follows:	
Maintenance of way.....	12,451 82
Locomotive power.....	13,338 38
Train expenses.....	9,992 55
Office establishment and salaries.....	8,538 84
Station expenses.....	7,687 84
Mail expenses.....	392 45
Fuel account.....	14,305 01
General expense.....	854 62
	\$67,561 51
Net receipts for the year.....	\$100,552 37

The foregoing receipts of the road for the year, \$168,113 88, are exclusive of all amounts paid and due to other roads for their proportion of through fares.

At the annual meeting held at Brunswick on

Thursday, the 27th ult., the old board of directors was re-elected, viz:

Reuel Williams, of Augusta, *President*.
John D. Lang, of Vassalborough.
Folliot T. Lally, of Farmingdale.
Wm. D. Sewall, of Bath.
Joseph M'Keen, of Brunswick.
Geo. F. Patten, of Bath.
Marshall F. Hagar, of Richmond.
A. H. Gilman, *Treasurer*.
Joseph M'Keen, *Sec. & Clerk*.

Western and Atlantic Railroad, of Georgia.

The report of the State Superintendent of this road exhibits its condition on the 30th September, 1853, and the more important particulars of its financial history from February 1st, 1852, as follows:

The available assets of the road, on the 1st of February, 1852, the date at which Mr. Wm. M. Wadley's Administration commenced, amounted to \$37,907 59.

The amount of indebtedness, against the administration which preceded him, deducting the amount of assets, as above, was \$551,595 27.

This amount does not cover all the indebtedness of the road on the 1st of February, 1852, as there are still unsettled claims, for right of way, and losses prior to that date, the amount of which, when ascertained must be added to it.

The road, at the time that Mr. Wadley took the charge of it, besides being without proper organization or equipment, it will be seen, owed a debt of more than half a million of dollars; and the income of the road, together with the appropriation made by the last legislature, has been expended in cancelling this debt and in placing the road in good working condition, and thoroughly equipping it.

The following statement exhibits the financial operations of Mr. Wadley and his successor Mr. Yonge, from the 1st of February, 1852, to the 30th of September, 1853:

Available assets turned over by prior administration on 1st February, 1852.....	\$37,907 59
Unavailable assets, being balances against former agents, in suit and doubtful.....	24,274 88
Proceeds of sale of bonds of the State, \$525,000 000, and premiums on sale of same.....	579,513 23
Profits of the road for 20 months, say from 1st February, 1852, to 30th September, 1853.....	359,974 17
Amounts received to credit of railroad expenditures, being sales of material and bills of labor and repairs from machine and carpenter's shops against connecting roads, and services of runners and men on engines in employ of contractors and other roads, deducted from expenditures.....	9,268 43
Received for sales of 1 iron.....	25,014 34
Balances to debit of agents and connecting roads, etc.....	241 00
Received for flange rail sold, to credit of construction account.....	1,853 80
	\$1,038,047 44
Credited by amount paid on account of liabilities of road incurred prior to 1st of February, 1852.....	334,501 19
Amount paid for equipment and construction of road from 1st February, 1852, to 30th September, 1853, by profit and loss account, fines by Post Office Department, etc.....	548,208 65
By balance, being cash and cash assets on hand, as per statement below.....	120 50
	125,216 90
	\$1,038,047 44

The assets forming above balance are:

Cash in hands of Treasurer.....	\$21,605 66
" banks.....	19,003 32
" assets.....	744 75
At credit at Philadelphia for iron delivered.....	8,475 90
Balance due by Post Office Department.....	3,500 00
Balance due by connecting roads and stage agents on account of through tickets.....	635 01
Balances due by agents of E. Tenn. and Georgia and Rome railroads, for Freight and expense bills.....	25,219 54
Balances due by other agents, for Freight and expense bills.....	26,757 75
Balances due by agents of prior administration, in suit and doubtful.....	24,274 88
	\$125,216 90

Railroad Management---Precautions for Safety.

Since the public mind is no longer shocked by the recurrence of such accidents as made the early part of this year forever memorable. It is well to exercise the same vigilance which such events inspire for a time immediately after their occurrence. The causes which tend to produce accidents are numerous and are in existence upon some of our best and oldest roads. They must be carefully watched and checked by every precaution. Winter is approaching, when road beds will be frozen and springs, wheels, and axles, will suffer more severe trials. Frost and ice will render the rails slippery and brakes will be tested more severely in controlling the motion of trains. Trains will be much oftener out of time, and irregular or extra trains will be more frequent on some roads. Time tables will be changed. The mid-winter and spring thaws will loosen stones and "slips" upon unprotected places in the tracks. All of these dangers will require prompt action in order that their probable results may be averted. Others, which have been suffered to threaten the safety of trains, and having their source in a deficiency of signals, insecurity of bridges, neglect in the inspection of wheels and axles, etc., must now be removed.

No company should neglect, upon the approach of winter, to order a thorough inspection of their equipment. Many renewals will be found expedient and in making these the merits of different manufacturers should be well considered. It is time that our roads should appreciate the quality rather than the price of their equipment.

At the commencement of last winter the Boston and Lowell railroad company had their axles examined throughout; generally by drawing off the wheels for a short distance from the shoulder. Defective axles were disclosed by this inspection, but being known they could be removed, while the remainder could be pronounced safe, and as such, could command the confidence of the company and of the public.

There is a large stock of carelessness which costs nothing and saves much. Good signals cost no more than poor ones, and but little in any point of view. Careful men can be had for the same price that many roads pay for careless hands.

When it is seen upon how much precaution the safety of railroad transportation depends, and what slight neglects may lead to the most fearful results, each company should see that its officers and agents neglect no means of safety.

Journal of Railroad Law.
ACTIONS FOR LOSS OF LUGGAGE.

By way of introducing the following note of a late decision in Virginia, it is proper to observe that the practice of permitting plaintiffs who bring actions for lost luggage, to testify as to the value of the articles lost, seems to be fast extending itself in the different States of the Union. In some States this practice has been authorized by express statutes: as in our own State, in Michigan, in New Hampshire; in other States, Courts have deduced, (whether logically or not we need not inquire,) the propriety of permitting the unlucky loser of luggage to testify in his own behalf from the ancient principles of the common law. And the late learned Professor Greenleaf, of Massachusetts, (contrary, however, to Supreme Court of that State,) strongly favors the doctrine that at common law, and independently of statute or party, may properly offer himself as a witness to show the value of the luggage for whose loss he has brought an action.

This doctrine is maintained in the *Maine Reports* (Greenleaf,) 1 vol. p. 27—in Pennsylvania in a variety of cases, especially 6 *Watts and Sergeant* 600, in 20 *Ohio Reports*, p. 310, and it has now, as will be seen, been sanctioned by a distinguished Judge in Virginia.

The doctrine, too, that a general notice is imperative to limit the legal responsibility of common carriers, unless such notice is brought directly home to the knowledge of the party who claims damages for the loss of his goods, and acquiesced in by him at the time of the delivery of his goods to the carrier, is now generally accepted. But the Supreme Court of the United States, the Superior and Common Pleas Courts of New York city, and other respectable tribunals have distinctly held that common carriers may limit their liability by express contracts with those who place goods in their charge for transportation.

The closing remark contained in the following note of the Virginia decision is also, we suppose, indisputably correct. Railway proprietors, and proprietors of all other modes of public conveyance are bound, so long as they have room and suitable conveniences, to transport just as many passengers together with their reasonable amount of luggage as request, at the ordinary stations, to be conveyed. Every common carrier is bound to find good vehicles and capable servants for the purpose of transporting freight or passengers or both, according to the advertisements which he publishes in relation to his business, and in fulfillment of the obligations towards the public which he has assumed. Nay, a carrier of passengers is legally bound to make reasonable provision not only for the safety but also for the comfort of those whom he undertakes to convey. See Story on Bailments section 375, where a variety of authorities are cited in support of this doctrine.

The carrier, however, may refuse to admit into his vehicles disorderly persons or those who refuse to submit to the rules which may be necessarily prescribed for the observance of travellers.

The duties and responsibilities of stage owners, railroad companies, etc., who undertake to carry passengers and their baggage for reward, are so generally misunderstood by those parties, as well as by the public, that it would seem not inappropriate to give publicity to a decision on the subject, by the circuit court for this city, at its present term, Judge Leigh presiding. A suit was

brought against Farish & Co. to recover the value of the contents of a trunk which had been cut from their stage and rifled. It appeared in evidence that the plaintiff delivered the trunk to the agents of the defendants and that it was put upon the stage at the time he got into it, and that a day or two after it should have reached its destination, it was found broken open, and most of the contents taken out. At this point, the plaintiff himself was introduced to prove, by his own oath, what the contents of the trunk were—to which the defendants' counsel objected, for, that no man could be a witness in his own case—and that the only exception to this general rule of evidence, was, when it was first proven that the carrier or his agents had been guilty of the robbery, and that the ground of the exception was the *odium spoliatoris*—for the suppression of fraud. But it was ruled by the court that a foundation having been laid, by proof of the delivery to the defendants, and the loss, the plaintiff should be admitted to prove what was in the trunk, from the necessity of the case, for no gentleman is expected to show what he puts into his trunk. The court observed that this applied only to wearing apparel, which made the principle less dangerous. Goods sent by one merchant to another are invoiced, and the invoice is the proper evidence of what they were.

The defendants then offered to prove that a notice was kept posted conspicuously in their office, "All baggage at the risk of the owners"—that the same was printed in large letters at the top of the way bill, and that proclamation to the same effect was habitually made before the stages started from the offices. The plaintiff objected to the introduction of this evidence, on the ground that such notices did not limit the liability of carriers, whom the law regards as insurers, except against the act of the owner, the act of God, (a stroke of lightning, etc.) or the act of public enemies. The court held that a carrier is liable, except as just stated, and that he cannot avoid that liability by notices. He may qualify it in respect to the place of delivery, or he may by such general notice require persons, when they take or send articles of great value in small compass, to acquaint him with the fact, that he may take greater care, for that would be but reasonable. If a special agreement that the carrier should not be responsible were proved, it might be a question whether that would remove his liability or not—but no general notice will.

It may be well to add a point which, though not arising in this case, is also generally misunderstood—viz: that a stage owner, etc., has no right to refuse to take a person who will not agree to be responsible for his own baggage. They hold themselves out as offering to carry persons and their baggage for a certain sum, and the law regards the fare as a compensation for both the trouble and the risk. They are looked upon as quasi public officers, who have no right to make terms in respect to the performance of their duty, and are liable to an action for such refusal.

Counsel for the plaintiff, N. H. Campbell & R. G. H. Kean—for the defendants, Mosby & Speed.

Maysville and Lexington Railroad.

We are gratified to learn that the work on the Maysville and Lexington railroad, in spite of the severe pressure in the money market of New York, is still to be prosecuted with vigor, and that the Board of Directors expect to open forty-four miles of the road for business by the month of December next. The line is to be opened from Lexington to Millersburg, a distance of twenty-seven miles, and from Maysville to Elizaville, a distance of seventeen miles; leaving only twenty-three miles, from Millersburg to Elizaville, to be completed. The graduation on this part of the line is heavy, but it is so far advanced that it is believed three or four month's work will prepare it for the iron. The arching of the tunnels on this latter division is progressing rapidly. The chairs and spikes for the whole road are either delivered or on the way from the factories, and the shipment

of the remainder of the iron, purchased of the Brady's Bend Works on the Allegheny, is to commence next month. A large portion of the machinery necessary to operate the road is already delivered.—*Maysville Eagle*.

Locomotive "Connections."

We have endeavored in recent articles to show the disadvantage under which the motive power is operated upon roads which adhere to the "inside connected engine." The forcible manner in which this subject is presented, upon turning from roads having the best examples of locomotive machinery to such as retain the arrangements whose disadvantage we have often pointed out, cannot fail to convince any well informed mind that the latter roads suffer a great loss in the useful efficiency of their motive power and a large expenditure for repairs and renewals.

The limits which the inside connection imposes upon the useful proportions of locomotives has committed the motive power of the lines which adopt that connection to the short stroke and small wheel engine with low chimneys; and the consequent effects of diminished speed, increased wear and tear, and increased consumption of fuel.

It is also notorious that the engines, built in those quarters which stand most committed to this arrangement, are of cheaper construction both as regard materials and workmanship than in any other part of the country. Their proportions for efficient and economical working; such as allowance of steam room, steam openings, travel and adjustment of valves, etc.; are also inferior. Besides the limits which are generally the results of this arrangement there are very many incidental disadvantages such as the inferior construction of frames, truck frames, valve motions, etc., which must always attend the inside connection.

The action of such engines is more injurious to the road than outside connections, with level cylinders and counterbalanced drivers. This is because there is much more weight in the reciprocating parts and in the crank, which requires heavier balancing.

The inside connection involves too much complication, distortion of parts and expenditure of power. It limits the engine to a standard below the demands of a great traffic; limiting both the general proportions of boiler, cylinders and drivers, and also the details of the entire machinery.

It is only necessary to examine the motive power of different roads, and to note the practical results of the speed and economy attending the two arrangements to understand fully the justice of these strictures.

Census of Detroit.

The census of this city has just been completed by Mr. J. D. Johnson, for the Directory which he is about to publish. The result is as follows:

Total, of city proper.....	34,436
Add Spring Wells and Hamtramck, suburbs of the city.....	3,000
Total of city and suburbs.....	37,436
Males.....	17,165
Females.....	17,271

This shows an increase in the city population since 1850, a period of three years, of *thirteen thousand* which is unprecedented in the history of Detroit, and excelled by that of few other cities in the Union.

Public Buildings at Washington.

The corner-stone of the Capitol was laid by General George Washington, on the 18th of September, 1793.—The order of architecture is Corinthian. Original design by Dr. William Thornton, modified by B. H. Latrobe, architect, in 1830. Length of building 352 feet, breadth in centre 221 feet, at wings 121 feet. Height to top of balustrade 70 feet; grounds enclosed and improved, 30 acres. Total cost of the building and grounds \$2,690,459 21. Rotunda 96 feet diameter, 98 feet high. Total height to the top of the great dome, 140 feet.—House of Representatives, 90 feet long, 62 feet wide, 60 feet high. Senate Chamber, 75 feet long, 45 feet wide, and 45 feet high. Congressional Library room, 92 feet long, 34 feet wide, and 38 feet high. Supreme Court room 45 feet diameter, and 20 feet high.

It is well known that the two wings to the capitol (each 236 by 140 feet,) are in process of erection, but these are not included in the dimensions above given.

PRESIDENT'S HOUSE.—Roman Ionic; corner-stone laid September 18th, 1793. James Hoban, architect. Total cost of building and grounds, \$600,000. Length 180 feet, breadth in centre 120 feet, at ends, 80 feet—height to top of balustrade 50 feet. East or grand reception room 79 by 48 feet, and 22 feet high. Hall of entrance 54 by 30 feet.

TREASURY BUILDING.—Grecian Ionic; corner-stone laid September 7, 1836. Designed and erected by Robert Mills, architect. Length of present buildings 336 feet, (when completed to be 600) breadth at centre 190 feet, 65 feet high, colonnade, 336 feet long, 15 feet wide, and 65 feet high to top of balustrade. Cost \$650,000.

PATENT OFFICE.—Grecian Doric; corner-stone laid September 7, 1835; original design by Town and Elliot, modified and erected by Robert Mills, architect.—Length of centre building 270 feet, breadth in centre 127 feet, at ends 70 feet, height 65 feet, grand portico 95 feet front. Cost \$417,000. Total dimensions of original plan 430 feet by 300. Court in centre. Grand exhibition room 265 feet long, 63 feet wide, and 30 feet high. Model room 70 feet by 63 feet, and 16 feet high.

In addition to the above is the east wing; length 275 feet, height 60 feet; model or grand exhibition rooms 270 by 65 feet. The west wing which is now in process of erection, to be the same dimensions.

GENERAL POST-OFFICE.—Grecian (Italian;) corner-stone laid May 25, 1839; designed and executed by Robert Mills, architect. Length of building 204 feet, breadth at wings 102 feet, at centre 60 feet, height 63 feet. Total cost \$450,000.—*Wash. Republic.*

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,

Is prepared to contract for furnishing at manufacturer's prices—

Railroad iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms.

Also, McMillen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.

Office No. 25 Cliff street, New York.

Machinists' Tools.

A SUPERIOR CLASS,

DESIGNED particularly for Railroad work, manufactured by L. B. TING & CO., (late ALDRICH, TING & CO.)
October 7, 1853. LOWELL, MASS.

To Locomotive Engine Builders and Engineers.

THE Proprietors offer for rent for a term of years, with immediate possession, the splendid property, known as the BELLEVILLE IRON WORKS, situated on the Mississippi, directly opposite the City of New Orleans, and within 300 feet of the River, with which it is connected by fine wharves and landings.

The buildings are of brick, with slated roofs, and were erected in 1848 at a very heavy expense; are of a most substantial and durable character and admirably fitted for a Foundry and Machine Shops, or almost any mechanical business. They now contain a new and powerful Engine and Boiler and sufficient machinery, say, planing machines—lathes—boring machines, blacksmith's tools, &c., &c., to employ 100 mechanics, and could be put in working order in a few days. The Buildings cover a lot 300 feet square and are amply large to receive the necessary machinery for the use of 800 to 1000 workmen.

The terminus and depot of the New Orleans, Opelousas and Great Western Railroad is situated about 300 yards from the above property, which could be availed of to great advantage for the manufacture of Locomotives and Railroad work, generally as well as Steam Engines, Sugar Mills, and other descriptions of Machinery.

There are no Shops in New Orleans for the manufacture of Railroad Machinery, and as the Railroad Companies now organized in that city contemplate the construction of over 1000 miles of road,—a large part of which is already under contract,—the property now offered for lease offers a most eligible opportunity for parties desiring to contract to furnish the Engines and Machinery,—for those roads. Responsible contractors with their works on the spot would have an advantage over Northern Workshops in contracting for the Work of the Railroads terminating in New Orleans.

The Establishment and prospect of remunerating work to be secured immediately are worthy the attention of manufacturers and Engineers generally.

Applications from responsible parties will be promptly attended to, and to satisfactory parties the proprietors of the Works can offer favorable terms and arrangements.

Letters may be addressed to

R. B. SUMNER,
No. 61 Camp Street,
New Orleans;

and further information may be had by applying to Messrs. BARSTOW & POPE, Pine Street, New York.

A Valuable Farm in Illinois for Sale.

SITUATED in the Village of Seward's Point in Montgomery County 7½ miles North of Hillsborough, about 36 South of Springfield the Capital of the State, about 18 West of the Illinois Great Central Railroad, about 4 or 5 North of the Alton & Terre Haute Railroad and about 18 miles West of the intersection of the two, containing 80 acres of rich prairie land.

Apply by letter or in person to

S. S. ROCKWELL,
No. 15 South Second str. Williamsburgh.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by
JOHN H. HICKS, 90 Beaver st.

1300 Tons Yorkshire T rail, weighing 56 lbs. to the yard, and of a superior quality daily due and for sale by,
NAYLOR & CO.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.
Sept. 11, 1852. 1y

Valuable Works on Railroads, Railway Engineering, Steam Engines, &c.

LARDNER'S RAILWAY ECONOMY, 1 vol. \$2 00
THE STEAM ENGINE, STEAM NAVIGATION, ROADS AND RAILWAYS, Explained and Illustrated by Dr. LARDNER, 8th Edition, revised and improved..... 2 00
TREDGOLD ON THE STEAM ENGINE, 3 vols., 4 to., ½ calf..... 50 00
TREDGOLD'S PRACTICAL TREATISE ON RAILROADS AND CARRIAGES..... 1 50
PORTWINE ON THE STEAM ENGINE..... 50
BURGOYNE'S ART OF BLASTING ROCKS, QUARRYING, &c..... 31
TREATISE ON TUBULAR AND GIRDER BRIDGES..... 31
BAKER'S LAND AND ENGINEERING SURVEYING..... 62
BAKER'S RAILWAY ENGINEERING AND EARTHWORK..... 1 50
PRIDEAUX ON ECONOMY OF FUEL.... 21
SEWELL ON STEAM AND LOCOMOTION Vol. 1..... 31
HERBERTS ENGINEERS AND MECHANICS ENCYCLOPEDIA, 2 Vols..... 9 50
GARRS RAILWAY LOCOMOTION AND STEAM NAVIGATION..... 1 75
TRAUTWINE ON EXCAVATIONS AND EMBANKMENTS..... 1 00
Imported and for sale by JOHN WILEY, 167 Broadway, New York.

N. York and N. Haven R. R. NOTICE OF SUMMER ARRANGEMENTS,



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk, and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.
New Haven, May, 1853.

Stuart, Serrell & Co.,

CIVIL ENGINEERS,

Rooms 22, 24, 26 & 27,
157 Broadway, New York.

CHARLES R. STUART,
DANIEL MARSH,

EDWARD W. SERRELL,
SAMUEL McELROY.

New Works on Civil Engineering.

THE Field Practice of laying out Circular Curves for Railroads.—By JOHN C. TRAUTWINE, Civil Engineer—2nd edition in pocket-book form.

A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates. Price One Dollar each—postage on the Curves Three Cents—and on the Excavations and Embankments, Six Cents.

For sale by

WILLIAM HAMILTON,
Hall of the Franklin Institute,
Philadelphia.

May 4, 1853.

ESTABLISHED 1796.

McAllister & Brother,

OPTICIANS and Dealers in Mathematical Instruments, at the old established stand, 48 Chestnut street, Philadelphia, Pa. Mathematical Instruments separate and in cases, Protractors, Spacing Dividers, Drawing Pens, Ivory Scales, Tape Measures, Salometers, Spy Glasses, Microscopes, Spectacles, Hydrometers, Platina Points, Magic Lanterns, etc., etc.

Our Illustrated and priced Catalogue is furnished on application and sent by mail free of charge.
Nov. 19, 185

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY SIX PER CENT. FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW, LANIER & Co. }
No. 52 Wall-st., Oct. 6, 1853. }

THE LITTLE MIAMI RAILROAD COMPANY offer for sale one million of their **SIX PER CENT. BONDS**, with coupons. Interest and principal payable in New York, the former half-yearly, 1st of November and 1st of May. They are in sums of \$1,000 each, payable the 1st day of May, 1858.

These Bonds are issued under the express authority of the Legislature of the State of Ohio; and are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station-houses, &c., up to this date \$2,708,109 19.

This Company hold stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also, in the Hillsborough Road the amount of \$11,716.

The receipts of the Road have been as follows:

For the year ending Dec. 1, 1844.....	\$18,623 36
For the year ending Dec. 1, 1845.....	46,827 58
For the year ending Dec. 1, 1846.....	116,052 02
For the year ending Dec. 1, 1847.....	221,139 52
For the year ending Dec. 1, 1848.....	280,085 78
For the year ending Dec. 1, 1849.....	321,398 82
For the year ending Dec. 1, 1850.....	405,597 24
For the year ending Dec. 1, 1851.....	487,845 89
For the year ending Dec. 1, 1852.....	526,746 35
The receipts from Dec. 1, 1852, to Sept. 1, 1853, 10 months were.....	544,625 59
For the same period year before.....	411,797 06

Increase in 10 months..... \$132,823 53

The position of this road, being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia Road, and runs in connection with the Cleveland and Columbus Road; in fact they are now run as one line greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of 5 per cent. in 1852. In 1852 two cash dividends of 5 per cent. were made.

The present surplus and reserve fund amounts to.....	\$98,546 10
The mortgage covers the entire line of road, costing to date....	2,708,108 19
To be expended on double track, &c.	1,500,000 00

Value of security..... \$4,208,109 19

The security for the payment of these Bonds is one of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the City of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. LANIER, Esq., of this city, in trust for the bondholders, with ample power to take possession of the Road, its real and personal estate, franchises, &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. The mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

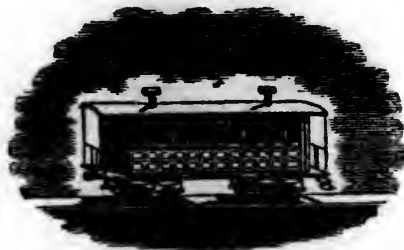
City of Cincinnati, and all other debts of the Company, excepting this loan of \$1,500,000.

These Bonds are offered at private sale by the undersigned, Agents of the Company.

Printed statements of the affairs of the Company, and any further information relative to the securities, will be given by

WINSLOW, LANIER & CO.,
No. 52 Wall-st.

Elmira Car Manufactory.



THE Undersigned is prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

WM. E. RUTTER.

Elmira, N. Y., June 1, 1853.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Wason's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, HENRY SIZER, Agent,
Cincinnati Ohio.
Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

Railroad Car Works.

THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

F. HUNGERFORD & CO.

Mayville, Ky., Sept. 29, 1853.

Huffy's

Engineers, Architects and Draftsmen's STATIONERY EMPORIUM.



WHATMAN'S Turkey Mill Drawing paper, Tracing paper, Plan and Profile, Protractors, Drawing Pins, Faber's, Jackson's and other makers' Pencils; Field, Level, and Memorandum Books of various patterns; Mathematical Instruments, Tape-lines, Mouth Glue, Cross Section paper, Triangles, Sabel Brushes, Gum Bands, Maiden Gum, Red Tape, Ink, Inkstands and Sand, Water Colors, Pallets, Patent Binders for letters, Portfolios, etc., together with a mineral assortment of Stationery and Blank Books. All goods packed with care, and forwarded to any part of the United States.

JOSEPH HUFFY,
Successor to H. L. Lipman,
139 Chestnut st., Philadelphia.

May 15, 1851.

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 28, 1854.

A. N. GRAY, Cleveland, O.,

RECEIVER AND FORWARDER of Railroad Iron, Chairs and Spikes

Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.

Office next door to the Custom House, Main st.
January 12, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

MONTREAL & NEW YORK AND Plattsburgh and Montreal RAILROADS.

Open through from Plattsburgh to Montreal.

Passenger Trains leave Montreal for Plattsburgh at 6 30 a.m. and 5 p.m., arrive at 8 a.m. and 7 30 p.m.

Leave Plattsburgh for Montreal 7 30 a.m. and 4 p.m., arrive at 10 a.m. and 6 50 p.m.

Trains connect at Montreal with Steamers for Quebec, and the St. Lawrence and Atlantic Railroad for Sherbrooke and intermediate stations.

Trains connect at Moers Junction with Northern (Ogdensburg) Railroad for Ogdensburg and Lake Ontario Steamers for Lewiston, Niagara Falls and Upper Canada, and all ports on the Western Lakes.

Trains connect at Plattsburgh by Steamer to Burlington with Rutland and Burlington Railroad and connecting lines for Troy, Albany, New York and Boston, and all intermediate stations. Also with steamers for Whitehall to the Saratoga and Washington Railroad, and connecting lines of road to Troy, Albany and New York.

Passengers will find this route unequalled for comfort and dispatch, and attended with less fatigue and delay than any other. It possesses moreover the advantage of a short Passage of only fifteen minutes across the River St. Lawrence at Caughnawaga, which has never been known to freeze, and can be confidently relied upon at all seasons of the year.

Freight Trains run daily each way.

For particulars see Freight and Passenger Tariff

Baggage checked through.

H. W. NELSON, Superintendent.

New York and Erie R. R.

PASSENGER TRAINS

leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a.m. for Dunkirk and Buffalo.

MAIL, at 8 1/2 a.m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Binghamton and Corning, and proceed the next morning.

ACCOMMODATION, at 12 1/2 p.m. for Delaware and all intermediate stations.

WAT, at 3 1/2 p.m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p.m. for Dunkirk and Buffalo.

EMIGRANT, at 6 p.m. for Dunkirk and all intermediate stations. On Sundays only Express Train—at 6 p.m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Supt.

HENRY TANNER vs. the Hudson River Railroad Company. Circuit Court of the United States for the Northern District of New York.

THIS was a suit brought by the plaintiff for an alleged infringement of letters patent granted to him as assignee of the inventors, L. H. THOMPSON and A. G. BACHELDER: 'for an improved Railroad Brake', by the use on the said road of brakes made on plans, alleged to have been invented by NEHEMIAH HODGE and also by F. A. STEPHENS and purchased by the said defendants, from the said Hodge & Stephens and also for use of the plan as patented to said Tanner.

The suit was noticed for trial at the October term of 1853, and put over the term by the motion of Defendant's Counsel by paying the costs of the term.

And thereafter the Defendant's Counsel made overtures for a settlement which resulted in the defendant's acknowledging the validity of plaintiff's patent, the infringement of the said patent by the use of double acting brakes on the plan of the said patents, and the Company paying to the said plaintiff for the right to use the said invention and for the withdrawal of said suit the sum of ONE THOUSAND DOLLARS and costs.

Having read the above I do certify to the correctness of the statements therein contained. October 25th, 1853.

THOMAS M. NORTH, Secretary and Attorney of the Hudson River R. R. Co.

New York, October 26th, 1853.

This is to certify that I was of Counsel for the plaintiff in the above entitled cause, that the suit was brought for the recovery of damages from the Hudson River Railroad Company for the use on their cars of brakes, made on the plans described in the patents granted to Charles B. Turner on the 14th, of Nov. 1848, to Nehemiah Hodge on the 2d, of October 1849, and to F. A. Stephens on the 25th, of November 1851. That in preparing for the trial of the above entitled cause I made a careful examination of all the facts, given in the notice of defence and became satisfied that Thompson and Bachelder, from whom Tanner derived title, were the original and first inventors of the Double acting Brake covered by the plaintiff's patent and that the Brakes of Turner, of Hodge, and of Stephens are infringements of the said Tanner's patent.

CHS. M. KELLER.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia. Jan. 20, 1849.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

Henry I. Ibbotson,

MANUFACTURER OF

FILES AND SAWS,

Warranted of superior quality.

Office and Warehouse, 218 Pearl st., New York.

Railroad Iron.

2,000 TONS FIRST CLASS WELSH RAILWAY IRON, to be made to any ordinary T pattern required by the buyers, and for shipment from Newport, Wales, in December, January, and March next, apply to the undersigned, for many years connected with the largest house in the trade.

JOHN H. AUSTIN & CO.,

2 Ingram Court, Fenchurch street London.

Notice to Contractors.



COVINGTON & OHIO RAILROAD.

PROPOSALS will be received, at the Office of the Covington and Ohio Railroad, in Covington, until the 15th of December next, for the graduation and masonry of about seventy-five miles of the above road; of which, the eastern portion, comprising fifty miles, lies next west of Covington, and the western portion, consisting of about twenty-five miles, lies between the Kanawha River and the mouth of Big Sandy. A large share of the work to be let—including bridging and tunnelling—is heavy and desirable, and is well worthy the attention of responsible contractors. The western sections of the above work are now ready for examination, and the eastern portion will be prepared for inspection by the 8th of December.

Further information may be obtained on application at the company's offices at Covington and Guyandotte

By order of the Board,
CHARLES B. FISK,
Chief Engineer.

N. B.—The Board of Public Works, of Virginia, under whose direction the Covington and Ohio Railroad is to be constructed, on State account, will meet, at Covington, on the 15th of December, above named, for the purpose of receiving and acting on the proposals that may then be offered. Nov. 10th, 1853.

To Railroad Companies.

COLLINS' PATENT VENTILATORS,

FOR

Ventilating all kinds of PUBLIC AND PRIVATE BUILDINGS Railroad Cars, Depots, etc.



The Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of, for giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P.R.R., Altoona, Feb. 8, 1853.

This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.

STRICKLAND KNEASS,

Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.

Messrs. BAKER & WILLIAMS, Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,

OLIVER W. BARNES,

Principal Assistant Engineer P. R. R. Co.

Krupp's

CELEBRATED CAST STEEL,

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines, not exceeding 3000 lbs. in weight.

Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

Orders received by

THOMAS PROSSER & SON,
25 Platt street, New York.

Sole Agents for the United States.
Nov. 19, 1853.

To Contractors.



CHIEF ENGINEER'S OFFICE, N. & P. R. R. Co., Norfolk, Oct. 13, 1853.

SEALED PROPOSALS will be received by the undersigned at this office from the 3d, until the 15th day of December next, at noon, for the graduation and masonry of 62 miles of the Norfolk & Petersburg railroad between the city of Norfolk and Warwick Swamp in the county of Sussex.

The line will be divided into sections of about 4 miles, and bids will be received for one or more of said sections.

Maps and profiles of the line will be ready for inspection and specifications with forms of proposals may be had of the undersigned on and after the first day of December.

Payments will be made in current money during the progress of the work in proportion of four-fifths of the amount due.

As soon as practicable after the examination of the proposals, those to whom the work will be allotted will be duly notified, and if deemed necessary required to give bond with satisfactory security for an amount not exceeding one-tenth of the amount of work to be done.

The company reserves the right to accept such proposals as in their judgment will secure the prompt and faithful execution of the work according to contract, or reject all, if none are satisfactory.

The line is easy of access, the country through which it passes is of mild climate and abundant in supplies. Postage on all communications must be prepaid.

W. MAHONE,
Chief Engineer.

Small Rails.

THE SUBSCRIBERS manufacture and keep constantly for sale, Light Rails of the most approved patterns, weighing 22, 25, 28, 40 and 60 lbs per yard, suitable for Colliers, Miners, Quarrymen and Contractors, or for turn outs, depot and branch tracks.

CHARLES E. SMITH & Co.

1744 Fairmount Iron Works, Philadelphia.

CHAS. E. SMITH, HENRY MORRIS,

THOS. T. TASKER, WISTAR MORRIS.

To Contractors.



PROPOSALS will be received till sunset Nov. 21st for the Graduation, Masonry, and Superstructure of the CLINTON LINE EXTENSION RAILROAD from Hudson to its intersection with the Mad River Railroad, a distance of about one hundred miles. The route occupies a perfectly healthy country, thickly inhabited, and accessible at all points.

Also, at the same time, for the construction of the portion of the Clinton Line Railroad not under contract extending to the Ohio and Pennsylvania State Line.

Specifications, Maps and Profiles will be ready for examination ten days before the letting at the Engineer's office in Hudson.

H. N. DAY, President.

W. B. BRINSMADE, Chief Eng'r.

Hudson, Ohio, Oct. 10th, 1853.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH.

They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

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The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, December 3, 1853.

ENTERED according to Act of Congress, in the year 1853, by EDWIN F. JOHNSON, in the Clerk's Office of the District Court of Connecticut.

Railroad to the Pacific--Northern Route.

Its General Character, Relative Merits, etc.

By EDWIN F. JOHNSON, C. E.

(Continued from Page 756.)

TERMINI ON THE PACIFIC AND ON THE LAKES.

Having now concluded the description of the proposed road, its character, and the country through which it passes; attention is requested to the places selected for its termini.

In no part of the world can a site be found for a great maritime city,—such an one as must necessarily grow up at the terminus of the proposed railroad on the Pacific,—superior to that which is afforded on the waters connected with the straits of De Fuca.

According to Commander Wilkes these straits are ninety-five miles in length, and eleven miles broad. They connect within our own borders with several spacious inlets, known as Hoods Canal, Puget Sound, Admiralty Inlet, and the Archipelago of Arro. These were all carefully surveyed under his direction, and he represents them as "unsurpassed by any estuary in the world. They com-

prise very many fine harbors and safe anchorages, and are entirely free from dangers. * * The country by which these waters are surrounded is remarkably salubrious, and offers every advantage for the accommodation of a vast commercial and military marine, with conveniences for docks; and many sites for towns and cities,—at all times well supplied with water, and capable of being provided with every thing by the surrounding country, which is well adapted for agriculture." In particular, he states, that "on the east side of Admiralty Inlet north of the latitude of 47° are many fine harbors and bays, all of which, in time, will become places of resort for vessels.— Situated on the east side they are more accessible for trade than those on the west side, and from having a large area of country around them, susceptible of improvement, they must become more thickly and densely populated." Ten of these bays and harbors are enumerated. "Nothing," he continues, "can exceed the beauty of these waters, and their safety." Spring tides rise eighteen feet, and neap tides twelve feet, affording every facility for the construction of dry docks; winters mild and of short duration, and harbors never obstructed by ice." The islands in the archipelago of Arro, he informs us, contain quarries of sandstone, and granite convenient of access and suitable for building.

Thornton in speaking of these waters, states that there are many reasons which produce the conviction on his mind that they "will ultimately send out upon the ocean not only a greater number of able and skilful seamen than the Bay of San Francisco, but more than any other of equal extent in the world."

"Among the reasons which may be assigned for this opinion, is the inexhaustible supply of good timber along the shores of this great Bay, and the unlimited amount of motive power, as compared with the almost, if not quite total absence of both, about the Bay of San Francisco. I may also mention the fact," he says, of the "vastly superior productive powers of Oregon, (now Oregon and Washington,) as an agricultural country, rendering it capable of furnishing supplies to an indefinite extent to a commercial and military marine." To this may be added, the abundant supply of bitu-

minous coal for marine and manufacturing and other purposes, since ascertained to exist in the vicinity of those waters, and to which allusion has already been made in another place.

Naval gentlemen with whom I have conversed, and who have visited these waters, all concur in giving to them the high character awarded to them by Commander Wilkes and Mr. Thornton. They are capacious enough to accommodate the navy of the world; are free from shoals and from all dangers not visible, and are easily accessible at all seasons. As a site for a great commercial mart they have no equal in the particulars enumerated above, on the Pacific, within the limits of the United States.

The only other ports on that coast, which can be considered as having claim to consideration as points of general resort for the marine of the Pacific, have already been named. They are the mouth of the Columbia, San Francisco, and San Diego.

The mouth of the Columbia was for a long time deemed to be difficult of access. The dangers and difficulties of the entrance are spoken of by Wilkes and Farnham and others, but the recent surveys made under the direction of Prof. Bache, by Lieut. Bartlett, of the Navy, have disclosed the existence of a channel not before known, and the entrance is now effected at the proper period of the tide, with so little danger that the Insurance offices, it is understood, take risks for the Columbia, the same as for San Francisco. In 1850 the pilots, according to Lieut. Bartlett, took one hundred and forty sail, through the new, or South Channel, and ten vessels passed through without a pilot, no accident occurring. In this time, only four vessels passed through the old, or north channel.

The spring tides within the mouth of the Columbia, at Astoria, rise seven and a half feet, the neap tides five and one-third feet, and the mean rise and fall is estimated at six and one-third feet. In the facilities afforded for the erection of dry docks, the mouth of the Columbia is inferior to the waters connected with the straits of De Fuca, the mean rise and fall of tide in the latter being about fifteen feet. In respect to the tides and character of the entrance, the mouth of the Columbia does

not appear to differ very much from the harbor of New York, and is consequently very well suited for the terminus of the proposed railroad.

By making it such, the line of the road will be increased in length about one hundred and fifty miles, if the point of divergence is placed at the entrance to Clarks River Valley east of Fort Colville. The Cascade mountains, which constitute the only obstacle of a serious character on the Northern route, throughout its entire length, will be entirely avoided, and hence should it be found, from the surveys now in progress, that those mountains cannot easily be passed on the shorter route to the Straits of De Fuca, it will follow that the mouth of the Columbia will be the best principal terminus for the proposed road; and whether it is so found or not, its character as a maritime port, and its relation to the valley of the Columbia is such, as to give it that importance as one of the termini of the proposed road, as to render a connection with it indispensable. In relation to the Asiatic trade its position is about as favorable as the proposed terminus at De Fuca, in consequence of the latter being placed so far inland; a principal objection to it, being the increased distance by railroad from the Pacific to the lakes.

In respect to the Bay of San Francisco, we are informed by Commander Wilkes, that it is "well adapted for a naval depot or a place for whalers to recruit and refit;" but he "knows of no place where a natural site for a town can be found throughout the whole Bay," and it appeared to him "extremely difficult to select one where the locality would permit of extensive artificial improvements."

The city of San Francisco is situated a short distance within the entrance to the Bay on the south side. The population of California, exclusive of what is embraced within the limits of the city, is mostly found north of the Bay of San Francisco, in the valley of the Sacramento and its tributaries, a region so situated as to render it difficult if not impossible to form a very direct railroad communication between it and the city of San Francisco, a disadvantage not experienced by the other places named in respect to railway connections with the interior.

In regard to its position in relation to the Asiatic trade, in the facilities it possesses for obtaining supplies of timber, fuel and provisions, and in its probable future position as a central point in relation to the population which is rapidly increasing on the shores of the Pacific, San Francisco is believed to be less favored than its northern rivals at the mouth of the Columbia or at the Straits of De Fuca.

In respect to the other port mentioned, that of San Diego, Commander Wilkes describes it as an "arm of the sea, ten miles long and four miles wide, and being land locked is perfectly secure from all winds. The entrance is narrow and is easily defended, and has a sufficient depth of water, twenty feet at lowest tide." There is a bank of kelp, three miles long by one fourth broad, at the entrance of the harbor, which must be avoided by large vessels. "The drawbacks," he states "are want of fresh water, the streams not reaching the bay in the dry season;" and the character of the surrounding country, which is "a barren waste of sand hills, composed of volcanic sand and mud mixed with scoria. The land is unfit for cultivation.

This leaves little to recommend it but the uniform climate, good anchorage and security from winds."

In another place he speaks of its inadequacy to accommodate the commerce of the Pacific and of the country around it to furnish the necessary supplies.

The superintendent of the Coast survey considers the harbor of San Diego, from the shelter it affords from all winds and the depth of its water, as second only to San Francisco. He says, however, that "the most important subject connected with the Bay is the effect of the debouchement of the San Diego river, bringing with it, when high, (in the rainy season) great quantities of sand directly into the channel."

The impression seems to be that the harbor will be ruined, unless the course of the river is changed, which is said to be practicable.

The mean rise and fall of the tide of this port is six feet, spring tides nine feet, and neap tides 3 1-2 feet. At San Francisco, as stated, the mean rise and fall of the tide is six feet, both inferior in this respect to the waters connected with the Straits of De Fuca. The harbor of San Diego being in lat. 32° 40' N. near the Mexican boundary, is too far south to be the terminus of any line of railroad from the east which does not cross the lower part of the valley of the Colorado, and hence does not properly come under consideration from any relation which it has to the proposed northern route.

Humboldt harbor, between San Francisco and the mouth of the Columbia, in lat 40° 45' N. is more capacious than San Diego, but the fact that it is not accessible in very heavy weather, and cannot be approached by any important line of railway connecting directly with the interior, is sufficient to exclude it from the list of places suited for the main terminus of the Pacific Railroad.

The point on the eastern coast of Asia, already described, as the most desirable to be reached of any single point, is Shanghai in China. It is here, as stated in a late report of the Hon. E. C. Cabell, M. C., that "the trade and commerce of one half of the whole number of inhabitants of the Globe is concentrated." This being its character, its actual distance from the principal points on our Pacific coast, becomes an enquiry of importance. By computation, the length of the arc of a great circle of the earth, connecting it with San Francisco is 6,185 miles, and it is distant from the terminus of the proposed road at the Straits of De Fuca, computed in a similar manner, 5,716 miles, making a difference in favor of the latter of four hundred and sixty-nine miles.

Jeddo, the capital of Japan, is about one thousand miles nearer to either Port than Shanghai. In making the round trip to Shanghai or Jeddo, or to any Port in China or Japan, vessels, from San Francisco, must traverse nearly one thousand miles farther than from the Straits of De Fuca; an increase which it is certainly very desirable to avoid in view of the vast commerce which will ultimately be carried on between the two continents.

While considering the Straits of De Fuca or the mouth of the Columbia as points the most proper for the main terminus of the road on the Pacific, its benefits can be extended to other points of importance; to Humboldt harbor for instance and to the Bay of San Francisco. According to each of

these places a means of communicating with the leading cities on the Atlantic, and in the Mississippi and St. Lawrence valleys, superior probably, as will be shown hereafter, to any other which can be devised.

That San Francisco will continue to be a point of very great commercial importance to a large extent of country is not doubted, but it cannot claim the preeminence as a great commercial mart and although it has thus far advanced rapidly in population it must eventually yield the palm in that respect to the mouth of the Columbia or the Straits of De Fuca. Its distance from the latter point, in a direct line is 733 miles and by water probably 850 miles. From the mouth of the Columbia it is distant, 580 miles direct, and by water probably 600 miles.

The terminus at De Fuca of the proposed road, not only offers a shorter communication with Eastern Asia than any other point on the Pacific within our own borders, but its position is such as to render a direct communication with it by railway from the Atlantic more important than with any of the more southern ports in California, for the reason, that the latter having a more southern latitude are more favorably situated in respect to the existing and proposed lines of communication between the Gulf of Mexico and Caribbean Sea on one side and the Pacific on the other.

Of these lines, two only which traverse the Isthmus are in operation, one of them crossing at Panama and the other by Lake Nicaragua. Three others are projected which also cross the Isthmus and may in time be accomplished. These are the Tehuantepec and Honduras, which are railway routes, and the interoceanic canal from the Gulf of San Miguel on the Pacific to Caledonia Bay on the Atlantic. This last work is now said to be practicable by a thorough-cut, thirty-three miles only in length, and one hundred and eighty feet in depth at the deepest point; having no lockage except what may be required to regulate the flow of the water caused by the difference in level of the two oceans.

The more southern Ports on our Pacific coast, will be benefited in a higher degree by these improvements than those at the north, thus giving to the latter a stronger claim to the location of the proposed road across the continent; a claim which is fortunately sustained by the superior character of the Northern route for a great commercial thoroughfare. The more favorable position of the latter secures it in a great degree from the injurious competition which a more southern route must necessarily experience.

If the attention is directed to the route to China from the Straits of De Fuca, or from the mouth of the Columbia, it will be seen that it passes near to the Aleutian or Fox islands; the Kurile islands and the Japan islands; the whole forming a chain extending nearly two-thirds of the entire distance to China and affording eventually convenient places for repairs and depots for fuel, besides making, with the countries adjacent, valuable contributions to the trade of the Pacific.

The islands first named constitute the southern bounds of the sea of Kamtschatka, forming a girdle extending quite across the entrance to Behrings Straits which open into the Arctic sea. Sir John Richardson in speaking of the influence of

these islands upon the navigation of the Pacific, and of the climate of western America, says, that "the course of the ocean currents and interposition of the peninsula of Alaska and its prolongation by the Aleutian chain of islands protect the west coast of America from the masses of drift ice which in the same latitudes encumber and chill the Labrador coast for most of the year."

Wilkes in his "Western America" speaking of the navigation of the Pacific says, that, "looking beyond this continent we find equal advantages existing in the communication with China, and the eastern islands, not only by steam but by sailing vessels, the winds being favorable both ways. The passage to China would be made with the assistance of the *trades* and the return voyage, by the aid of the *variables* in the higher latitudes."

"No country is so well situated to communicate with all parts of the Pacific ocean as Oregon (now Washington), and for advantages it is equal to any, whether considered under the head of agriculture, commerce or manufactures. It holds that position with regard to the Pacific and its islands, which must ever make it a ruler of its commerce, and when once a direct communication with it has been opened, from the east side of the continent, it must receive the aid both in capital and emigration to rise quickly into importance, and its weight to be felt throughout that ocean."

The points which are likely to be most prominent as termini for the proposed railroad on the Lakes are, the west end of Lake Superior, and Green Bay, and the cities of Milwaukee and Chicago on Lake Michigan.

The place indicated as the most suitable for a terminus at the west end of Lake Superior, is the inlet at the junction of the St. Louis and Nowadji Ragouche rivers. This inlet is represented as of ample size, is secure from the winds and waves of the Lake, and accessible to vessels drawing 10 feet water; which exceeds the average draught of lake vessels. The St. Louis river, for some distance above the junction, affords excellent accommodations for vessels of a smaller size.

Lake Superior is elevated about 630 feet above the sea, its bed in the deepest part is below the sea level, and its waters have a mean temperature beneath the surface of 40° F. The navigation upon it is good for six to seven months of the year, and continues often into December.

The rich mines of copper and iron on its southern and northern borders are bringing to its shores a large population, and when the canal of the Sault St. Marie is completed, as it soon will be, the only obstruction to a free communication with the other great lakes will be removed, and the waters of Lake Superior will be furrowed by vessels from ports many hundred miles distant, to the junction of the St. Lawrence with the Atlantic.

About seventy miles to the east of St. Louis harbor is a noble and spacious bay, the entrance to which is protected by Madeline island, forming what is probably the best harbor on the lake, and from its many attractions must become a place of some importance. The extension of the proposed road to this place, may possibly be attended with some advantage should the ice at the opening of navigation in the spring remain for an inconvenient length of time in the harbor of St. Louis river.

The other places named are on Lake Michigan.

Of these, Green Bay affords the best natural harbor. Its importance as a lake port, will soon be greatly increased by the opening of a navigable communication with the waters of the Upper Mississippi.

This work which consists mainly of an improvement of the Neenah, and Wisconsin rivers has been in progress for some time under the control of the State. It has now passed into the hands of a corporation and will doubtless soon be accomplished, and if well done, will be the channel through which must pass a very large portion of the trade of Wisconsin, northern Illinois, Iowa and Minnesota. Upon this line of communication between Lake Winnebago and Green Bay or Depere (which last is in fact the head of lake navigation) is a fall in the outlet of the lake extending through several miles, of 160 feet. This great power, from its position and character, being subject to but little variation in consequence of the number and magnitude of the reservoirs that supply it, must in time become very valuable, and must add greatly to the importance of Green Bay as a place of business. It will eventually become the second city on Lake Michigan, Chicago being the first.

Milwaukee is now the largest town in Wisconsin. It is beautifully situated on the shore of the lake ninety miles north of Chicago, but is limited in its harbor accommodations.

So long as the region of country west of Lake Michigan was dependent solely upon the navigation of the Lakes for its means of access to the great markets. Milwaukee was well situated for business, being the most convenient port for an extensive and very fertile region of country; a region embracing the valley of Rock river in Wisconsin, which is probably not surpassed in its agricultural capabilities by any other district of equal extent in the Union.

The lines of railway which are now being constructed throughout all parts of the west will necessarily produce changes, to a certain extent, in the relative importance of towns, in that part of the country. The projected road from Milwaukee to LaCrosse and another to Madison will connect that city with the Great Pacific line in the best manner and afford an outlet to the Lake, mutually advantageous to that city and to the road. Other towns of less note on Lake Michigan, viz: Sheboygan, Racine, and Kenosha, have already taken measures that will secure to them a similar connection.

Chicago being near the southern extremity of Lake Michigan, is a point towards which the various lines of railway traversing the country west and north-west of the Great Lakes, must converge, and being also at the extreme limit of the unrivalled navigation of the lakes is the point of convergence for many other lines from the west around to the south, by which the business and the travel of a vast and very fertile region of country finds its shortest and easiest connection with the navigation of that lake. Add to this its very central position in respect to the most fertile portions of the Mississippi and St. Lawrence basins, and the generally favorable character of its climate, and it is quite certain of becoming in time the largest inland city of the Union. A city holding, in a great measure, an independent position, receiving its Asiatic productions from the west, its tropi-

cal productions from the south, the produce of the fur bearing countries direct from the north, and the trade of the Atlantic from the east. Thirty years hence the population of the region of country immediately dependent on Chicago as a commercial mart, will probably be greater than that which now sustains the city of New York, and being without a rival in its immediate vicinity, it is difficult to fix a limit to what will ultimately be either its actual or relative magnitude.

The present harbor accommodations of Chicago are included in the two branches of the Chicago river. One navigable four, and the other three miles from their junction, which is half a mile from the lake. In view of its future growth, an outside harbor will, in time, be required, and when formed, should be on a liberal scale and controlled by the city, for the best good of the various interests concerned.

The character of the navigation of the great lakes and the artificial channels connected with them, is now so well known as scarcely to require any notice in this place. The value of property transported upon them annually is said now to exceed two hundred millions of dollars, and is constantly and rapidly increasing. In cheapness it is not approached by any other mode of intercommunication. Three mills per ton per mile, from New York city to Chicago, for heavy goods, or \$5½ to \$7 per ton, is now an ordinary rate. This mode of communication with the Atlantic is available about seven months in the year. When the Erie canal is enlarged throughout its entire length, as it soon will be, and the ship canal, which is about to be constructed within our own limits, between Lake Erie and Ontario, is accomplished, this rate will be still further reduced. It will be still further reduced, also, as a consequence of the great increase in the business of the lakes, the improved character of the vessels, and of the harbors, by which the risk and charges of insurance will be lessened.

The reduction in the cost of transportation upon the lakes, and in the tolls upon the Erie canal, which have hitherto, from time to time, been made, has had the effect of attracting trade to the lakes from remote points, which, but for this reduction, would have sought some other route to the seaboard, and probably some other mart than New York. The future reductions which will be made, for the reasons stated above, will have the effect of widening the circle to such a degree that by far the largest portion of the Mississippi valley will be tributary to the lakes, and its productions, instead of seeking a southern market along the descending navigation of the Mississippi, will flow northwardly to the lakes and thence to the great emporium on the Hudson. The influence of climate and other causes will doubtless aid materially in producing this result.

The port upon the lakes which will receive a larger portion of this trade than any other is Chicago. This place is not only favored with a cheap navigation to the seaboard, but it has a very direct railroad communication with the leading cities in that direction, on which the cost of transportation by that mode of conveyance will be low in proportion as the amount of business will probably be greater than upon any other lines of equal extent proceeding from the interior to the seaboard.

The proposed northern route for a railroad to the Pacific, is not only peculiarly favored in respect to its termini on the lakes and on the Pacific, and in its position in respect to the Asiatic trade, but it is also greatly favored in its connections with the navigable waters of the Mississippi and Columbia, and also of the Red river of the north.

At St. Pauls, the capital of Minnesota, a short distance below the Falls of St. Anthony, it connects with the Mississippi, from whence a communication already exists with all parts of that river and of its tributaries accessible by steamboats. At the Falls of the Missouri, distant not more than 700 miles from the Pacific, a connection can be made with the navigable waters of the Missouri, and other connections may be made with it at convenient points throughout the entire distance of 500 miles from the Falls to the Mandan villages. These connections will be of great importance to the population of the Missouri valley and its tributaries, for the Missouri river, notwithstanding the rapidity of its current caused by the great inclination of its channel, compared with the Mississippi and Ohio, the limited duration of the periodical rise of its waters and the peculiar character of its banks, is still susceptible of very considerable improvement for the purposes of navigation, and will always possess very great value as a channel of intercommunication. The quantity of water flowing in it, is not likely to be materially lessened by the same cause which has affected many eastern rivers, namely, the removal of the forests, thus increasing the evaporation and rendering the contributions from their various tributaries less equable, and producing an irregularity in the flow unfavorable to navigation.

Although this irregularity is not so great on the Missouri as on many other rivers, the Ohio for instance, yet how to remedy it, is a problem of more difficult solution, probably, than upon that river; for if the flow were rendered nearly uniform by a resort to reservoirs, yet owing to the great declivity of its channel, and character of its bed and banks, it would, doubtless, be exceedingly difficult to give to the river a regime that would be permanent. Its direction and depth, even then, would be constantly changing and the attempts to correct this tendency would be attended with very considerable expense, and yet, as stated above, there is no doubt of its being so far improved, and at a reasonable cost, as to afford much greater facilities as a navigable channel than it now possesses.

West of the mountains, the Clarks river and the Columbia are, to a certain degree, navigable so as to be of much advantage, in this respect, to the portion of the country in which they are situated, and like the other rivers named will be a valuable auxiliary to the proposed railroad. At the points of connection with these navigable waters, places of business will spring up and grow into towns of large size. In this list St. Pauls, or St. Anthony, on the Mississippi, will hold very conspicuous place.

The intersection of the line with the Red river of the north will be another point of importance, as this river is navigable from the place of intersection to within a short distance of lake Winnipeg. Others will spring up where the line meets the Missouri, at or near the mouth of the Yellow

Stone and at the Great Falls, also at the forks on Clarks river, at Fort Colville and at Okanagan.

The Falls of the Missouri will become a place of much resort for those who are in search of the grand and beautiful in nature. The size of the Missouri at that place combined with its great descent of nearly 400 feet, distributed in a succession of rapids, cascades, and Falls through a distance of 15 to 20 miles, must, in connection with the mountain scenery, present many enchanting views, while above, a few miles from the Falls, is the *Gate of the Mountains* where the river, reduced in width, is fenced in for a distance of six miles by perpendicular walls of rock 1,000 to 1,200 feet in height. Between them the river flows quiet and deep, forming a scene of solemn grandeur in striking contrast with that presented by the Falls and Cascades below.

That the Falls of the Missouri will surpass in their attractions those of Niagara, when access is afforded to them by railroad, will not be asserted. The two differ in character, each being great in its own way, but the former, it is not doubted, will like the latter be ranked among the wonders of the world.

The country about these Falls, from the number of buffalo, elk, and other animals that are sustained there, must have a value as an agricultural region which will enable it to support a population sufficient in number to contribute to the maintenance of a town of some magnitude.

The hydraulic power of the river which is here so conveniently arranged for use, in connection with the navigable character of the river, both above and below the Falls for a long distance, must contribute greatly to the early settlement of the place and to the future improvement of all this portion of the valley of the Missouri.

To be continued.

South Side Railroad of Virginia.

At a recent meeting of the stockholders of this road detailed reports were presented by the chief engineer, treasurer, and subordinate engineers, showing the condition of the road, its expenses and receipts during the year ending Oct. 1st, 1853. The receipts were over \$26,000 more than the expenditures.

A resolution was passed authorizing the president to borrow \$300,000, to complete the road.

Mr Wm. Pannill was re-elected by a unanimous vote, president of the company, and Peter B. Wills and Samuel V. Watkins were elected directors on the part of the stockholders.

Population of Cleveland.

The Cleveland Herald contains a statement relative to the population of that city, which makes the population of Cleveland proper 31,214, and of Ohio city 9,992, making a total of 41,206. This census shows an increase of the population since 1850, of 14,130.

Pensacola and Georgia Railroad.

At a meeting of the stockholders of this road held on the 9th of November at Tallahassee, the following board of directors was elected.

Gen. Wm. Bailey, Hon. E. C. Cabell, of Jefferson; J. C. McGehee, of Madison; R. A. Shine, B. F. Whitner, Richard Hayward, Dr. Edward Bradford, Edward Honstoun, of Leon, and Arthur J. Forman of Gadsden.

Mileage of Engines--New York and New Haven Railroad.

The New York and New Haven Railroad Company operate 61 miles of road with an equipment of 22 locomotives. The performance of these engines, in miles run, has been given us by Mr. J. B. Simonds, the superintendent of motive power, and exceeds, we believe, that of many other roads, doing a lighter business over a more level track. The passenger business of the New York and New Haven road is very heavy, while the physical features of the line are quite as difficult as are admitted on first class passenger roads. The line is of a general undulating character, the extreme grades being of 50 feet per mile; and the curves are also numerous and of short radii. The engines are all from one establishment, that of Rogers, Ketchum & Grosvenor's, and are all of about the same pattern. Every engine, without an exception, is outside connected. The condition of the engines is creditable to the road and especially to those immediately entrusted with their maintenance and repairs. We have a survey in progress, which we shall soon publish, giving a very interesting statement of the dimensions and details of these engines; such an one as railroad companies and others will find a useful illustration of a first class equipment.

No. of Engine.	Miles run in 1851.	Miles run in 1852.	Miles run first mo. in 1853.
No. 1.....	28,481	25,528	18,853
" 2.....	15,948	25,082	18,857
" 3.....	15,916	26,776	22,147
" 4.....	19,644	22,510	25,630
" 5.....	17,918	20,204	9,646
" 6.....	22,789	25,406	9,954
" 7.....	14,943	24,652	768
" 8.....	18,454	25,442	15,991
" 9.....	28,968	28,457	14,521
" 10.....	17,035	11,623	20,220
" 11.....	17,234	30,904	23,361
" 12.....	31,124	25,157	19,505
" 13.....	32,205	29,232	26,964
" 14.....	27,555	30,391	22,054
" 15.....	36,321	25,161	15,390
" 16.....	36,554	33,039	19,961
" 17.....	28,354	30,366	25,727
" 18.....	27,392	34,369	20,037
" 19.....	25,975	35,091	24,359
" 20.....	31,161	21,299	24,634
Farmington.....	10,611	8,085	—
Cheshire.....	17,372	21,781	—
Bristol.....	32,138	31,140	—
No. 21.....	—	—	12,734
" 22.....	—	—	13,488

415,801

These performances are extremely large, the mileage for the first nine months of the present year being of the average rate of 25,200 miles per engine per year. Of the engines in use the present year, Nos. 21 and 22 have been but a short time in use, the former having been placed on the road on May 23d, and the latter June 3d. Engine No. 12, showing a performance in 1852 of 25,157 miles, was in use during that year but nine months and eight days. The performance of the same engine, of 19,505 miles up to Sept. 30th, of the present year, was made after April 12, previous to which time the engine was under repair. The largest monthly performance during the present year is that of No. 17, which, in May last, ran 3,897 miles, equal to 150 miles per day for 26 days. Two other performances of other engines have been as high, each, as 3,822 miles in a single month.

Z. C.

The Cast Iron Slip Tire.

We learn that this improvement continues to give entire satisfaction on those lines which have had it in use since its first application. And other roads, which have had equipments of engines provided throughout with wrought tires, are now ordering chilled tires in considerable quantities. The economy of the tire and its perfect reliability under all circumstances are the merits through which it has gained its position. Its cost per pound, exclusive of whatever may be paid for the right to use it, is but *one third to one fourth* that of the wrought tire, while the expense of its application, including detention of engine, etc., is so small as hardly to bear comparison. As to its safety, it never breaks, unless involved in some general accident to the engine, while its adhesion is such that those who have it most in use can discover no difference in the train it is able to draw. The Baltimore and Ohio presents an instance of a first class road having the largest equipment of engines of any road in America, greater even than that of the New York and Erie road, and operating the most difficult transportation of any in the country; while the whole equipment of this line is provided with the improved tires, or with whole chilled wheels. In this equipment we find a large majority to consist of the heaviest engines in use, having boilers and cylinders of *extreme* capacity.—Boilers having twelve hundred square feet of heating surface, and cylinders of nineteen and twenty inches diameter are the standards for the heavy stock and burden engines. All of the heavy express passenger engines are included in the list of engines using *chilled tires*.

These tires were generally adopted on this line ten years ago, and the officers of the road, including the chief engineer, general superintendent and the master of machinery, have often expressed themselves in the strongest terms in favor of the improvement. The late superintendent of the road, Wm. Parker, Esq., has within the past month informed us that the road still continues to use the chilled tire, "in preference and over all others."

The present master of machinery, Mr. S. J. Hayes, says, "we are still using the chilled cast iron tires under our passenger engines. We have had no difficulty by any of them breaking, and deem them perfectly reliable." The whole of the passenger business between Baltimore and Washington is also performed by these tires. The Philadelphia, Wilmington and Baltimore road has used these tires of as large diameter as *six feet*, on heavy trains and without failure.

The Little Miami railroad, in Ohio, made arrangements several years ago for the application of the chilled tires, and since that time have had them in successful use. The engine "Ohio," employed on the extreme heavy grades between Fulton and Cincinnati, has run three years upon a set of three and a half feet Bush & Lobdell tires. The appearance of the tires is still good and shows but a slight wear. No flat spots, common with some kinds of wrought tires, can be seen upon their surfaces.

The superintendent of the Little Miami, and Columbus and Xenia roads, Wm. H. Clement, Esq., says "we have in use three sets of patent slip chilled tire on freight engines with three pairs of three and a half feet connected driving wheels. One set has been in use about three years and is

yet in a serviceable condition. I consider the tire much more durable and of consequence more economical than the wrought tire for freight engines, (we have not yet used them on passenger engines) and we have found in practice that as large a train can be hauled as with any other tire."

John Durand, Esq., superintendent of the Cleveland and Pittsburgh road, who has two sets of tires and two sets of whole chilled drivers in use, says in reference to the chilled tire as applied to one of his gravel engines, "for this particular service I like the chilled tire well, because the engine is necessarily run backward about as much as forward and the flanges are not affected as are those of the wrought iron tire. Hence durability is decidedly in favor of the chilled tire for this service."

Upon all of the other roads where the chilled tires have been tested, the officers have invariably expressed themselves (verbally where not otherwise) in favor of them. The Cleveland, Columbus and Cincinnati, Ohio and Pennsylvania, Cincinnati, Hamilton and Dayton, Mad River and L. Erie, and others among western roads, have used these tires long and successfully.

The Galena and Chicago, Cleveland and Toledo, Central Ohio, Buffalo and State Line and other roads are now supplying themselves with tires of this kind from the foundry of Bush and Lobdell, at Wilmington, Delaware.

Suspension of Engine Springs.

BY ZERAH COLBURN.

The absorption of shocks by the driving springs of locomotives may, by a proper connection of the springs, be distributed through the whole elastic system intervening between all the driving wheels and the engine frame. In English engines, each pair of wheels has its springs, independent of the others, but in our own engines a distribution of shocks is generally made, by equalizing levers or springs, between the wheels on the same side of the engine. The points of connection between the springs and the framing are brought, sometimes, between the drivers, and at others are made both at the latter point and at the outer ends of the springs. The connection, independent of the elastic influence of the springs themselves, is generally rigid, but in some cases an intermediate spring is employed in place of the rigid equalizing lever, while the outer ends of the springs are connected to the frame with intervening discs of india rubber. The elastic connection of rubber cushions and equalizing springs, has been tested on many roads, and has been generally regarded as an improvement in the working of the engine.

The springs, in the ordinary mode of suspension, are so placed as to occupy much room between the furnace and the driving wheels, and it may be said that with the square fire box they occupy an amount of space which would afford one-sixth more than the present amount of grate area. It is true that the frame, as usually made, occupies as much room as the springs, but the frame can be made thin and placed edgewise, and at the same time possess greater stiffness than the present form. This edge frame is becoming introduced by most engine builders, but the driving springs present an obstacle in the way of obtaining the additional width of grate which the disposition of the frame invites. The forward drivers are gene-

rally so far removed from the furnace that their springs are not in the way, but the back driving springs must, if connected by the equalizing levers extend past the hind edge of the furnace and lie between its sides and the driving wheels. In the English engines, having independent springs over each pair of wheels, the forward springs being out of the way of the furnace, the back wheels are eased by a transverse spring passing from one axle box to the other. In some recent English engines with coupled drivers, the springs are placed beneath the axle boxes and are connected thereto by links; the ends of the springs have their fulcrum against the under side of the frame and are connected together in the American manner. This plan has been adopted in some engines in our own country. Its effects, of course, the same distribution of shocks as with the overhung spring, transferring that portion of the shock, not immediately absorbed by the one spring, to the next spring only and to the frame. For the end of availing of the edge frame and the wide grate, a single spring, for the two drivers of one side of the engine, has been secured on the crown sheet of the furnace. This causes a strain, in the same direction, and in addition, to that from the steam pressure within the boiler, of about ten tons. This, too, is the constant weight, exclusive of the effects of jolts and concussions.

With the outside connection, an additional advantage may be obtained in such disposition of the springs as will take them away from over the boxes; as with the ordinary suspension of the springs they form a limit to the reduction of the height of the boiler, where the latter is of large diameter. In Rogers' outside connections, having boilers of over four feet in diameter outside of the lagging, the under side of the boiler can come no nearer than eight inches from the driving axle without bringing the wooden lagging in contact with the springs.

It may be said, therefore, that the present mode of spring suspension has at least three objectionable features; first, in limiting the area of grate, with a given length of furnace, to one-seventh less than the extent attainable with a different arrangement of springs and frame. Second, in limiting, by six inches, the reduction of the height of the under side of the boiler. Third in effecting a distribution of the shocks between but two drivers instead of all four. The last objection is of sufficient importance to justify an effort for arranging the springs with reference to a complete distribution.

An arrangement which I have proposed for this purpose, as well as for avoiding all the objections enumerated against the usual mode of suspension, consists of two transverse springs, one beneath each axle, connected each, by straps at their centers to a carrying beam lying just beneath the spring, and having the ends of the beams connected with equalizing levers, having fulcrum on the lower edge of the furnace side. The connection of the springs and carrying beams to be made by broad straps, so that the weight may always keep the carriers level. With such a mode of suspension, two springs would be used in the place of four; they would be longer and easier than the present springs, while there would be but two points of connection between the springs and boiler, instead of the present number of six.

To Correspondents.

The favors of several of our correspondents, containing information or inquiries of general interest in matters of mechanical engineering, have for some time claimed our acknowledgement, and we propose to devote to them a few words in this place in the room of more formal and personal replies.

J. J. F., Boston.—We learn with satisfaction that our articles reflecting on the character of the motive power of New England roads are beginning to be appreciated in your section. A little of the spirit of competition will introduce many improvements in the railway machinery of the Massachusetts railroads.

H. R., Philad.—An upright engine of about 20 horses' power will suffice for operating the machinery for the engine repairs of such a road. It is cheaper to purchase on the spot than to ship from here west.

R. S. T., Pittsburgh.—We are obliged to you for the information relative to the performance of the engine named. Such notes often prove valuable to us in discussions of the resistances overcome by locomotives.

T. S. St. Louis.—We do not claim the adhesion of the chilled tire to be fully equal to that of the wrought tire, but with the adhesive weight of the engine of which you speak you will find it to equal the steam power of the engine.—There is too much weight to cause any fear of slipping the wheels.

J. McC.—Baltimore.—Purchase Clark's Railway Machinery; George Taylor, Agent, 117 Fulton st., New York.

R. B. New York.—We are not aware that Mr. Milholland has ever made any practical statement of the economy attending the use of his form of boiler. Our opinion is that the draught is impaired by breaking the circulation midway of the tubes.

Z. C.

A. H., New York. We have had the same inquiry often made to us.

The draughtsmen and designers of the principal Locomotive shops in the country are as follows: Portland Locomotive Works, Portland, Me. F. W. Cummings.

Amoskeag Locomotive Works, Manchester, N. H. J. M. Stone.

Lowell Machine Shop, Lowell, Mass. — Gates. Essex Co. Lawrence, Mass. Chas. Hastings. Boston Locomotive Works, Boston, Mass. J. F. Hinkley.

Seth Wilmarth, Boston, Mass. Sam'l Hay. Taunton Locomotive Company, Taunton, Mass.

P. J. Perrin. Wm. Mason & Co., Taunton, Mass. C. F. Thomas. Rogers, Ketchum & Grosvenor, Paterson, N. J. Hypolite Uhry.

New Jersey Locomotive and Machine Co., Paterson, Thos. W. Bayes.

Richard Norris & Son, Phila., Penn. Richd. Otley. Smith & Perkins, Alexandria, Va. G. H. Bailey. Tredegar Works, Richmond, Va. J. Swiney.

Niles & Co., Cincinnati, Ohio. N. G. Thom.

A. L. Greer & Co., Covington, Ky. D. H. Feger. Cuyahoga Works, Cleveland, Ohio. — Rogers.

H. H. Scoville & Son, Chicago, Ill. Wm. H. Scoville.

The master mechanics of the principal railroads, so far as we have their addresses, are as below.

Boston & Lowell, G. B. King, East Cambridge, Mass.

Boston & Providence, G. S. Griggs, Roxbury, Mass.

Boston & Maine, N. G. Paul, Boston, Mass.

Boston & Worcester, A. S. Adams, Boston, Mass.

Fitchburg, Oliver Ayres, Boston, Mass.

Old Colony, — Bullock, Boston, Mass.

Eastern, H. W. Farley, East Boston, Mass.

Western, Wilson Eddy, Springfield, Mass.

Prov. & Worcester, J. H. Winslow, Providence, R.I.

N. Y. & New Haven, G. B. Simonds, New Haven, Conn.

N. York and Erie, Harvey Rico, Piermont, N. Y.

Jas. B. Gregg, Susquehanna, Pa. Penna. Cent. R. R. — — —, Altoona, Pa.

Wm. Stamp, Pittsburgh, Pa.

Baltimore & Ohio, S. J. Hayes, Baltimore, Md.

Cleveland & Columbus, Wm. F. Smith, Cleveland, O.

Cleveland & Pittsburgh, Jacob Hovey, Cleveland, O.

Ohio & Penna., G. W. Glass, Pittsburgh, Pa.

Little Miami, C. F. Ham, Cincinnati, O.

C. Hamilton & Dayton, Daniel McLaren, Cincinnati, O.

Cleveland & Toledo, J. A. Jackman, Norwalk, O.

Michigan Central, S. J. Newhall, Detroit.

Mich Southern, Saml. Cummings, Adrian, Mich. New Albany and Salem, Cephas Manning, Mich. City, Ia.

Chicago & Galena, John Ebbert, Chicago, Ill.

Ill. Central, M. W. Mason, Chicago, Ill.

Had we a full list for all the roads in the country we should be happy to publish it. Z. C.

Useful Weight of Locomotives.

When it is considered that the power of the locomotive is made up of two distinct elements, a steam power and an adhesive power; a relative power and a progressive power; in other words *traction* and *adhesion*, it would be supposed that the consideration of both of these elements would be included in the designs of the engineer. The first element is that, however, for which provision is especially made, the *necessary* strength and weight of parts being allowed according to the required capacity of these parts for generating or communicating pressures. This weight is almost always such that its contact with the rails produces adhesion sufficient to render the steam power available under ordinary circumstances. Indeed, in the usual circumstances of working, the adhesion derived from the whole weight of the machinery is in excess, and a considerable portion of it is consequently placed upon trucks to relieve the rails from concentration of weight.

The English passenger engines have a general allowance of about one half of their whole weight for adhesion. This may be given as the general proposition without reference to instances where a greater or less allowance is carried upon the driving wheels. In America the passenger engine generally has two-thirds of its whole weight for adhesion. These proportions are so well established, especially the latter one in our own country, that it may be said that at least *one-third* of the weight of a passenger engine is "dead weight" so far as its adhesive efficiency is concerned. With freight engines, having smaller wheels, and working at a greater pressure in the cylinder, more useful weight is probably necessary, and yet a large number of the most successful freight engines, working on heavy grades and up to their full capacity, have but from two-thirds to three-

fourths of their weight for adhesion. The heaviest engines employed upon the extreme grades of the Baltimore and Ohio road weigh 30 tons, of which $7\frac{1}{2}$ tons, or 25 per cent. is truck weight. The most powerful engines of the Philadelphia and Reading road weigh 26 to 28 tons, of which the same proportion of one-fourth is truck weight. A very large proportion of the heaviest freight engines of the New York and Erie road have as much as one-third of their whole weight upon the trucks; and about the same proportion of truck weight prevails among the freight engines of the Western Railroad of Massachusetts, the Northern Railroad of New York, and many other roads doing a very heavy freight business. So far then as we regard the ordinary working of locomotive engines, we are safe in assuming that the necessary strength and capacity of the parts for any required traction, involves by their own weight, not only the necessary *adhesion*, but a considerable surplus besides. And in the range of successful engines, both for passengers and freight, we find this surplus to be from one-fourth to one-half of the entire weight, and so much is therefore dead weight so far as its adhesive efficiency is concerned.

We do not deny that there are extreme cases, arising from great cylinder capacity, working under full pressure, and in cases of bad or slippery rails, where the entire weight of the engine may be insufficient, but such cases are rare and do not occur in the demands of ordinary transportation. The usual case presents the limits of "dead weight" above indicated.

We are then to inquire what disposition is made of this surplus. The truck, which serves the double purpose of relieving the driving wheels and rails from concentration of weight and of guiding and steadying the engine, is generally loaded with all that is required beyond the wants of the adhesion. The position of the truck relative to the drivers of course determines the proportion carried, and their position may be so varied that engines, having the same number of truck and driving wheels, may have the same adhesion, although their whole weight is widely different. By clustering the drivers near the hind end of the engine and placing the truck far back the adhesive weight is reduced; by extending the driving wheel base and placing the truck far forward the adhesion is increased.

We should then consider the influence of weight upon the wear both of the machinery and the rails. The weight of the whole engine, with the exception only of the wheels, axles and boxes, and a part of the connecting and eccentric rods, being suspended on springs, the tension to which the latter are subject is of course increased with an increase of their load, and the irregular force of their vibration is aggravated. The friction of the great number of parts of the engine, being the source of the wear and tear of the machinery, is increased of course by an increase of weight, and construction, working and management being equal, is probably increased nearly in exact proportion to such increase. The tires and trucks however receive the most direct and severe wear, while their repairs and renewals are among the most expensive items of maintenance.

Upon the road the wear is hastened in a proportion greater than the direct increase of weight, as when this reaches the economical resistance of

the rail, either against crushing or deflection, the wear is very rapidly increased. The greater violence of the vibration upon the springs is an obvious aggravation of the effects of increased weight.

It is easy to see, after having considered the source, disposition and influence of dead weight, that it is to be avoided so far as is consistent with a proper capacity and strength of the machinery. This is to be done by employing materials in such a manner as to be most available in resisting strain, and of such character as to possess the strongest cohesion.

As to the disposition of materials, we may say that the inside connection involves dead weight by reason of the weight of the crank and extra weight of parts connected immediately with it. A boiler must have much dead weight, to possess the proper strength, where both ends are confined to the frame, or where the springs are suspended, or the draw bar is attached to its shell. A flat frame must be heavier, to possess equal strength, than the thin edge frame, braced laterally. An independent cut off and a half stroke pump involve dead weight, as compared with the link motion and the full stroke pumps, of equal or superior efficiency. Simplicity reduces dead weight.

In the character of the materials used in locomotives there is often much room for a reduction of dead weight. Cast iron, in many instances, is preferred for its economy, and is often made to compensate in weight what it lacks of cohesion. Even in wrought iron the strength is not always regarded where its cost is considered, and, in consequence, sufficient strength is had only by the allowance of increased weight. The use of cast iron, in place of wrought iron for driving wheels, pedestals, foot boards and draw irons, cross heads, pistons, dome covers, steam pipes, rockers, etc., involves both risk of failure, and excess of useful weight. Boiler iron of inferior quality, and of only one-sixteenth inch increased thickness, as the necessary compensation for equal strength would involve about half a ton of weight in a boiler of ordinary dimensions. The difference of a ton, however, is often made in the weight of boilers of equal size and strength, by reason of the difference in the materials of their construction. Lowmoor, Bowling, or best cold blast charcoal Pennsylvania iron, of one-fourth inch thickness is now much used in preference to inferior English and American iron of three-eighth inch thickness.

Many of the inside connected engines built in New England afford useful illustrations of excessive weight. Their cranks, of 7 inches diameter, have about six hundred pounds more weight, than a straight axle of equal strength. Their jaws, of cast iron, weighing two hundred and fifty pounds each, are four hundred pounds in excess; their foot boards weighing 650 lbs. are 400 lbs. in excess; cast iron steam pipes, dome covers, pistons, etc., say five hundred pounds extra; their separate cut off often six hundred pounds in excess; short stroke pump two hundred pounds; outer frame and railing seven hundred lbs.; and an excess of about fifteen hundred pounds, extra weight in boiler, from the extra thickness of plates owing generally to the ordinary character of the iron. These items alone embrace four thousand nine hundred pounds, or nearly two and a half tons, of weight, almost utterly useless for strength, ca-

capacity or adhesion. This does not include the driving wheels, the weight of which could be reduced nearly or quite one ton if wrought iron was used.

These considerations are of much importance in the adaptation of first class passenger engines, already as heavy as are suited to our roads, and yet hardly adequate in many cases for the task imposed. The addition of from two to three and a half tons of useful weight, in place of cumbersome arrangements of no utility, and this too, without materially increasing the wear, is an important addition to the capacity and economy of our motive power.

Wilmington and Manchester Railroad.

We are indebted to an attentive correspondent for the following description of the operation of sinking iron piles, by the *pneumatic process*, now employed by the above company, for the bridge over the Great Pee Dee river. This river is the great obstacle to be surmounted in the construction of the road, as it flows over a bed of loose, shifting sand, and is subject to great and sudden floods. The construction of piers by the ordinary process of *coffer dams*, was a matter of great difficulty, especially as the unhealthiness of the locality allowed of operations only during the winter months, which is the rainy season. For these reasons Mr. Fleming, the company's engineer, determined to adopt what is called the *pneumatic process* for sinking cast iron tubes, which are to be filled with *concrete* and firmly braced together. We are glad to hear that he has now nearly completed his task. We shall expect soon to see the cars running over the whole line of a road which is to unite the Northern and Southern systems of railway. There is no road in the United States, in the early completion of which the public are more interested, or which has a better prospect of a lucrative business.

Below will be found the communication alluded to.

For the Railroad Journal.

SINKING PILES BY PNEUMATIC PROCESS.

Mr. Editor: Having been much interested in a recent visit to the site of the Railroad Bridge, now being constructed on the Wilmington and Manchester Railroad, across the Pee Dee river in Marion District, South Carolina, I send you a short account of it, as it may be interesting to some of your readers.

The difficulties encountered in building a permanent bridge across large streams in the southern country are very great. Frequently there is no suitable building stone convenient; the foundations are bad, and in many instances, the bed of the river is a shifting sand or gravel, intermixed with logs and driftwood. Even if the foundations were good, and stone convenient, the expense and risk of constructing coffer dams, (from the great and sudden freshets the rivers are subject to,) render the construction of stone piers extremely difficult and hazardous. Hence, most of our bridges are built upon wooden piles; a very unsubstantial and objectionable mode.

The managers of this road, with an enterprise and perseverance deserving of success, and which they have shown in all they have undertaken, were induced to adopt the plan of sinking cast iron cylinders for the piers of the bridge, using *atmospheric pressure* by a process known as

Dr. Potts patent. The cylinders used are six feet in the outer diameter and two inches thickness of shell, cast in sections of nine feet in length, with an inner flange by which they are bolted together, with movable air tight *tops*. Each section weighs about $6\frac{1}{2}$ tons, and was cast at the *West Point Foundry*, N. Y.

A small steam engine of eight horse power was used for working the pumps. The process of creating a vacuum in the cylinder, and sinking it by atmospheric pressure, was found to be ineffectual after the cylinder was sunk so as to have about five feet of sand within it; hence arose the necessity of resorting to other means, and the following was adopted:

By an india rubber tube leading from the air pumps attached to the engine, air is forced into the cylinders until a pressure of 15 lbs. to the square inch is obtained within. The effect of this is to expel all the water, not only from the interior of the cylinders, but from the sand several feet below its surface. By means of an air lock, (described below,) the workmen then descend into the cylinder and excavate the sand, logs, etc., removing them by means of bags through the air lock and wasting them into the river. After excavating within a foot or two of the lower edge of the cylinder, or until the air begins to escape below, several cocks are opened at the same moment, and the condensed air within the cylinder being allowed to escape rapidly, the cylinder sinks gradually by its own weight.

An air lock, is a contrivance, by means of which communication is established between the open air and the interior of the cylinder, without permitting the surplus air to escape. It is made as follows:

Through the cap of the cylinder pile, a cast iron semi-cylinder, six feet long and four feet in diameter, is inserted; two feet being above, and four feet below, the plate head or cap. In the top of the lock is a man hole with a valve door opening downwards. In the plane side of the lock near the bottom is another man hole, with a valve door opening into the cylinder. It is used as follows: The workmen, tools, and bags are first passed through the man hole into the air lock chamber, and the valve door closed. The cock into the pile cylinder is then opened, the dense air rushes into the air lock chamber, closes the outer valve door firmly, and causes the door into the cylinder to open. The workmen then descend by ladder to the bottom of the cylinder and shovel the *pile* sand into bags, which, when full, are passed into the air lock chamber. The door thereto being shut, the signal is given to the man on the outside, who opens the cock from the air lock to the open air, permits the dense air to escape, and the upper valve door falls open. The bags are then taken out, emptied, and returned, as at first described. The pumps are kept constantly at work to supply fresh air; the surplus air escaping by a siphon tube. The workmen remain several hours within the cylinder, working in the dense atmosphere without inconvenience. Although the sensations on first going in and coming out, are unpleasant, they soon become accustomed to it.

The work is under the charge of Mr. L. J. Fleming, the accomplished and enterprising engineer of company, assisted by Mr. Alexander Holmstrom, from the West Point Foundry. Great praise is

due to all concerned for the perseverance and success in this novel undertaking. Five cylinders have been sunk, seven being the whole number required.

T. P. H.

American Railroad Journal.

Saturday, December 3, 1853.

Share and Money Market.

There has been a heavy stock market the past week. The leading fancies have receded some two or three per cent. Money is comparatively easy on call, though there is little disposition to take hold of new enterprises, or to purchase the securities of works in progress. The improvement noticed in our last does not appear to be so permanent as was hoped. The commercial community, however, are gradually getting into an easy condition. The wants of our railroad companies continue to press the market, but their dividends must soon begin to be less, from the completion of some lines, and the curtailment of work upon others. At the present high rates for money very little new work will be commenced.

The bank statement for Nov. 26 shows an increase of loans for the first time since Aug. 6th. The comparative statement is as follows:

	Nov. 19.	Nov. 26.
Loans.....	\$83,717,662	\$84,802,536
Specie.....	13,691,324	13,343,196
Circulation.....	9,151,443	9,732,769
Deposits.....	57,446,424	58,672,076

The following is a statement of the deposits and coinage at the Philadelphia Mint for the month of November:

	COIN.	Pieces.	Value.
Double Eagles.....	20,912		\$418,248
Eagles.....			
Half Eagles.....			
Qr. Eagles.....	63,612		159,030
Gold Eagles.....	355,238		355,238

439,762 \$932,508

In bars..... 827,979

Total.....\$1,760,487

	SILVER.	
Half dollars.....	160,000	\$80,000
Quar. dollars.....	1,352,000	333,000
Dimes.....	2,960,020	296,000
Half dimes.....	3,120,000	126,000

Total.....7,522,000 \$870,000

	COPPER.	
Cents.....	268,844	\$2,688 44

	BULLION DEPOSITED.	
Gold bullion deposited.....	\$3,650,000	
Silver bullion deposited.....	280,000	

Repairs of Rails.

An attentive correspondent in Boston informs us that the Cheshire railroad company in New Hampshire have, for several months past, made a practice of mending the ends of their rails with Swedes iron. A rail, after having become crushed and deflected at the ends from long use, is taken up, the battered portions cut off, and a new portion welded on, which, from being of harder material than the rest, preserves the rail for a long time. We understand that several miles of track have been so repaired and that other companies have adopted the plan, from which they anticipate a considerable saving in the quantity of iron used for renewals.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,978,700	5,150,278	254,743	113,520	none	80
Androscoggin and Kennebec..	55	809,878	1,016,500	2,064,458	140,561	80,053	none	80
Kennebec and Portland.....	72	952,621	29,80	2,514,067	168,114	100,552	none	41
Port., Saco and Portsmouth..	51	1,355,500	123,884	1,469,384	208,669	6	99	24
York and Cumberland.....	20	285,747	341,100	718,605	23,946	11,256	none	35
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	104
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	48
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47
Northern	82	3,016,634			328,782	163,075	5	88
Manchester and Lawrence....	24	717,543					0 1/2	109
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,618	8	none
Portsmouth and Concord....	47			1,400,000			none	21
Sullivan	26			673,500			none	37
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516			none	25
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	12 1/2
Vermont Central.....	117	8,500,000	3,500,000	12,000,000			none	100
Vermont and Canada.....	47	1,500,000		1,500,000	Leased to the Vt. C.	cent.	12	none
Western Vermont.....	51	392,000	700,000		Recently opened.	none	none	92 1/2
Vermont Valley	24						none	103 1/2
Boston and Lowell..... Mass.	28	1,830,000		1,995,249	388,108	130,881	7 1/2	87 1/2
Boston and Maine.....	83	4,076,974	150,000	4,092,927	659,001	338,215	7	101 1/2
Boston and Providence.....	53	3,160,390	390,000	3,546,214	469,656	227,434	6	101 1/2
Boston and Worcester.....	69	4,600,000	425,000	4,845,967	768,819	331,296	7	45
Cape Cod branch.....	28	421,295	171,800	633,906	60,743	30,056	2 1/2	55
Connecticut River.....	52	1,591,100	193,500	1,801,946	229,004	72,028	5	91 1/2
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7 1/2	106 1/2
Fall River.....	42	1,050,000	none.	1,050,000	229,445	99,589	8	95 1/2
Fitchburg.....	66	3,540,000	112,305	3,623,073	574,574	232,787	6	117
New Bedford and Taunton...	20	500,000		520,475	164,230	43,950	7 1/2	60
Norfolk County.....	26	547,015	819,743	1,245,927	67,251	23,415	none	90
Old Colony.....	45	1,964,070	282,300	2,293,534	322,213	101,610	none	134
Taunton Branch.....	12	250,000	none.	307,136	137,406	24,399	8	59 1/2
Vermont and Massachusetts..	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	97 1/2
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4 1/2	65
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6 1/2	118 1/2
Stonington..... R. I.	50		467,700		240,572	110,892		none
Providence and Worcester..	40	1,457,500	300,000	1,731,498	252,690	139,514	6	65
Canal..... Conn.	45	922,500	500,000	1,400,000			4	102
Hartford and New Haven....	72	2,350,000	800,000	3,150,000	639,529	294,269	10	none
Housatonic.....	110			2,500,000	329,041	168,902	none	77 1/2
Hartford, Prov. and Fishkill..	50			In progres	69,629		none	68 1/2
New London, Wil. and Palmer	66	558,861	800,000	1,511,111	114,410			130
New York and New Haven....	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	52
Naugatuck	62	926,000	440,000				8	55
New London and New Haven.	55	750,500	650,000	1,380,610	Recently opened.		none	85
Norwich and Worcester.....	54	2,121,110	701,600	2,596,488	267,561	116,965	4 1/2	65
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.		none	65
Buffalo, Corning and N. York.	132			In progres			none	130
Buffalo and State Lino.....	69	879,636	872,000	1,921,270	Recently opened.			68
Canandaigua and Niagara F..	50			In progres				77 1/2
Canandaigua and Elmira.....	47	425,509	582,400	987,627	76,760	39,860	none	54 1/2
Cayuga and Susquehanna.....	35	687,000	400,000	1,070,786	74,241	23,496	none	30 1/2
Erie, (New York and Erie)....	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	115 1/2
Hudson River.....	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	28
Harlem	130	4,725,250	977,463	6,102,985	681,445	324,494	5	70
Long Island.....	95	1,875,148	516,246	2,446,391	205,068	44,070	none	4
New York Central.....	504	22,858,600	2,111,824	24,974,423				145
Ogdensburg (Northern).....	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	70
Oswego and Syracuse.....	35	350,000	201,500	607,803	90,616	43,609	4	none
Plattsburg and Montreal.....	23	174,042	131,000	349,775	Recently opened.		none	33
Rensselaer and Saratoga.....	25	610,000	25,000	774,495	213,078	96,737		125
Rutland and Washington.....	60	850,000	400,000	1,250,000	Recently opened.			33 1/2
Saratoga and Washington.....	41	899,800	940,000	1,832,945	173,545	135,017	none	79 1/2
Troy and Rutland.....	32	237,690	100,000	329,577	Recently opened.			76
Troy and Boston.....	39	430,936	700,000	1,043,357	Recently opened.		none	131
Watertown and Rome.....	96	1,011,940	650,000	1,693,711	225,162	116,706	8	131
Camden and Amboy..... N. J.	65	1,500,000		4,327,400	1,382,385	478,413	10	131
Morris and Essex.....	45	1,022,420	128,000	1,220,825	149,941	79,252	4	131
New Jersey.....	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central.....	63	986,106	1,500,000	2,379,880	260,899	124,740	3 1/2	131
Cumberland Valley..... Penn.	58	1,184,500	13,000	1,265,143	118,617	76,890	5	131
Erie and North East.....	20	600,000		750,000	Recently opened.			131
Harrisburgh and Lancaster..	36	830,100	713,227	1,702,523	265,227	106,320	8	131
Philadelphia and Reading....	95	6,656,332	10,427,800	17,141,987	2,480,628	1,251,987	7	79 1/2
Philad., Wilmington and Balt.	98	8,850,000	2,408,276	6,818,839	667,785	388,501	5	76

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	...	95
Philadelphia and Trenton.... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	102½
Baltimore and Ohio..... Md.	381	9,188,800	9,827,123	19,542,307	1,325,563	615,384	7	56½
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.. "	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	70
Richmond and Petersburg... "	22	685,000	.....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac.... "	76	1,000,000	503,006	1,581,238	254,376	113,256	7	100
South Side..... "	62	1,357,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,036	In prog.	176,485	74,902	none	61
Virginia and Tennessee..... "	60	3,000,000	1,600,000	In prog.	.....	.....	none	98
Winchester and Potomac.... "	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh... N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina. S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	603,711	7	125
Wilmington and Manchester. "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia..... "	211	4,000,000	1,214	.....	931,424	456,468	7½	.....
Macon and Western..... "	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	60	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point. "	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia. Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.. "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.... Ky.	38	1,430,150	900,000	In prog.	.....	.....	.....	62½
Frankfort and Lexington.... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh.... Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, and Erie..... "	95	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.... "	135	3,027,000	408,200	3,655,000	777,793	483,454	12	124
Columbus, Piqua and Indiana. "	46	.....	.....	2,000,000	.....	.....	.....	80
Columbus and Lake Erie..... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton "	60	2,100,000	500,000	2,659,653	321,793	200,967	.....	102½
Cincinnati and Marietta.... "	.....	.....	.....	In prog.	.....	.....	.....	72½
Dayton and Western..... "	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	60
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,370,784	.....	2,634,157	526,746	314,670	10	113
Mansfield and Sandusky.... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	90
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	87
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley.. "	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd "	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	.....
Xenia and Columbus..... "	54	1,092,137	119,500	1,257,714	237,506	135,363	15	116
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	80
Indiana Northern..... "	131	.....	.....	.....	Recently opened.	.....	.....	115
Indianapolis and Bellefontaine "	83	.....	.....	.....	.....	.....	.....	166
Lawrenceburg and Ind..... "	90	.....	.....	In prog.	.....	.....	.....	05
Lafayette and Indianapolis... "	62	.....	.....	.....	Recently opened.	.....	.....	82
Madison and Indianapolis.... "	88	1,650,000	750,000	2,400,000	516,414	268,075	10	78
Peru and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	65
Terre Haute and Indianapolis "	72	622,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.... Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.... "	135	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central..... "	.....	.....	.....	.....	.....	.....	.....	.....
Galena and Chicago..... "	92	1,932,361	500,000	In prog.	473,548	286,152	.....	136
Michigan Southern..... Mich.	315	2,800,000	2,629,000	6,430,246	592,187	293,046	.....	120
Michigan Central..... "	282	4,000,000	4,067,396	8,614,193	.....	.....	8	109
Pacific..... Mo.	38	1,000,000	none.	In progres	Recently opened.	.....	.....	.....

Baltimore and Susquehanna Railroad.

The twenty-sixth annual report of this company has been published, presenting an exhibit of their operations for the year ending September 30th, 1853.

The tabular statements accompanying the report show the gross receipts of the company, for the past fiscal year, as heretofore made up, to have been \$456,262 22 against \$383,178 55 for the previous year, and there has been consequently a gross gain of \$73,083 67. Of the gross receipts \$385,381 33 were earned between Baltimore and York; \$87,981 81, between York and Columbia; \$23,712 27 were received from the York and Cumberland Railroad Company, and \$9,186 81 from the Hanover Branch. The two latter items constitute, or are intended to constitute, an indemnity to this company, for the use of its machinery and stock upon those roads, and should, perhaps, properly be deducted from the working expenses of the road, rather than be made to appear as a part of the revenue.

The expenses for the year of working the road, and the other roads, for which stock and machinery are furnished, are stated at \$294,661 61, against \$261,137 58 for the previous year. The locomotives ran 17,000 miles less last year than during the previous year, although the receipts are increased \$73,083 68.

The financial statement which accompanies the report shows the receipts from capital stock to be \$450,000; loan from the State of Maryland \$1,884,045 29; ditto back interest funded \$1,035,980 76; from city of Baltimore \$850,000.

The cost of the road and equipments is \$3,305,150 89; amount paid for interest and discounts \$1,668,844 42.

Connecticut.

At the annual meeting of the New London, W. and Palmer Railroad Company, held at New London 23d November, the following directors were chosen:

Gordon L. Ford, Andrew M. Frink, Acors Barns, Henry P. Haven, Francis Allyn, Lyman Allyn, Thomas Fitch, 2d., N. Shaw Perkins, Jr., Joseph Smith, Edward Crane, and Daniel T. Willets.

OFFICERS.

Gordon L. Ford, President.

Thomas Fitch, 2d. Vice President.

John Dickinson, Treas. and Clerk.

Charles W. Butler, Secretary.

James River and Kanawha Canal.

The Board of Public Works have appointed the following gentlemen as Directors on the part of the State, in the James River and Kanawha Company: Messrs. John M. Speed, of Lynchburg, Walter D. Leake, of Goochland, and James Lyons, of Richmond.

Illinois.

Wabash Valley Railroad.—A vote recently taken upon the subscription by the city of Bloomington of \$100,000 to the above road, was carried in favor of such subscription.

Fort Wayne and Chicago Railroad.

The Chicago Tribune understands that the directors of the Fort Wayne and Chicago Railroad have entered into a compact with the Northern Indiana, (Michigan Southern,) directors by which the two roads will unite at La Porte.

What is the Legitimate Office of Newspaper Criticism?

According to the commonly received notion, the office, and proper scope of a newspaper, of the character of the *Journal*, is to state facts:—to give a history of what is taking place from week to week, and to present results, rather than to attempt to influence public opinion, or to control events, by discussing the propriety and impropriety of proposed measures. The chief duty of an editor is undoubtedly confined within the limits described, for facts are the only safe ground for the formation of correct opinions. But in a country like the United States where we have not the aid of history as a guide in similar circumstances, but where the propriety of a particular act is itself a matter of conjecture, rather than of opinion founded upon competent evidence, it may well become a question whether the soundness of such conjectures, should not be made a topic of newspaper criticism, and their fallacy, if such be the case, exposed.

Take for instance a railroad project. The parties immediately concerned becoming warmed up as they proceed, and looking at the subject through the medium of a strong self interest, may entertain very wild and extravagant ideas as to its expedience and soundness as a commercial speculation. Those who represent the former in the financial circles, catch their sentiments and become as extravagant and as unreasonable as their principals. All are convinced of the soundness of their views, and the goodness of their project. There is not the least intention of misleading or over-stating the case. Still it is easy to see that such parties may be wide of the mark,—that they are deceived without the least design to deceive others. The error is one of judgment. Under such bias the company comes before the market for money. This money is attempted to be borrowed in England, we will suppose. The parties lending it have no means of verifying the correctness of the representations made,—are obliged, if they act at all, to take the statements made to them as correct. The result is, the monied man may lose a portion, or all of his loan, while an absolute injury will be likely to be inflicted upon our own people, by being helped to carry out an enterprise that is not needed, and which must turn out a disastrous speculation.

Suppose on the other hand, the less favorable, but correct view of the case, had been presented, it is plain to see that the interference of third parties would have been most salutary and useful both to railroad companies and the public, and in the end, would have commanded general approbation.

In the case supposed, we have assumed the correctness of our criticism to be justified by result. But to await results, is to preclude criticism altogether, and to confine ourselves to the bare narration of events, which only serves to gratify curiosity, without promoting any useful end. In the meantime, blunders are being committed, and schemes foisted upon an uninformed and unsuspecting public, which, with a fair and tolerant discussion of their merits, would have fallen of inherent weakness, without involving the getters up or outsiders, in loss and embarrassment.

There are, of course, two sides to the subject under discussion. A railroad company comes, (as is now almost universally the case, both with new

and old companies throughout the United States,) to New York for money for a project just started. We think the project uncalled for by the commercial or business wants of the country, and claim the right to make public our conviction through the columns of the *Journal*. The company reply "that the propriety of their scheme, being a matter of opinion, in reference to which they have the best means of arriving at a correct conclusion, we have no right to oppose our opinion to theirs, especially as we have no concern nor interest in the matter; that unfavorable comment of our own, is interfering in the affairs of third parties, and is utterly unwarranted; and that after all, it may turn out that we are the parties who are in error, and consequently may do great injustice by an officious interference." Upon these grounds it is claimed that we have no right to discuss the question of the propriety of new railroad schemes offered to the public; and that when we cannot commend, we are bound to be silent.

There is certainly great force in these views, and it would be difficult to sustain the opposite side of the question, were our journal established only for the apparent advantage of railroad companies. But such is not the case. The larger part of our readers are persons who have a greater interest in knowing the real merits of a project, than in the mere question of its success, as far as its construction is concerned. Take, for instance, subscribers residing in England, or on the Continent. They look to our *Journal* for the necessary data to enable them to form correct opinions as to the value of a particular security.

The representation of the parties offering it though honestly made, may be without any good foundation. To a person not familiar with the course of trade in this country, the relations that a scheme may sustain to such trade and to the wants of the public, or the amount of business that the district dependent upon the road is capable of supplying to it, such representations may have too much plausibility to be disproved. A true statement in reference to these matters would enable all parties to see the project in a correct light, and as we said before would guard the rights of strangers, and promote the best interests of our own people.

The great objection to a free criticism of railroad projects is our own liability to be mistaken as to their propriety and ultimate success. Admitting that such may occasionally be the case, which is more than probable, still we do think this fact should close our mouths. A railroad company never ought to be in a position to suffer materially from a mistaken opinion of our own. Such mistakes, when committed, can be immediately corrected, and a discussion which must result in the end in showing the strength of a project, cannot be otherwise than beneficial to it. On the other hand a scheme that will not bear investigation and comment, ought not to be suffered to proceed. The sooner it is brought to an end, the better for all parties.

The unsteadiness of the stocks of most of our railroads is chiefly owing to the ignorance that prevails as to their real value. The comments of the press as a general rule are prompted by a wish either to depress or inflate prices, from interested motives, rather than from a desire to show their true worth, and tend to excite, instead of allaying

apprehension. We find consequently that the market value of stocks depend much upon the movement of operators, than upon their intrinsic value. Take the case of the Erie railroad, for instance. Some morning, when every thing is quiet, a shrewd operator, with a moderate quantity of gold in his pocket, but more brass in his face, goes into the street, and offers 1000 shares at 1 or 2 per cent less than the current rates. This movement sets the whole street on the *qui vive*, and is in an instant made the basis of a thousand rumors prejudicial to the credit and value of the road. These are for an instant believed, not because there is any evidence of their truth, but because there is no evidence by which to disprove them. There is a feeling that they are as likely to be true as false. The current runs downward, till another operator, with more gold and more brass than the first, mounts the rostrum, and commences bidding upward. If he has sufficient assurance and a long purse, he turns, by dexterous use of these, the tide, and puts the market as far above, as it recently fell, below the ordinary standard. In this way is a property of many millions made the foot ball of speculations; simply because the proper evidence of its value is withheld from the public, and which a temperate and fair discussion would have brought out. We simply use the above illustration for a class of cases, without any intention of drawing an unfavorable inference.

We believe that a fair discussion of the merits of railway projects to come within the scope of our paper as well as a duty imposed upon us. We never intend to err on the wrong side, but to always give companies "the benefit of a doubt." When we express our opinion, we shall always open the columns of the *Journal* to the parties feeling aggrieved. In this way the public will be in possession of the evidence in the case, and can form their own conclusions. Having thus laid down a sort of a platform for future guidance, our Railroad companies must not complain if they find us standing upon it.

Missouri Iron Mountain Railroad.

A statement made by the President of this road gives the available resources of the company as follows:

County of St. Louis bonds.....	\$500,000
City of St. Louis.....	300,000
Iron Mountain Company.....	125,000
Washington Co., corporation and individuals.....	100,000
City of Carondelet, 6 per cent. bonds..	50,000
Further subscriptions, to be obtained..	50,000
Addition, city of St. Louis bonds.....	200,000
State bonds.....	750,000
Individual subscription.....	160,000
Total.....	\$2,235,000

Virginia Central Railroad.

At the annual meeting of the Stockholders of the Virginia Central Railroad Company, held in Richmond the 10th inst., Col. Edmond Fontaine was unanimously re-elected President of that company. Messrs. Wm. J. Robertson and David Anderson Jr., were elected directors.

Appointment.

We learn from the Richmond Dispatch that the Board of Public Works have appointed Mr. Charles B. Fisk as Chief Engineer on the Covington and Ohio Road, in the place of Mr. Charles B. Shaw.

Relation of the Great Lakes to the Interior Commerce of the Country.

One of the most noticeable facts that strikes a person travelling through the western States, is the tendency of trade and travel in that section of the country toward the Great Lakes. The Ohio river, which only a few years since was the great route both of commerce and travel, has lost its comparative importance, and hardly enters into the calculations of *means*, by which the eastern cities are to maintain their commerce with the interior. For the movement of persons it has been entirely superseded by railroad. The same is likely to be the case, to a certain extent, with many kinds of merchandise. Commerce, liberated from the channels it long followed from necessity, takes those which are constructed with express reference to its convenient movement. As the cheapest eastern outlet of the great interior basin is through the Erie Canal, a majority of the public, works in the west, naturally tend toward the Lakes, through which the canal is the most easily and cheaply reached. Travel necessarily adopts the route of commerce, and as the Erie Canal and the Lakes form the great line of communication between the east and west, that of travel naturally coincides with their general direction. Upon the shores of the Lakes, therefore, we witness the great activity of business and the largest concentration of travel in the west, and this is increasing in a much greater ratio than in any other portion of the country.

Another fact, which gives additional impulse to the tendency already noticed, is the unrivalled means of intercommunication which the Great Lakes afford. A vessel may be loaded in Chicago for any part of the world. The same may soon be said of Fon du Lac, the western terminus of Lake Superior. These Lakes possess a climate unexcelled in salubrity, and are surrounded by a soil of great fertility, with portions of it abounding in inexhaustible supplies of coal, copper, and iron. Upon their shores all the elements of wealth exist in the greatest profusion, while the Lakes themselves afford the best possible medium for the distribution of the manufacturing products of the consumer.

The enormous receipts of the line of railroad from Cleveland to Chicago is a striking evidence of the immense business concentrated upon the Lakes. The amount of earnings of these roads has no parallel in the railway history of the country. There are no roads in the United States earning so much upon their *cost*, and but few upon their *mileage*. None have met with such extraordinary success, so soon after being opened. At the rate of the past two months, which will soon be maintained for the year, the Michigan Southern road is earning \$2,500,000 per annum, upon a cost of about \$7,000,000! The earnings of this road for October were \$220,804. The earnings of the Erie road for October, upon a mileage of about 500 miles, and a cost of \$32,000,000, was \$552,000. The cost of the Central road, as represented by its stock and bonds, is \$33,000,000. Its earnings for October were \$555,000. The earnings of these roads are equal to 1.70 per cent. per month, upon their cost. Those of the Michigan Southern for October, were equal to 3.60 per cent. per month, upon its cost, or 43 per cent. per annum, or more than double those of the great New York lines. Its earnings too, are increasing in much greater

ratio than those of the above roads. The earnings of the Toledo and Cleveland road, (which makes up a portion of the Lake Shore road,) for October, were \$57,000, upon a mileage of 87 miles, and a cost of about \$1,600,000, which is equal to 3.50 per month, and very nearly equal to those of the Michigan Southern. It will be borne in mind, that the latter road has been opened only 18 months since, while the Toledo and Cleveland road has been in operation only about one half that time. Neither of these roads can yet be in a position to transact all the business offering, nor have they been in operation a sufficient length of time to develop a local business, which always constitute the principle source of revenue of all roads.

We instance the earnings of the above road by way of illustrating the correctness of the facts stated at the outset. They have another use in showing the value in a business point of view, of the route occupied by the Lake shore road. According to our view, a line striking the southern shores of lakes Erie and Michigan, and prolonged at either end, is the axis of the commercial system of this country. Such an opinion, we believe, is justified by the experience already gained.

James River and Kanawha Canal.

A meeting of the stockholders of this Company was held in Richmond on the 17th ult., when reports of the condition and business of the work were read and adopted.

RECEIPTS.—The gross receipts from tolls, water rents and scale house fees on the first and second divisions for the fiscal year ending the 30th September last, were \$293,512 92, being an increase over the preceding of \$16,063 95.

The amount of tonnage conveyed on the canal during the last fiscal year, is 231,032 1-10 tons; being an increase over the preceding year of 20,992 1-10 tons.

The estimated value of freight transported during the past year is estimated at \$17,435,000. This certainly is a gratifying exhibit.

The gross receipts from the productive works of the company, and from miscellaneous sources, for the year ending September 30th, 1853, were \$325,311 52. And the disbursements for repairs, ordinary and extraordinary for the same period, were \$166,931.

The increase of tolls received at Lynchburg during the year has been \$17,823 49 over those of the preceding year.

SHIP LOCK.—A rock foundation for this great structure has been obtained, and it is progressing as rapidly as the limited space for work will permit. The dimensions are 180 feet in length and 35 feet in width—amply sufficient for the largest sized sail vessels fully rigged, which can come to Richmond in the most improved condition of the river. The structure will contain 7,500 cubic yards of masonry, for which the stone is all prepared, and about 4,125 yards are laid.—If the weather proves favorable the masons will lay about 1000 yards per month; and as arrangements have been made to have the most improved lock gates ready when the masonry is finished, the President is of opinion that the tide water connection will be completed at an early day in the ensuing season.

The meeting also—

Resolved, That it is not necessary to ask of the next Legislature any aid in respect to the payment of the Company's semi-annual interest and annuity debt.

Resolved, That the President and Directors are instructed to present a memorial to the next General Assembly asking for such aid as may seem to it proper to enable this Company to extend its canal to the town of Covington, and that the President and Directors are hereby authorized

to execute such securities for any loan or loans that may be made for that purpose as the State may require.

Upon a vote of the stockholders Thomas H. Ellis was elected President and William W. Boyd of Buchanan and Thomas M. Bondurant of Buckingham, Directors.

Locomotive Factory in New-Orleans.

The notice in another column, of the desirable property, known as the Belleville Iron Works, in New-Orleans, is well worthy the attention of capitalists and machinists. The demands for the machinery for the roads terminating in New-Orleans must ultimately require the establishment of a Locomotive Factory in that city, and no time could be more favorable for the commencement of such an enterprise than now, when the construction of the original and principal equipments of these roads is about to be allotted by contract. In the whole west there is no locomotive factory south of Nashville. In the east, none south of Petersburg, Va., and the expense, delay, and uncertainty of shipping engines from either of these points, would operate very much in favor of a locomotive factory on the spot. The expense of shipping engines from Richmond to New-Orleans will often reach \$1000, while there is great uncertainty in so long and difficult navigation, and the engines are always considerably depreciated in value at the end of a voyage, owing to exposure to salt water.

Iron Bridge Completed.

The iron bridge of the Central Ohio Railroad, across the Muskingum, at Zanesville, was opened for the passage of trains on the 10th instant. The bridge was built by Douglass, Smith & Co., and is staid to be in every respect a first class work. The occasion of its opening was celebrated in Zanesville with much spirit.

New Works.

We have the 20th number, just published, of D. K. Clark's "Railway Machinery;" received at the hands of Geo. Taylor, Esq., Agent for Blackie & Son, 117 Fulton Street. This number contains sections of Messrs. Kitson, Thompson and Hewitson's inside connection locomotive. These sections show the extreme width of furnaces and frames which a proper arrangement of these parts allows on engines for the narrowest gauge. The engine illustrated in this number is for a four feet 8½ inch gauge, and has a clear width between inside frames of 46¾ inches, the frames being thin and placed edgewise. Their dimensions are 8 inches by 1½ inch. The distance between centers of cylinders is 2 feet 5½ inches, which allows of a single intermediate steam chest with direct action valves working on vertical faces. The cylinders are of 16 inches diameter. The furnace has the extreme width of 43¾ inches inside, besides allowing water spaces of 3 inches thickness and extremely thick plates. The connection of the cylinder and crank being "inside," the center of the boiler is necessarily elevated 6 feet 3 inches from the rails, for a driving wheel of 6 feet diameter. This, too, is with a boiler of only 42½ inches diameter, and is a full foot more than in our best examples of American outside connections.

The number before us contains very full investigations of the structure of locomotive framing,

with remarks upon wheels and axles, springs and axle boxes, etc., etc. There are, also, several illustrations of the best examples of turn-tables.

The 7th number of the "Engineer and Machinists' Drawing Book" is also received from Blackie & Son. There are several fine illustrations of gearing, steam engine details, and skeleton drawings of locomotives, intended to facilitate the construction of original plans, etc. The letter press illustrations are clear, practical and comprehensive.

Journal of Railroad Law.

POWER OF SUPERINTENDENT ON RAILWAYS.

It will be seen that the New York Superior Court, have upon appeal, declared that a railway Superintendent cannot bind his employers by employing a surgeon to attend a wounded passenger.

DECISION.

Mark Stephenson against the New York and Harlem Railroad Co.

Bosworth J.—The plaintiff, a physician and surgeon, brought this action to recover for professional services upon P. Teniat, who was injured by being run over by defendant's cars. The services were rendered upon a previous promise of a Superintendent of the Company that the latter would pay for them. The power of the Superintendent, according to the evidence given at the trial, related solely to running the trains as prescribed by the company, employing men for the purpose and providing for the accomplishment of this result. He had not, on any other occasion, employed a physician or surgeon. He had not been held out by the company as having such authority, and his acts, in this case, had not been ratified by the company. It did not appear that Teniat was injured by the negligence of defendants. The plaintiff was nonsuited, and from the judgment rendered he appeals. Judgment appealed from confirmed, with costs.

TRIAL OF AN ENGLISH ENGINEER.

Richard Pardington and Joseph Woods, an engine driver and fireman, on the Great Northern Railway, were recently tried in the Central Criminal court of London for a misdemeanor, upon the complaint of the Company. The express train to which defendants belonged started from London on 31st August last at 5 P. M., and an accident occurred that evening at Hornsey station. Previously that day an accident occurred to a freight train between Barnet and Hornsey, and this train being thereby delayed, did not reach Hornsey until 5 minutes before 5 P. M., and it was necessary that it should "be shunted," as the term is, across the down track into "a siding." There were 14 minutes for this operation, for the express train was not due at Hornsey until 10 minutes after 5 P. M. The trucks got safely over but the tender got off the rails and obstructed the down track. The danger signal at the station was immediately put up and another danger signal 500 yards further towards London, was also put up, and a man sent up the road with a red flag, which was also a danger signal. He went some distance beyond the second signal post. An electric message was also immediately sent to London concerning the obstruction. Unfortunately, the express train had left London before the message arrived there. The train proceeded at the usual speed to Hornsey, and no steps were taken until too late to arrest

the train, whence occurred a collision with the tender and much injury, although no loss of life, to passengers. It was urged that if defendants had attended to the signals they could have easily prevented the accident.

The question was, whether defendants have violated the clause of the Railway Act which provides that "any person who shall wilfully do, or cause to be done, any act tending to obstruct the passage of a carriage or engine over a railway, or to endanger the safety of passengers on such carriage, should be held guilty of a misdemeanor.

The Justices Crosswell and Williams held that omitting to see a signal was not a wilful act. Sergeant Wilkins said that the clause clearly applied to strangers, not to employees on the railway trains. Verdict *not guilty*.

APPRAISAL OF LAND REQUIRED FOR RAILROADS.

In our issue of 15th of October last, we cited the rule of the Supreme court of this State, by which the main inquiry in cases of this nature was declared to be "what is the entire property now fairly worth in the market, and what will that part not taken be worth after the improvement is made?"

In a late controversy, of ten days continuance, between the Air Line railroad company and Mr. H. Griffin, of Middletown, Conn., it would seem that a mode of ascertaining damages was adopted which was not inconsistent with the rule above stated. Mr. G. had laid out eleven acres of his land for city lots. The company required a fifth of the same for the purposes of their railroad, and would by taking the same greatly lessen the value of the remainder for building purposes. The commissioners took into consideration the benefits to be derived from the railroad, and although the claim for damages amounted to \$3,250, they allowed the land owner but \$950.

The benefit and also the damages to be taken into consideration by the commissioners must be direct, not remote and conjectural. So in the case of *Hill vs. the Mohawk and Hudson Railroad* 5 Denio, 206, it was held by our Supreme Court that it is proper for the commissioners in cases of this kind to take the testimony of witnesses who are qualified to form a judgment of the value of the lands from which the road is to be taken, as a whole, and as to the mode in which they will be affected by severing from them that portion which is required for the purposes of the road.

The difference between the fair, prospective value of the land not taken, and the present value of the whole tract will furnish guidance in determining the amount of damages to which the claimant is entitled.

But the claimant should be confined to the inquiry as to the diminution of the value of his land directly proceeding from the railroad. It is not competent for him to show damage only indirectly or contingently occasioned by the Railroad.

CARRIER'S PARCELS.

In the English Court of Exchequer a question lately arose in relation to what are called composite parcels, or parcels made up of sundry smaller ones, in the case of *Crouch vs. the Great Northern railroad company*. The plaintiff was a carrier by a railroad, and one of his agents having requested the defendants agents to carry a parcel upon the said road, they had refused so to do

without compensation greater than what is charged for ordinary packages, on the ground that the composite parcels were attended with more risk than the ordinary ones, and such has been, in at least one English case, decided to be the law. The jury brought in a verdict for defendants. But justice Erle, on a motion for a rule, thought that a further discussion of the question would be useful, and granted the rule.

THE BROADWAY RAILROAD CASE.

This case was decided by the Superior court on Saturday last. We subjoin the grounds of the decision by which the company are perpetually enjoined against proceeding. So that unless the Court of Appeals shall reverse the judgement, the city railroads must vanish like "the fabric of a vision." "The Court hold,—

1. That the Common Council have no authority to grant a perpetual license for a railroad, as was done in this case, because this is to alienate their own power over the streets, which power is given them by the legislature, and which is inalienable.
2. That the Council have no power to grant a license to a railroad at all, inasmuch as it is a monopoly and a municipal corporation had no power to create a monopoly.
3. That the grant establishes a joint stock association, which is a palpable usurpation, inasmuch as such an association can only be created by law.
4. That an important condition of the contract with Jacob Sharpe and his associates for the construction of this road, was that they should clean and sweep the whole of Broadway south of Fourteenth-street every morning excepting Sunday; while no such contract can be made except by the Head of the department to which that especial branch of service particularly belongs.
5. That the right to grant licenses to run passenger coaches and carriages is lodged exclusively with the Mayor, and that cars must be deemed and taken to come under the laws regulating such vehicles.

Michigan Southern and Illinois Central Railroad Crossing.

DECREE OF COMMISSIONERS.

THE NORTHERN IND. AND CHICAGO R. R. Co., }
vs. the Illinois Central R. R. Co. }

In Chancery, in the Circuit Court of Cook Co., Illinois:

To the Hon. Buckner S. Morris, Judge of said Court: The undersigned, Edward H. Brodhead and Joseph Gillespie, associated with John Van Nortwick, Commissioners elected and appointed by virtue of a stipulation entered into in conformity with the provisions of an order of said Court, herewith annexed, beg leave respectfully to report to said Court, that they with their associate commissioner have heard evidence and argument of counsel of said parties respectively, in regard to all the matters submitted in said stipulation, and carefully considered the said matters—and that the undersigned have agreed and determined and do hereby award that the point of crossing of the railroad of the defendants over the railroad of said complainants shall be at the point named in said stipulation; and that the manner in which the said railroad of said defendants shall be allowed to cross the said railroad of said complainants shall be by bridge, to be built by said defendants at least eighteen feet in the clear, above the surface of the rails of the railroad of the complainants, and of a width not less than thirty feet in the clear; and said bridge and the approaches thereto to be efficiently commenced within thirty

days from this date, and prosecuted with all due diligence to final completion; and after the construction of said bridge and the approaches thereto, the crossing of the railroad of the defendants over the railroad of the complainants shall be by bridge and not otherwise. In the mean time, and during the construction of said works, the railroad of the defendants may cross the railroad of the complainants at grade, at or near the present point of crossing, for the purpose of operating their said railroad, and constructing the said works.

The undersigned have also awarded that the said defendants shall pay the said complainants, and demand, one dollar for damages, on account of the crossing in the manner above prescribed.

In witness whereof the undersigned do hereby affix our hands and seals, at Chicago, this 5th day of November, 1853.

EDWARD H. BRODHEAD,
J. GILLESPIE,

{ Seal }
{ Seal }

Philadelphia Locomotives.

Messrs. Richard Norris and Son have sent us five lithographs of the freight and passenger engines now building at their shops in Philadelphia.

In the passenger engine we notice several favorable features for speed and economical working. The cylinders are outside connected and are laid horizontally. The drivers are 6 feet in diameter. The boiler is of large size being 4 feet in diameter, with 11 feet flues and a furnace of 4 feet 2 inches outside length. The trucks are well spread, being 4 feet 9 inches between centers. The frame is the thin, edge frame; pumps full stroke; valve motion the separate cut off and vee hooks. The furnace is of the wagon top form and is surmounted with a large dome. The whole plan appears simple and calculated to afford good results.

It affords besides an illustration of the assimilation of style of modern locomotives, of which we have often had occasion, to speak. The arrangements and proportions, with but few exceptions, are very similar to those which the most successful builders have adopted.

There are two illustrations of freight engines; the one having eight connected drivers, the other four drivers and a truck. The former is a rather light pattern, having a 42 inch boiler, 11 feet tubes and 44 inch drivers. The furnace, however, is of large dimensions. The heavy freight engine, having but four drivers, appears to have a cylinder of 16 by 24 inches, drivers of 4 feet 6 in. diameter, boiler 48 inches diameter, tubes 12 ft. in length, and outer furnace 4 feet 2 inches long. The cylinders are very nearly level, the trucks well spread, the separate cut off valve is retained, and a novel mode of spring suspension is made use of wherein there is but a single spring, hung to the crown sheet of the furnace, for the two wheels of each side of the engine.

The only material alteration which we should suggest in the plans of the freight engines would be the addition of a pair of drivers to the heavy engine, which would secure more adhesion and make a better distribution of the weight. The lighter engine appears to have more adhesion than is requisite for ordinary business.

We like the general style of Messrs. Norris and Son's recent engines. They combine good proportions with simplicity of construction; appear to have but little dead weight, and if properly balanced, (the drawings show no counterweights)

will no doubt run as steadily as any engines in the country.

Engineering Works at Holyhead Harbor.

In the October number of the Civil Engineer and Architect's Journal we find some facts in regard to the extent of the works now in prosecution for the protection and improvement of the Holyhead Harbor at the western terminus of the Chester and Holyhead link of the great London and Dublin railway.

The undertaking was commenced in 1849, and is intended to secure a total area of 316 acres for the purpose of a harbor, two-thirds of that space having a minimum depth of seven fathoms at low water. Accommodation will be thus provided for about 400 vessels of all classes, including 70 men-of-war, as large as the *Duke of Wellington*. The north or great breakwater will be 5000 feet long and 170 feet wide, and of this immense work 4000 feet have already been completed to low water mark—3500 feet of it being from 14 to 15 feet above high water. The depth at low water thus filled up is from 45 to 48 feet, and some idea may be formed of the magnitude of this mole from the fact that the stonework which surmounts it is about 80 feet above the foundation. The smaller, or eastern breakwater, which protects the harbor on the landward side, will be 2100 feet long, and 1000 feet of it have already been formed, in a depth of 30 feet at low water, and to a width of 110 feet.

The method that has been adopted by Mr. Rendel for carrying out the breakwater, and which is under the immediate superintendence of the resident engineer, Mr. C. Dobson, is by means of a timber staging of five roads, 40 feet above the water, and 150 feet wide, supported on piles 80 feet long, which piles remain buried in the bank of stone as the work advances. The loaded stone wagons are taken down these five roads by locomotive engines, then tilted, discharging their contents, each of them eight to ten tons of stone, through the staging into the sea, forming a bank of rubble-stone, from the bottom upon which the piles rest to above the surface of the water. Whole trains of wagons can thus be made to deposit simultaneously, and with a rapidity and certainty that no other system would admit of; 5000 tons of the rock obtained in the quarries are thus with ease deposited in the day in the breakwater, at the spot indicated; and, by this means, about 3,000,000 tons of stone have been brought down, run out, and tipped into the sea. The staging is constantly kept in advance of the work by means of cranes upon the stage itself, which lift the piles (80 feet in length) from the water till they become upright; they are then properly adjusted in their place by the aid of a lilliputian screw steamer 60 feet long, when the framing and roads are then placed upon them, and rails laid to receive the wagons; the discharged wagons are again drawn up to the quarries for a fresh supply of stone, and the movement from the quarries to the end of the staging goes on continually. This five-road timber stage of the north pier, above described, has now advanced 4000 feet to sea out of the 5000 required to complete it, and this length of breakwater already formed has afforded shelter to hundreds of vessels for the last three winters, and 50 to 80 sail at a time, of wind-bound vessels, may now occasionally be seen anchored within the area of the new harbor.

In order to obtain so large and unprecedented a supply of rock as 5000 tons a day, blasting with gunpowder upon a large scale has been introduced, and at the foot of the mountain called Holyhead Mountain (which is of a hard schistus quartz rock) quarries have been opened and formed, which, for extent, height of face (about 200 feet), and yield of stone, are certainly unparalleled. Fifty-nine to sixty shafts and galleries are sunk or driven into the rock, which is of so hard and impenetrable a nature that only one foot upon an average can be driven in twenty-four hours by the

three relays of miners, who continually go on driving day and night. After the chambers or galleries are completed, two or three of them are sometimes discharged simultaneously with charges of gunpowder varying from 3000 lb. to 10,000 lb.: the instantaneous ignition of the charges is brought about by means of the galvanic battery, and the results are as great as from 30,000 to 50,000 tons of rock at once. We witnessed upon this occasion the effect of four of these large explosions, in which about 8000 lb. of gunpowder was discharged, displacing and throwing out several thousand tons of stone. About 20,000 lb. of gunpowder, or 10 tons, are thus expended weekly, in large and small blasts.

In the quarries appears the largest amount of activity of any part of this great work—fifty moveable cranes (some with steam power) for raising the stone, from two hundred to three hundred wrought-iron wagons for conveying it, eight locomotives, and about fifty horses for the movement of it; these, together with a staff of men on the work of about 1400, are daily employed by the contractors, Messrs J. and C. Rigby, in pressing forward to its completion this great national undertaking.

North Carolina.

Wilmington and Raleigh Railroad.—The annual meeting of the stockholders of this road took place at Wilmington on the 10th inst.

It appears from the report of the Auditing committee that the road has been doing a good business the past year.

The net profits exceed by \$46,717 71, those of the year previous; the through travel is also increased to the amount of \$13,710 00; the way travel \$39,213 30; the freight on road \$2,388 14, over the previous year's receipts.

The result of the business for the year ending Sept. 30th, is as follows:

RECEIPTS.

Amount received from through travel	\$214,135 02
" " " way	138,148 40
Freight on railroad	112,582 23
Freight, Meals, etc., on Steam Boats	17,609 67
Transportation of mails, rents, etc.	86,424 35
	\$568,829 67

EXPENSES.

Cost of transportation, including purchase of locomotives, coaches and cars	\$155,233 73
Railroad repairs	45,054 82
Expenses of steam boats	147,652 84
Office expenses	365 62
Interest and exchange	57,976 30
	406,283 31

Net profits.....\$162,616 36

The liabilities of the company on the 1st of October, 1853, were \$1,156,261 12, consisting of the following items:

Old bonds payable in England at five per cent.	\$222,666 67
Bonds endorsed by the state of North Carolina, at 6 per ct.	250,000 00
Bonds to Literary Fund of N. Carolina at 6 per ct.	85,000 00
New bonds payable in England	444,444 45
Bonds to U. States, payable in mail service	32,918 64
Bills payable	72,080 02
Due on pay rolls	8,483 17
" Negro bonds, 1844, to 1853, inclusive	33,506 79
Due on Dividends No's 1, 2, and 3	4,839 00
Due to sundry individuals	2,053 88
Balance due on thirty shares of stock surrendered to be rode out	268 50

\$1,156,261 12

The following was the condition of the company on the 1st Oct. 1853:

Debt of the company.....	\$1,156,261 12
Capital stock paid in.....	1,340,213 21
Balance of profits from commencement of operations to 1st October, 1853, after paying interest on debt.....	584,333 64

\$3,080,807 97

Cost of construction, real estate, etc.....	\$2,075,052 42
Reconstruction.....	773,650 85
29 shares company's stock.....	2,900 00
Due on forfeited stock.....	950 00
Wil. and Man. R. R. Co's stock.....	100,000 00
W. & N. O. Telegraph stock.....	3,150 00
Bills receivable.....	228 00
Due from individuals.....	25,682 45
Due from agents.....	24,792 06
Due from post office department for mail service.....	24,715 05
Counterfeit money taken.....	373 54
Cash in hands of treasurer.....	49,313 60

\$3,080,807 97

Tennessee Central Railroad.

The election of officers of this company made at Trenton, Tenn., resulted as follows:

C. K. Wiley, of Benton county; Y. W. Allen and James Adkinson, of Carroll county; John A. Taliferro, Solomon Shaw and Wm. W. Lea, of Gibson county; John W. Campbell and S. Mc. Lemore, of Madison county; Dr. S. Oldham and A. J. Halliburton, of Haywood county; Hiram Partee and James L. Green, of Lauderdale county.

At a subsequent meeting of the board of directors, Wm. W. Lea, of Trenton, was chosen president, and Rufus E. Buffum, secretary and treasurer.

The individual subscriptions to the stock of this company now amount to.....	\$225,000
Additional subscriptions, which have been promised, and will be obtained by January 1st.....	75,000
County subscriptions, which, it is not doubted, will be voted by Benton county.....	50,000
By Carroll county.....	150,000
By Lauderdale county.....	100,000
Amount proposed to be taken in stock contracts.....	200,000

\$800,000

Engineer's estimate of cost of grading, bridging, culverts, masonry, etc., from Fulton to Tennessee river.....	458,000
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Remaining for other purposes.....	\$346,665
State bonds promised conditionally.....	1,000,000
Proceeds of the sale of 1700 acres of land at Fulton, estimated to produce at least.....	1,000,000

\$2,346,665

Total cost of superstructure from Fulton to Tennessee river in round numbers.....	\$1,146,665
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Leaving a balance of.....	\$1,200,000
For extension of the road to Nashville, or for other purposes.	

The above is a brief statement of means relied upon by this company. If the Nashville and North Western road be built to the Tennessee river, the Tennessee Central railroad company will have a large surplus of means, that may be ap-

plied to the construction of a railroad in extension beyond the Mississippi river or to such other objects as the stockholders may determine upon.

P. J. Tournadre,

Chief Engineer Vicksburg, Shreveport and Texas R. R.,
Vicksburg, Miss.

To Locomotive Engine Builders and Engineers.

THE Proprietors offer for rent for a term of years, with immediate possession, the splendid property, known as the BELLEVILLE IRON WORKS, situated on the Mississippi, directly opposite the City of New Orleans, and within 300 feet of the River, with which it is connected by fine wharves and landings.

The buildings are of brick, with slated roofs, and were erected in 1848 at a very heavy expense; are of a most substantial and durable character and admirably fitted for a Foundry and Machine Shops, or almost any mechanical business. They now contain a new and powerful Engine and Boiler and sufficient machinery, say, planing machines—lathes—boring machines, blacksmith's tools, &c., &c., to employ 100 mechanics, and could be put in working order in a few days. The Buildings cover a lot 300 feet square and are amply large to receive the necessary machinery for the use of 800 to 1000 workmen.

The terminus and depot of the New Orleans, Opelousas and Great Western Railroad is situated about 300 yards from the above property, which could be availed of to great advantage for the manufacture of Locomotives and Railroad work, generally as well as Steam Engines, Sugar Mills, and other descriptions of Machinery.

There are no Shops in New Orleans for the manufacture of Railroad Machinery, and as the Railroad Companies now organized in that city contemplate the construction of over 1000 miles of road,—a large part of which is already under contract,—the property now offered for lease offers a most eligible opportunity for parties desiring to contract to furnish the Engines and Machinery,—for those roads. Responsible contractors with their works on the spot would have an advantage over Northern Workshops in contracting for the Work of the Railroads terminating in New Orleans.

The Establishment and prospect of remunerating work to be secured immediately are worthy the attention of manufacturers and Engineers generally.

Applications from responsible parties will be promptly attended to, and to satisfactory parties the proprietors of the Works can offer favorable terms and arrangements.

Letters may be addressed to

R. B. SUMNER,
No. 61 Camp Street,
New Orleans;

and further information may be had by applying to Messrs. BARSTOW & POPE, Pine Street, New York.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by
JOHN H. HICKS, 90 Beaver st.

1300 Tons Yorkshire T rail, weighing 56 lbs. to the yard, and of a superior quality daily due and for sale by,
NAYLOR & CO.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.
Sept. 11, 1852. ly*

Machinists' Tools.

A SUPERIOR CLASS,

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Sept. 7, 1852. LOWELL, MASS.

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Imported and for sale by JOHN WILEY, 167 Broadway, New York.	

N. York and N. Haven R. R. NOTICE OF SUMMER ARRANGEMENTS.



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.
New Haven, May, 1853.

Stuart, Serrell & Co.,

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A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates.
Price One Dollar each—postage on the Curves Three Cents—and on the Excavations and Embankments, Six Cents.
For sale by WILLIAM HAMILTON,
Hall of the Franklin Institute,
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May 4, 1853.

ESTABLISHED 1796.

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OPTICIANS and Dealers in Mathematical Instruments, at the old established stand, 43 Chestnut street, Philadelphia, Pa. Mathematical Instruments separate and in cases, Protractors, Spacing Dividers, Drawing Pens, Ivory Scales, Tape Measures, Salometers, Spy Glasses, Microscopes, Spectacles, Hydrometers, Platina Points, Magic Lanterns, etc., etc., etc.

Our Illustrated and priced Catalogue is furnished on application and sent by mail free of charge.
Nov. 18, 1853

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY SIX PER CENT. FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW, LANIER & Co. }
No. 52 Wall-st., Oct. 6, 1853. }

THE LITTLE MIAMI RAILROAD COMPANY offer for sale one million of their **SIX PER CENT. BONDS**, with coupons. Interest and principal payable in New York, the former half-yearly, 1st of November and 1st of May. They are in sums of \$1,000 each, payable the 1st day of May, 1858.

These Bonds are issued under the express authority of the Legislature of the State of Ohio; and are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station-houses, &c., up to this date \$2,708,109 19.

This Company hold stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also, in the Hillsborough Road the amount of \$11,716.

The receipts of the Road have been as follows:

For the year ending Dec. 1, 1844.....	\$18,623 36
For the year ending Dec. 1, 1845.....	46,327 58
For the year ending Dec. 1, 1846.....	116,052 02
For the year ending Dec. 1, 1847.....	221,139 52
For the year ending Dec. 1, 1848.....	280,085 78
For the year ending Dec. 1, 1849.....	321,398 82
For the year ending Dec. 1, 1850.....	405,597 24
For the year ending Dec. 1, 1851.....	487,845 89
For the year ending Dec. 1, 1852.....	526,746 35
The receipts from Dec. 1, 1852, to Sept. 1, 1853, 10 months were.....	544,625 59
For the same period year before.....	411,797 06

Increase in 10 months.....\$132,823 53

The position of this road, being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia Road, and runs in connection with the Cleveland and Columbus Road; in fact they are now run as one line greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of 5 per cent. in 1852. In 1852 two cash dividends of 5 per cent. were made.

The present surplus and reserve fund amounts to.....	\$98,546 10
The mortgage covers the entire line of road, costing to date...	2,708,108 19
To be expended on double track, &c.	1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is one of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the City of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. LANIER, Esq., of this city, in trust for the bondholders, with ample power to take possession of the Road, its real and personal estate, franchises, &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. The mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

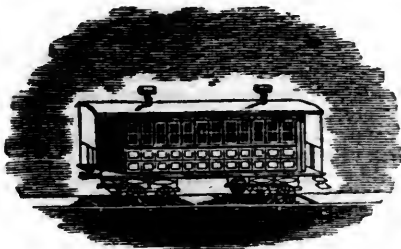
City of Cincinnati, and all other debts of the Company, excepting this loan of \$1,500,000.

These Bonds are offered at private sale by the undersigned, Agents of the Company.

Printed statements of the affairs of the Company, and any further information relative to the securities, will be given by

WINSLOW, LANIER & CO.,
No. 52 Wall-st.

Elmira Car Manufactory.



THE Undersigned is prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

WM. E. RUTTER.

Elmira, N. Y., June 1, 1853.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Wason's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

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Railroad Car Works.

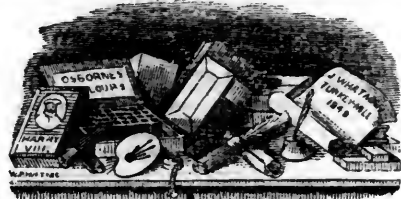
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F. HUNGERFORD & CO.

Mayville, Ky., Sept. 29, 1853.

Hufty's

Engineers, Architects and Draftsmen's STATIONERY EMPORIUM.



WHATMAN'S Turkey Mill Drawing paper, Tracing paper, Plan and Profile, Protractors, Drawing Pins, Faber's, Jackson's and other makers' Pencils; Field, Level, and Memorandum Books of various patterns; Mathematical Instruments, Tape-lines, Mouth Glue, Cross Section paper, Triangles, Sabel Brushes, Gum Bands, Maiden Gum, Red Tape, Ink, Inkstands and Sand, Water Colors, Pallets, Patent Binders for letters, Portfolios, etc., together with a general assortment of Stationery and Blank Books. All goods packed with care, and forwarded to any part of the United States.

JOSEPH HUFTY,
Successor to H. L. Lipman,
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May 15, 1851.

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WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1853.

A. N. GRAY, Cleveland, O.,

RECEIVER AND FORWARDER of Railroad Iron, Chairs and Spikes

Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.

Office next door to the Custom House, Main st.
January 12, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

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NORTHERN INDIANA, L. T. PHEATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany, and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

MONTREAL & NEW YORK

AND

Plattsburgh and Montreal RAILROADS.

Open through from Plattsburgh to Montreal.

Passenger Trains leave Montreal for Plattsburgh at 6 30 a.m. and 5 p.m., arrive at 8 a.m. and 7 30 p.m.

Leave Plattsburgh for Montreal 7 30 a.m. and 4 p.m., arrive at 10 a.m. and 6 50 p.m.

Trains connect at Montreal with Steamers for Quebec, and the St. Lawrence and Atlantic Railroad for Sherbrooke and intermediate stations.

Trains connect at Moores Junction with Northern (Ogdensburg) Railroad for Ogdensburg and Lake Ontario Steamers for Lewiston, Niagara Falls and Upper Canada, and all ports on the Western Lakes.

Trains connect at Plattsburgh by Steamer to Burlington with Rutland and Burlington Railroad and connecting lines for Troy, Albany, New York and Boston, and all intermediate stations. Also with steamers for Whitehall to the Saratoga and Washington Railroad, and connecting lines of road to Troy, Albany and New York.

Passengers will find this route unequalled for comfort and dispatch, and attended with less fatigue and delay than any other. It possesses moreover the advantage of a short Ferriage of only fifteen minutes across the River St. Lawrence at Caughnawaga, which has never been known to freeze, and can be confidently relied upon at all seasons of the year.

Freight Trains run daily each way.

For particulars see Freight and Passenger Tariff.
BAGGAGE checked through.

H. W. NELSON, Superintendent.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a.m. for Dunkirk and Buffalo.
MAIL, at 8 1/2 a.m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Binghamton and Corning, and proceed the next morning.

ACCOMMODATION, at 12 1/2 p.m. for Delaware and all intermediate stations.

WAT, at 3 1/2 p.m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 5 p.m. for Dunkirk and Buffalo.

EMIGRANT, at 6 p.m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 5 p.m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Supl.

Notice to Contractors.



WARSAW & ROCKFORD RAILROAD.

THE preliminary Surveys are now complete for the First Division, (about 120 miles) from Warsaw, through Nauvoo, Oquawka, Keithsburg, Rock Island and to Port Byron, including both Rapids of the Mississippi, and the location progressing. The character of the country is such, and the surveys so near to any location that will be made, that Contractors can satisfy themselves of the value of the work as well now as hereafter. Proposals are asked at the Office of the Company in Warsaw, Hancock County, Illinois, for the construction of the whole or part of the road, either by quantities or by the mile. Contract will not be made before the 1st of January, 1854, and only so soon thereafter as advantageous offers can be made. The Company are willing to make general contract, for cash or for cash and securities.

The route of the road is generally in the valley and second bottoms of the Mississippi, and the work can be completed very rapidly. The road is important as one of the improvements of the navigation of the Rapids, and also from its several (two at least) connections with other Railroads.

WM. H. ROOSEVELT,
President.

W. R. KINGSLEY,
Engineer.

T. S. O'SULLIVAN,
Consulting Engineer.
Warsaw, Nov. 17, 1853.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WRIGHTMAN, manufacturing Chemists, Philadelphia.
Jan. 20, 1849.

Railroad Iron.

2,000 TONS FIRST CLASS WELSH RAILWAY IRON, to be made to any ordinary T pattern required by the buyers, and for shipment from Newport, Wales, in December, January, and March next, apply to the undersigned, for many years connected with the largest house in the trade
JOHN H. AUSTIN & CO.,
441f 2 Ingram Court, Fenchurch street London.

A Valuable Farm in Illinois for Sale.

SITUATED in the Village of Seward's Point in Montgomery County 7½ miles North of Hillsborough, about 36 South of Springfield the Capital of the State, about 18 West of the Illinois Great Central Railroad, about 4 or 5 North of the Alton & Terre Haute Railroad and about 18 miles West of the intersection of the two, containing 80 acres of rich prairie land.

Apply by letter or in person to
S. S. ROCKWELL,
No. 15 South Second str. Williamsburgh.

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—

Railroad Iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms.

Also, McMullen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.
Office No. 25 Cliff street,
Aug. 10, 1853. 3m New York.

Notice to Contractors.



COVINGTON & OHIO RAILROAD.

PROPOSALS will be received, at the Office of the Covington and Ohio Railroad, in Covington, until the 15th of December next, for the graduation and masonry of about seventy-five miles of the above road; of which, the eastern portion, comprising fifty miles, lies next west of Covington, and the western portion, consisting of about twenty-five miles, lies between the Kanawha River and the mouth of Big Sandy. A large share of the work to be let—including bridging and tunnelling—is heavy and desirable, and is well worthy the attention of responsible contractors. The western sections of the above work are now ready for examination, and the eastern portion will be prepared for inspection by the 8th of December.

Further information may be obtained on application at the company's offices at Covington and Guyandotte.

By order of the Board,
CHARLES B. FISK,
Chief Engineer.

N. B.—The Board of Public Works, of Virginia, under whose direction the Covington and Ohio Railroad is to be constructed, on State account, will meet, at Covington, on the 15th of December, above named, for the purpose of receiving and acting on the proposals that may then be offered.
Nov. 10th, 1853.

To Railroad Companies.



COLLINS' PATENT VENTILATORS,

FOR

Ventilating all kinds of
PUBLIC AND PRIVATE BUILDINGS
Railroad Cars, Depots, etc.

THE Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of for giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P.R.R., Altoona, Feb. 8, 1853.
This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.

STRICKLAND KNEASS,
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.

Acceps. BAKER & WILLIAMS,
Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,
OLIVER W. BARNES,
3m40 Principal Assistant Engineer P. R. R. Co.

Krupp's

CELEBRATED CAST STEEL;

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines, not exceeding 3000 lbs. in weight. Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Munt and other Rolling Mills.

Orders received by

THOMAS PROSSER & SON,
28 Platt street, New York.

Sole Agents for the United States.
Nov. 19, 1853.

To Contractors.



CHIEF ENGINEER'S OFFICE, N. & P. R. R. Co.,
Norfolk, Oct. 13, 1853.

SEALED PROPOSALS will be received by the Undersigned at this office from the 3d, until the 15th day of December next, at noon, for the graduation and masonry of 62 miles of the Norfolk & Petersburg railroad between the city of Norfolk and Warwick Swamp in the county of Sussex.

The line will be divided into sections of about 4 miles, and bids will be received for one or more of said sections.

Maps and profiles of the line will be ready for inspection and specifications with forms of proposals may be had of the undersigned on and after the first day of December.

Payments will be made in current money during the progress of the work in proportion of four-fifths of the amount due.

As soon as practicable after the examination of the proposals, those to whom the work will be allotted will be duly notified, and if deemed necessary required to give bond with satisfactory security for an amount not exceeding one-tenth of the amount of work to be done.

The company reserves the right to accept such proposals as in their judgment will secure the prompt and faithful execution of the work according to contract, or reject all, if none are satisfactory.

The line is easy of access, the country through which it passes is of mild climate and abundant in supplies. Postage on all communications must be prepaid.

W. MAHONE,
Chief Engineer.

Small Rails.

THE SUBSCRIBERS manufacture and keep constantly for sale, Light Rails of the most approved patterns, weighing 22, 25, 28, 40 and 50 lbs per yard, suitable for Colliers, Miners, Quarrymen and Contractors, or for turn outs, depot and branch tracks.

CHARLES E. SMITH & Co.
Fairmount Iron Works, Philadelphia.
1744 CHAS. E. SMITH, HENRY MORRIS,
THOS. T. TASKER, WISTAR MORRIS.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Lignaceous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

Henry I. Ibbotson,

MANUFACTURER OF

FILES AND SAWS,

Warranted of superior quality.

Office and Warehouse, 218 Pearl st., New York.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB

PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH.

They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits

Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1858.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 50.]

SATURDAY, DECEMBER 10, 1853.

[WHOLE No. 921, VOL. XXVI.

The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, December 10, 1853.

ENTERED according to Act of Congress, in the year 1853, by EDWIN F. JOHNSON, in the Clerk's Office of the District Court of Connecticut.

Railroad to the Pacific--Northern Route. Its General Character, Relative Merits, etc.

BY EDWIN F. JOHNSON, C. E.

(Continued from Page 772.)

COMPARISON OF ROUTES.

It has been stated, that if the mouth of the Columbia be made the terminus of the proposed road on the Pacific, the northern route is probably the best way to reach it. The point of divergence from this route is in the Clark's river valley, where that river emerges from the hill country, thence across the elevated prairie plain southerly, near to the junction of the Lewis' river with the Columbia, and along the Columbia to its mouth. The distance by this line to Astoria, although greater than to the straits of De Fuca, is evidently less, (as appears by an inspection of the map,) than by any other line which can be projected from Chicago to the same point, and it is also greatly superior in other respects. If the ground between the sources of the Spokane river and Clark's river is practicable it will afford a shorter route. This does not seem to be probable, judging from the opinion of it by Father De Smet.

Mr. Whitney, who has been very active in drawing public attention to the important subject of a railroad to the Pacific, after canvassing various routes, came to the conclusion that it was best to approach the Pacific by the valley of the Columbia, and the route which he approves is represented on his map by a line drawn from Prairie du Chien, on the Mississippi, in Wisconsin, to the valley of White river or White Earth river, west of the Missouri, and thence to the valley of Salmon river, and down the latter and Lewis river and the Columbia, leaving the Columbia on the west side of the Cascade range, and from thence bearing northerly to the main terminus on Puget Sound.

The objections to this line, are the crossing of the Mississippi and Missouri at points where both are navigable by the larger class of river steamers, and where the expense will be very considerable. The overcoming of the Wind river or Black Mountains, near the head of White river, in reaching which, the line must previously pass through a very barren district of some extent, known as the *Mauvaise terres*. The impossibility of maintaining even a tolerably direct course, from the Black Mountains to Salmon river, in consequence of the direction in which the tributaries of the Yellow Stone and Missouri flow, and the number and height of the intervening mountains, the high range of the Bighorn being among the most prominent, and the probable great expense of effecting a descent along the Salmon river valley, judging from the descriptions of it furnished by Lewis and Clark, and others.

Added to this, the line will be longer undoubtedly, than the proposed route to De Fuca; a far greater amount of rise and fall must be encountered, and it will cost much more than the northern route. The country through which it passes is less valuable for settlement, and it does not present the very great advantage of a convenient connection with Lake Superior, and with the navigable portions of the Upper Missouri, the Clark's river, and the Columbia, which is offered by the northern route.

The character of the country through which this route must pass, after leaving the waters of White river, until it reaches those of Columbia, is very fully portrayed by Mr. Hunt, in Irving's As-

toria. This gentleman passed, in 1811, from the Shayan river to the head water of the Little Missouri, thence across, and along the Black Hills or Mountains on the north or west side, and across the Bighorn range to Wind river, the main west branch of the Bighorn river. From thence across near Fremont's Peak, to the Mad river branch of Lewis river.

He describes the Black Mountains as an "extensive chain, stretching from the Nebraska or Platte river, in a north-easterly direction, to the great north bend of the Missouri." They are composed chiefly of "sandstone," and are in many places "broken into savage cliffs and precipices," and were crossed with great difficulty, near the sources of the Little Missouri. From an elevated point in this chain, he described, at the distance of 150 miles, "the lofty range of the Bighorn Mountains, printing the clear horizon."

It is easy to see from this estimate of their distance, that the Bighorn Mountains must be very elevated, and this is proved by the difficulties which Mr. Hunt encountered in passing them. After reaching them he pursued a southerly course along their base for several miles, searching for some practicable defile, but on the 3d of September, finding that they "still stretched onward, presenting a continual barrier," he endeavored to "force a passage to the westward, but soon became entangled in rocks and precipices which set all efforts at defiance." The Mountains "seemed, for the most part, rugged, bare, and sterile," covered by a few scattered pines. Under the guidance of the Crow Indians, he at length effected a passage "through rugged defiles, up and down the crags and steepes of the Mountains."

From thence he continued on westwardly, over a "rugged region of hills and rocks," and along the valley of the Wind river, which was "rough and destitute of trees, with few signs of animal life," passing, as above stated, across to one of the sources of Green river, and thence to the Lewis river at the mouth of Henry's fork, near the three Tetons. When upon the Wind river, he was informed that by "following up that river, and crossing a single mountain ridge, he would come upon the waters of the Columbia," a tributary, undoubtedly, of Mad river.

The route next south of that, of Mr. Whitney, which has been proposed for reaching the mouth of the Columbia, is that usually followed by emigrants to Oregon, for reasons, principally, which make it objectionable as a route for a railroad, viz: the almost total absence of timber for nearly its whole extent.

This route, which is delineated on the map, follows the valley of the Platte river, thence through the south Pass, across the head waters of the Colorado, and the tributaries of the Great Salt Lake; thence into the valleys of Lewis river, and the Columbia to the Pacific.

The objections to this route are of a character much more serious than to the one last described. It crosses the Mississippi and Missouri rivers, particularly the latter, at lower and more difficult points. The summit at the south Pass, which is 7,490 feet, barometric measurement, above the sea, is probably higher than that of Lewis Pass by upwards of 2000 feet, if the latter has not been under-rated. To the west of the South Pass, at the crossing of Bear Mountain, is another summit 700 feet higher, and so much higher than the Lewis Pass as to give to it a colder temperature in winter, notwithstanding its more southern latitude. Even the South Pass has probably as low a temperature in winter as the Lewis Pass, if not lower, owing to its greater elevation and to its being farther removed from the mild region on the Pacific.

In proceeding westward from Green river, in latitude 42° N., the valley of Lewis river may be entered without crossing any intervening ridge, or ascending much from the former. This route leads through Pierre's Hole in a northerly direction along the valley of Mad river to the mouth of Henry's fork, thence southerly to Fort Hall, etc. From the descriptions given of it by Parker, and also by Hunt, it does not appear to be practicable for a railroad; but were it otherwise, it would not very materially change the character of this route as compared with others.

The Lewis river, for much of its distance, flows in a deep chasm, the walls of basaltic rock on either side being very high, rising in one place, for 60 miles, to from 100 to 800 feet. Its valley is, for the most part, a sterile region of volcanic rocks and barren sands, almost destitute of vegetation.

Col. Fremont says that for 300 miles to the west of Fort Hall "there does not occur a fertile spot of ground sufficiently large to produce the necessary quantity of grain or pasturage enough to allow even a temporary repose to the emigrants."

He states, that "the main river is enclosed with mural precipices, which form its characteristic feature along a great portion of its course. A melancholy and strange looking country, one of fracture and violence and fire."

Mr. Hunt, in Irving's Astoria, describes this region as a dreary desert of sand and gravel, "a vast trackless plain destitute of all means of subsistence." "Here and there is a thin scanty herbage, insufficient for the pasturage of horse or buffalo." These "treeless wastes," he continues, "are even more barren than the naked upper prairies on the Atlantic side, and must ever defy cultivation." Farnham, when near the Boise river, on his way west, "had not seen an acre of land since leaving Fort Hall, capable of produc-

ing the grains or vegetables," so sterile was the face of the country.

A railroad located along this valley, instead of pursuing the short route followed by the emigrants, over the Blue mountains, which by Col. Fremont's measurement, are 5000 feet high in the lowest place, must follow the circuitous course of the river. This, with the great deviations from a direct course at other points, must obviously render the entire distance very much greater than by the northern route.

This route, after leaving the lower and only fertile portion of the valley of the Platte, passes through a comparatively barren and impracticable region for nearly the entire distance to the Blue Mountains. Lieuts. Turner and Hunter, who traversed the Platte valley in 1845, state that from Long 98½° W. to Fort Laramie, "the country is barren and desolate, being without timber or grass, except on the very banks of the streams, and very little even there. From Laramie, for some distance west, the road runs over hills of coarse gravel." * * "The only grass is along the borders of the streams, with very little timber any where, except on some of the high banks, which are perfectly inaccessible to wagons."

"The Sweetwater is bounded on both sides by mountains of granite, frequently intersected by dykes of trap, not timbered. Distance between mountains on each side 20 miles, but this district of country is very barren, producing nothing but wild sage." "In the Pass there is no timber, and none in its vicinity, except on the Wind river mountains, which are inaccessible to wagons."

The cost of the road on this route will be vastly greater than upon the northern route, owing to its greater length, the absence of timber, the general character of the surface, and the impossibility of approaching it at any intermediate points with materials for its construction, or with provisions for the sustenance of laborers. When built it will be more expensive to operate. It will not pass through a region attractive to settlers, and will not, consequently, have the amount of way business to sustain it, which will be realized upon the northern route, and like the one last described, has not the advantage of a connection with Lake Superior.

These are the only routes proposed, and probably the only ones practicable, which have a terminus on the Pacific in either of the territories of Oregon or Washington.

Before proceeding to consider the character of the routes which lead to the more southern Ports of San Francisco and San Diego, and which more naturally, perhaps, take their departure from St. Louis, or some point farther south, it will be proper to give a general topographical view of the country between the Mississippi and the Pacific, in that direction.

Between the Mississippi and Missouri rivers on the one side, and the eastern base of the Rocky Mountains on the other, lies a vast plain, inclined at such an angle as to give to its western edge or border, where it meets the mountains, an elevation of 5000 feet, and upwards, above the sea. The surface of this plain, as a whole, is not enough varied to give to it the character of being diversified with hills and valleys of any very great height or depth. It has what is termed, a rolling or undulating surface, a character which is

only interrupted by the many broad and deep ravines, through which flow the numerous tributaries of the Mississippi and Missouri, which have their source in the mountains, and which from their great descent, amounting to from four to seven feet per mile, flow with great rapidity, and are, in consequence, so obstructed with bars and shoals as to be unsuited for navigation; and from the character of their channels, can probably never be improved for that purpose, except at a cost not justified by any resulting benefit.

The eastern portion of this great plain, which is from two hundred to three hundred miles in breadth, is very fertile, is tolerably well supplied with timber, and is capable of affording sustenance to a very large population.

The western portion becomes less and less fertile as it approaches the mountains, where, from its great elevation, and other causes, it presents so barren and sterile an aspect, as to have received the name of the *American Desert*. This portion is almost wholly destitute of timber, and in many places, is destitute of water, except what is furnished by the larger streams which flow from the mountains. So bare of timber is this portion, that in the valley of the Platte, for four hundred miles, it is, from the authorities quoted above, almost entirely wanting, a peculiarity not confined to that river, but is said to be common to all, and even when they lose this character and are fringed with trees, as is occasionally the case, the latter are found to consist mainly of the cottonwood, (*populus canadensis*), which afford an inferior timber, and is but poorly, if at all, adapted to the purposes of railroad construction.

The Rocky Mountains, south of Fremont's Peak to the Mexican boundary, may be said to consist of two ranges, between which flow the waters of the Colorado, which discharges into the Gulf of California. The eastern or main range on reaching the Lat. of 39° N. nearly, is accompanied in its course south by another parallel range, at no great distance from it on the east, and between the two lies the narrow valley drained by the Rio Grande, (or Bravo,) Del Norte, which, after forming for some distance the boundary between the United States and Mexico, discharges into the Gulf of Mexico.

These mountains are strictly what their name denotes, viz: *Rocky*. They are very sparsely covered with timber, irregular in form, and unequal in elevation, rising to a height from 9000 to 12000 feet above the level of the sea, with occasional peaks that rise to a still greater height, and which are covered with perpetual snow.

The valley of the Rio Grande Del Norte is elevated at its northern extremity from 7000 to 8000 feet above the level of the sea, and at the point where it emerges from the eastern range of mountains at El Paso, its elevation is about 4000 feet. The descent of its valley above El Paso varies from 5 to 7 feet per mile; the river is, consequently, not navigable. The valley is narrow and has within it many fertile spots, and contains a Spanish and Indian population of several thousand.

The valley of the Colorado has a descent to the south even greater than that of the Rio Grande Del Norte. Although narrow at first it widens as it proceeds south, until it occupies most of the space between the main range of the Rocky Mountains and the Pacific.

At its source, in Lat. 43° N., its elevation above the sea is upwards of 7000 feet. Col. Emery informs us that "there is little doubt of its being always navigable for steamboats up to within 3 or 4 miles of the mouth of the Gila, where it is 600 feet wide. He was also informed that it was probably to a great extent susceptible of navigation to a point seven days travel up from the junction, which would bring it within two or three hundred feet of the level of the sea in Lat. 34° N. This gives to the valley above an inclination on the average of nearly ten feet in the mile, and an elevation, probably, between the latitudes of 38° and 39° N., of about 3000 feet. Its eastern and western border in this latitude has an elevation of 4000 to 5000 feet.

The mountains which bound it on the west, like those on the east, are high in places but the chain appears to be more broken. They skirt the Great Salt Lake on the east, and are there known as the Wausatch range. From a point near the Vegas of Santa Clara, in Lat. 38° N., they pursue a westerly course until they strike the high range of the Sierra Nevada, in California. This latter then forms the western boundary of the Colorado Basin, being the only range between it and the Pacific, and can be passed near San Diego at an elevation, according to Col. Emery, of 3000 feet.

West of the Colorado valley, and east of the Sierra Nevada Mountains, and south of the mountains which form the southern boundary of the valley of Lewis river, is a wide space known as the "Great Basin," its surface elevated, as appears by the measurement of Col. Fremont, from 4000 to 5000 feet above the sea. The lowest Passes in the Nevada Mountains have an elevation nearly twice as great as the interior of the basin, and the higher portions rival those of the Rocky Mountains in height, their summits being, at all seasons, white with perpetual snow.

Between these mountains and the sea, north of Lat. 34, is another parallel range of mountains, which are high and known as the *Coast Range*. Between the two lie the vallies of the San Joaquin and Sacramento, the former descending to the north, and the latter to the south; their waters meeting in the Bay of San Francisco, which opens to the sea by a passage through the Coast range, presenting a strait of ample dimensions easy of access, and a sufficient depth of water in the basin, in most places, for the purposes of ocean navigation.

The Nevada Mountains, on both of their slopes, are covered with a dense forest which extends in places on the west side, on to the plains below.

The Coast range is thinly clothed with timber. The vallies between are fertile and productive wherever the ground can be irrigated, a method of culture which is necessary, owing to the almost total absence of rain in summer.

Fortunately in the principal of these vallies the San Joaquin, the streams are numerous, and on the side of the Sierra Nevada, are ample for the purpose.

East of the Nevada the "Great Basin," is characterised by its sandy and barren plains, by the number and rugged character of the mountains that are scattered over its surface, by its destitution of timber, by the fewness of its fresh water springs and streams, by its containing the Great Salt Lake, and many minor lakes, some salt, and

some otherwise, the most of which have no apparent connection with each other, and none with the sea; a region where the rains are limited and the evaporation so great as to drink up all the moisture, leaving but little for the sustenance of plants or animals.

To this description, the country near the Great Salt Lake where the Mormons are located is somewhat of an exception. In this section there are some fertile strips of land in the valleys, which, if not naturally productive, are made so by the somewhat expensive process of irrigation. Aside from this, the whole of the Great Basin is a dreary and probably irreclaimable desert, supporting but few animals, and a few miserable specimens of humanity, the most abject of the Indian race to be found anywhere in North America.

Thornton, who passed through a portion of this barren waste, speaks of the "destitution of moisture," describes its "sterility and dreariness as fearful, as though a strange curse were brooding over the whole scene."—"A country which has nothing of a redeeming character." "It was enlivened by the murmur of no streams but was a wide waste of desolation where even the winds had died."

Col. Fremont, when struggling through the deep snows of winter on its western border, under the Nevada mountains, was informed by a Christian Indian that "the country directly across to the Great Salt Lake had repulsed, by its sterility all attempts to penetrate it." When traversing, subsequently its eastern limits he states that "fertility of soil and vegetation does not extend far into the Great Basin," that it is "called a desert, and from what he saw of its sterility may be its prominent characteristic." "Humanity there appears in its lowest form," subsisting on "seeds, insects and roots." "The rabbit is the largest animal," and, "the wild sage the only fuel and timber, and the only covering often for the feet and legs in cold weather."

Bryant, who passed centrally through this region, from the Great Salt Lake by the way of Humboldt or Mary's river, to California, thus speaks of it:

"A fine white sand, impalpable almost as ashes mingled with which is a scoriaceous gravel, in some places soft and yielding to the hoofs of our mules, in others baked and compact almost to the hardness of brick, are the leading characteristics of the soil, if soil it can be called." When at the distance of ninety miles the scene is represented as one of "dismal and oppressive solitude," "no voice of animal, no hum of insect disturbing the tomb-like solemnity. All was silence and death. Like the other elements sustaining animal and vegetable life, the winds seemed stagnant and paralyzed by the universal dearth around." A vast plain of 70 to 80 miles in width, which they were compelled to cross, was "utterly destitute of water and of vegetables or any sign that shrub or plant had ever existed above its snow like surface." In other places, wild sage, grease wood, and a few shrubs of smaller size, for the most part leafless, "were the only vegetations, except at long intervals a little grass, these mostly dry, and this only in the immediate vicinity of the few springs to be met with, whose water was often too brackish for use." At the distance of two hundred miles, after taking an extensive view from the summit of a

mountain, he states "that no words can describe the awfulness and grandeur of this sublime desolation." At about three hundred and thirty miles there appeared "little or no variation in the general character of the country and its productions." At 450 miles no improvement. The nearest mountains present the same rugged and barren aspect.

At 575 miles he states that "every thing around is sufficiently cheerless and desolate to depress the most buoyant temperament. The sable and utterly sterile mountains, the barren and wild plain, incapable of sustaining either insect or animal, presents a dreariness of scenery that would be almost overpowering in its influences, but for the hope of more pleasing scenes beyond."

This entire region is supposed at no very remote period to have been under the influence of volcanic fires, and such doubtless is the conclusion which the general character of the surface would seem to justify. But it should be remembered that time can effect but very slight changes in the surface of a country in the absence of rain or moisture, and that this element appears to have been almost entirely wanting in the region in question, and this is one reason probably in common with the milder climate, why the entire country from the eastern slope of the Rocky mountains to the Nevada mountains exhibits indications of volcanic action of a date apparently more recent than is observed in those sections where the rains are frequent and the cold and the frosts at times severe.

The change in the face of nature which in another climate would be effected in a short period, would here take years to accomplish, owing to the almost entire absence of the causes by which such changes are produced.

The region lying south of the Great Basin and west of the Colorado, extending to the Nevada mountains, and in the vicinity of San Diego, approaching near to the Pacific, is less mountainous but equally barren and sterile. Colonel Emory, who was one of the gallant band who accompanied Gen. Kearney in his march to California and whose attention to the physical characteristics of the country, and care and perseverance in determining the astronomical positions, and elevations of numerous points on the route under the privations of a forced march through a hostile and most inhospitable region, is worthy of remark and commendation, says after reaching the mountains west of the Colorado, that the "desert over which we had passed from water to water, is an immense triangular plain, bounded on one side by the Colorado, on the west by the Cordilleras of California, on the south by the Tecati chain of mountains and the Colorado mountains." On the north its boundaries are undefined but he supposes "from accounts of trappers and others who have attempted the passage from California to the Gila by a more northern route, that it extends many days travel beyond the chain of barren mountains which bound the horizon in that direction."

This desert, he states, is "chiefly covered with floating sand, the surface of which in many places is white with diminutive spinelas and every where, over the whole surface, is found the large and soft muscle shell."

The valley of the Gila for at least one hundred miles east of the Colorado appears to be of a similar character. He says that "wherever we mount,

ed to the table lands to cut off a bend of the river, we found them dreary beyond description, covered with black basalt, with a few intervals of dwarf growth of *Larrea*. Now and then a single acacia raised its solitary form and displayed its verdure in the black expanse." Again "the ground as far as the eye can reach is strewn with black shining well rounded pebbles. The *Larrea* even was scarcely seen, and dreariness seemed to mantle the earth. The dust rose in volumes as the party advanced." "The hills and mountains appeared entirely destitute of vegetation." As they approached the Colorado, the table lands and plains were almost entirely of sand." "Sand hills flank both sides of the Gila formed by sand brought down by the winds from the valley of the Colorado," "the course of the Colorado was tracked by clouds of flying sand. West of this great sand plain, in the mountains near San Diego, the country is still destitute of vegetation. When in the midst of the mountains he states that "barrenness and desolation still hold their reign," and that the "barren waste" extends to the very shores of the Pacific.

Col. Fremont who traversed this region from Walkers Pass in the Nevada mountains to the Vegas of Santa Clara, five hundred and fifty miles, also describes it as being little better than a sandy desert, a region of loose, heavy sands, "hot and yellow," in which the traveller "suffers from an intolerable thirst, "where the heated air seems to be entirely deprived of moisture." "A desolate and revolting country, where lizards were the only animals, and the tracks of the lizard eaters the principal sign of human beings." Other authorities concur in giving to this portion of the valley of the Colorado a similar character. This whole region in fact including the Great Basin being nearly or quite destitute of water, is irreclaimable even by irrigation and must forever remain, probably, the Sahara of North America.

The vast region lying to the east of the Great Basin and the southern part of the Colorado, including the Rocky mountains and what has heretofore been designated on the Maps as the "American Desert" on their eastern slope, although not presenting so melancholy and forbidding an aspect as the portion west of the Colorado, is still in a great measure a barren waste, made up of sterile plains, and mountains of naked rock.

Col. Emory whose route was by the way of Bents Fort and Santa Fe, thence down the valley of the Del Norte and across to that of the Gila, states that "the country from the Arkansas to this point (junction of the Gila with the Colorado) more than twelve hundred miles, in its adaptation to agriculture has peculiarities which must forever stamp itself upon the population which inhabits it." "In no part of this tract of land can the rains of heaven be relied upon to any extent for the cultivation of the soil. The earth is destitute of trees and in great part also of any vegetation whatever.

A few feeble streams flow in different directions from the great mountains, which in many places traverse this region. These streams are separated sometimes by plains and sometimes by mountains without water, and without vegetation, and may be called deserts, so far as they perform any useful part in the sustenance of human life. The cultivation of the earth is therefore confined to those

narrow strips of land which are within the level of the waters of the streams, and wherever practised in a community with any success or to any extent involves a degree of subordination and absolute obedience to a chief, repugnant to the habits of our people."

The region thus described is applicable not merely to the portion passed over, but to the whole of New Mexico. The province of Chihuahua in the Mexican territory, and California as far north as the Sacramento, all of which, he states, are, as far as the best information goes, "the same in the physical character of their surface, and differ but little in climate or products."

Col. Emory "made many inquiries as to the character of the vast region of country embraced in the triangle formed by the Colorado of the West, the Del Norte and the Gila." From all that he could learn, this country "does not differ materially in its physical character from New Mexico, except perhaps being less denuded of soil and vegetation.

The sources of the Salinas, the San Francisco, Ariel San Carlos, and Prieto, tributaries of the Gila take their rise in it. About their head waters and occasionally along their courses are presented sections of land capable of irrigation." "The whole extent, except on the margins of the stream is said to be destitute of forest trees."

Farnham who crossed the upper portion of the Colorado valley from St. Vrain's Fort to Salt Lake describes it as a "desert of arid plains and minor mountains," the "great grave of vegetation." The face of the country, even in the valley of Green river is a "dry, barren and undulating plain." He could find nothing in nature from which to derive a pulse of pleasure, nothing "save the vastness of desolate wastes, the tombs of the washings of the floods!" The course of the Grand river, to the point where he crossed it, was nearly due west. From thence, according to Kelly, a man who was familiar with its course and that of the Colorado, it "continued in a west by north course for one hundred and sixty miles where it breaks through the Anahuac ridge." The cliffs at this point on both sides are "several hundred feet high and overhanging within them is a series of cascades which roar like Niagara, when the river is swelled by the freshets of June." After passing this point it moves with a "dashing, foaming current" to where it meets with Green River and forms the Colorado of the West. "From the junction of these branches, the Colorado has a general course from the north east to the south west, of seven hundred miles to the Gulf of California.—Four hundred of this seven hundred miles is on almost unbroken chasm with perpendicular sides hundreds of feet in height, at the bottom of which the waters rush in continuous cascades."

"The country on each side of its whole course is a rolling desert of brown, loose earth on which the rains and dews never fall."

This description, he says, was confirmed by many persons at Fort David Crockett, and sustains fully the general description by Col. Emory.

It is also confirmed by the testimony of Dr. Lyman, who travelled in 1841 from Santa Fe to Upper California. For the first one hundred and fifty miles to the Rio San Juan, the pasture and water were both good upon the mountain sides and valleys. After crossing the San Juan in about lat.

38° N., and continuing along the Grand to the Green River tributaries of the Colorado, he states, that "the country becomes generally sterile and broken in every direction by deep ravines with perpendicular banks, opposing almost insurmountable obstacles to the traveller's progress, compelling him to search many days before he can find a feasible passage."

He states that the water in nearly every instance west of the Colorado to the California mountains, a distance of seven hundred to eight hundred miles, is either very brackish and slimy or so excessively saline as to have, in many instances, a fatal effect on animals and men." In some few instances good water was found. Sometimes the vast barren plains were destitute of any water, having hardly a blade of grass, or a square mile of surface! Occasionally wild sage was found and this and the stems of equally naked bushes, were the only food for animals. Occasionally, also, a few diminutive "canes" and sand grass were found in the dry beds of rivers, "over these dreadful wastes scathed of God, was scattered the wild squash which only served to tantalize the perishing traveller with the remembrance of fruitful fields and pleasant homes."

In journeying down the Colorado the traveller "comes to a spot called Santa Clara where a little herbage and water are found. Near this point the banks rise and the river is buried deep in roaring chasms. The traveller ascends, therefore to a point called the Salt mountain and thence descends to Las Vegas where there are about one hundred acres of salt grass. There a desolate plain commences and extends about one hundred miles, partially covered with loose sand piled into ridges, curiously waved over the general surface and in the ravines, whirled by the winds into a great variety of fantastic forms. These ravines are very numerous and deep, very difficult to ascend and descend; parched caverns into which the drifting sands are driven by the heated winds. On all this plain there is no vegetation except a little salt grass on the margin of a few stagnant pools of brackish and sulphurous waters." From thence to the California mountains the soil was quite hard, the water continued the same and the whole face of the country equally devoid of vegetation.

Such being the general character of the country, the capacity of the several streams for supplying the means for irrigation, becomes an important element in estimating the population which can be sustained within its limits.

Col. Emory measured the Del Norte at Tomi, lat. 36° 48' N. and found it thirty yards wide only at the surface, and averaging less than two feet in depth. This was its entire section on the first of October, except two zequias or channels for irrigation of 9 by 2 feet each, at a place distant three hundred miles in a direct line from its source! At the Pimos village, the waters of the Gila, over three hundred miles from its source were entirely abstracted from their bed by the zequias formed for irrigation! The Great Colorado of the west, at the place where it was forded by Gen. Kearney below the mouth of the Gila was only 1500 feet wide on the 25th of November. Its greatest depth in the channel was only four feet, and it flowed at the very moderate rate of 1½ miles per hour!

Altogether equal to a volume of water two hun-

dred feet wide, and 20 feet deep running at the slow rate of one and a half miles per hour, for the drainage of 80,000 square miles of surface, less probably than *one seventieth part* of the drainage from the same extent of surface on the slopes of the Alleghanies between the same latitudes.

To what degree this amount, small as it is, would be reduced by the increased evaporation and absorption consequent upon the diversion of the waters of the main rivers and their tributaries to any very considerable extent for irrigation, will be left to others to estimate. It will be found, doubtless, that the population which can be sustained will not depend solely upon the extent of surface which is "within the level of the waters of the streams," but will be governed also by the quantity of water which the streams are able to furnish.

Whatever portion of the surface can thus be rendered available, and it must be very limited, it is very certain that the more desirable and accessible regions to the north will be first occupied, and that they will contain and support a population manifold greater on a given surface, whose pursuits will be of a character to contribute in a much greater degree to the support of expensive means of inter-communication.

To be continued.

Prussian Railway Accounts.

The official survey for the year 1852, just published by the Prussian Government, gives a statement of averages, highly interesting to the public, as affording a means of comparing the management of railway business here and abroad. In the subjoined summary the Prussian calculations are reduced to English measure and currency.—Total length of railway, 1803 miles, including 456 miles of double line. Cost per mile £12,852, including £1,556 for locomotives, carriages &c. Maximum £26,720; minimum £6,040. Average number of locomotives, three for every 10 miles; of passengers' carriages, 7; of vans and wagons, reckoned as four-wheeled, 57 per 10 miles of rail. Average run per locomotive in the year, 13,291 miles. Consumption of fuel, 9 cubic feet of wood and 3,250 lbs. of coke per 100 miles of journey. Maximum of wood alone, 310 cubic feet, and of coke alone, 4,529 lbs. per 100 miles of journey. Average distance of passengers' journey, 27½ miles, of transport of goods, 47 8-10. Average passenger's fare, eighty-eight-hundredths of a penny per mile, or 7s. 4d. per 100 miles; average freight per ton of goods, 13s. 5d. per 100 miles; Receipts: for fares and passenger's luggage £561 8s.; for freights of good and cattle, £753 6s.; for sundries, £60 6s.; total, £1,375 per mile of line. Expenses £637 per mile of line. Of this sum, 32 per cent. for superintending the line and stations, 5½ per cent. for directorship and general management, 62½ per cent. for cost of transport. Gross expense equal to 46½ per cent. of gross income. Average cost of superintending line and stations, and of general management and directorship £238 16 s. per mile of line. Average cost of transport, £8 18s. 6d. per 100 miles of journey. Total cost, £15 12s. 2d. per 100 miles of journey. Surplus, £738 8s. per mile of line, or 5½ per cent. of capital invested. Reserve fund, £221 12s. per mile of line. Maximum dividend paid: Magdeburg-Leipsick, 20 per ct.; Upper Silesian line, 10 per ct.

Wheat forwarded over Michigan Central Railroad.

The transportation of wheat over the Michigan Central road for the month of September was 309,537 bushels. The largest shipment, 42,779 bush., was from Kalamazoo; the next, of 28,915 bush., from Jackson. The whole amount moved in September 1852, was 160,049 bushels, showing a gain during the present season of nearly 100 per cent. over that of last year.

Grand Trunk Line of Canada—Political vs. Commercial Routes.

We copy the following correspondence from a recent number of the *Halifax Sun*:

QUEBEC, Sept. 23d, 1853.

To the Hon. Francis Hincks.

My Dear Sir:—The success which has thus far attended our united efforts in promoting the construction of a great line of railway from Lake Huron to the Gulf of the St. Lawrence, induces me not to abandon the hope that we may yet succeed in uniting the Lower Provinces with Canada by a continuation of the Main Trunk Road from Riviere du Loup, through New Brunswick and Nova Scotia, to the Atlantic.

Our acquaintance as you know, began with the Quebec and Halifax project, and my partners feel with me a degree of national pride in endeavoring to carry out that important work, so as to give to Canada and the other Colonies an Atlantic port of their own. I feel assured that, with your able assistance, it may yet be accomplished.

Largely as we are interested in Canadian railways, you know that, for any mere purpose of our own, Portland has a splendid seaport, open at all seasons; but we have a strong desire to see the North American Colonies connected together by a railway through their own territories, terminating at Halifax.

Having just returned from New Brunswick, where I had an opportunity of ascertaining the feeling in that Province, and having there met several of the leading men from Nova Scotia, I have now to suggest a course by which I hope to see the proposed railway constructed.

Nova Scotia and New Brunswick may, I think, be looked to for a subsidy of £20,000 sterling per annum, say £40,000 from both together, for as long a period as would purchase 3½ terminable annuities.

If Canada will vote £30,000 sterling per annum, the Imperial Government would, I have no doubt, contribute a like amount annually and at the same time guarantee the annuities to be created on the strength of the annual amounts so voted.

The Grand Trunk ought to assume whatever surplus might be required to complete the line; if necessary, make any such surplus a preference stock.

In the event of my suggestions meeting the approval of yourself and colleagues, immediate steps should be taken to communicate with his Excellency, the Governor General, and enlist his Lordship's co-operation, which I am sure he will gladly afford, in bringing the matter again under the consideration of the Imperial authorities.

Believe me, my dear sir,

Yours faithfully,

WILLIAM JACKSON.

In connection with the above, is a letter from Mr. Jackson to the Lieutenant Governor of Nova Scotia, in which, referring to the letter addressed to Mr. Hincks, he says—

"I have taken this course advisedly; and hope to work out a great result—unless the Grand Trunk of Canada take up the whole system, Nova Scotia will for years be debarred from making Halifax the great mart of the east—for Maine is unable to make her lines; she can give no State aid, and her cities and citizens are too poor; and British capital can not be got to aid her."

We have frequently taken occasion to refer to the railway movements in the British Provinces, for the purpose of pointing out the danger there was, that the system which they were proposing to themselves would take its character and general features from *political*, rather than *commercial*, considerations, and the disastrous consequences which must result from overlooking the *only safe* guiding principle in the construction of public works.

Railways are purely *commercial* enterprises, and

should be undertaken only when there is a prospect of a direct *remunerative* return upon their cost from their traffic. The inability to show a prospective income, should be taken as a conclusive reason against a project. It is the only rule that can protect the public from loss, and individuals from ruin. People do not build railroads from motives of philanthropy, nor out of kindness to a particular locality, any more than they build ships, and steam engines, without some useful and *profitable* end. A good reason is always *supposed*, though it may not always exist. The chief cause of the success of railroads in the United States, has been owing to the fact, that, as a general rule they have been undertaken precisely as have been other branches of business, and not till a good case of *profit* has been made out. Both the State and National Governments ignore all connection or interference with them, and the people, left entirely free in the premises, act from a sense of *self-interest* alone, which in ordinary affairs is the only safe guide.

In the Provinces, this principle, which has saved the railroad interest of this country, exerts only a limited and partial influence. In the first place, the need of railways is very slight, compared with what is felt in the United States. The settlements in the *Lower Provinces*, are, with a very few exceptions, upon *tide water*. They have already the best possible means for sending their products to market. The settled portion of Canada is confined to a narrow strip of fertile land on the banks of the St. Lawrence, which is now navigable its whole length; so that railroads either in the Upper, or Lower Provinces, would not effect any considerable change in the present routes, or modes, of transportation of property; both of which are well adapted to the wants and convenience of the great mass of the people.

The desire to build railroads in the Provinces, therefore, have not grown out of that urgent and well defined want, which generally lies at the foundation of the projects in the United States. They have been undertaken rather in imitation of this country, than for other reasons. The Provincials, seeing the wonderful progress of their neighbors, naturally ascribed it to the most obvious cause, *railroads*, and have undertaken these works as a means to secure similar results, overlooking the fact that with us, railroads were *results* of causes that only exert a limited force with them. The primary impulse being a different one, it was reasonable to expect that different aims and objects should control the routes, and mode of construction.

As the want of railroads was too little felt to enlist, to any considerable extent, private capital in their construction, the necessity of providing the requisite means, as well as the management of the enterprises, devolved upon the Provincial Government. As governments are not organized for the purpose of engaging in *commercial* enterprises, it is natural that *political* considerations should exert a paramount influence in their management of railroads, as in other affairs. It is not too much to say, probably, that the Grand Trunk line was planned, and is being executed, rather as a political, than commercial measure, as a means of promoting more intimate political and social relations between the Provinces, ending, it was hoped, in the consolidation of the whole into one

government. This, from the first, has been held out to the public, as the grand object of this work, and it is upon the strength of this sentiment, that Mr. Jackson relies for success, in extending the road to New Brunswick and Nova Scotia, around the northern frontier of the State of Maine.

We must expect that the Provincials, lacking these guiding influences which have been the great safeguards in the United States, will commit some pretty serious mistakes. As a government work, a railroad from Quebec to Lake Huron, with a branch to Portland, may be properly undertaken. Economically built and conducted, it may not be an unprofitable enterprise. But the idea of pushing it beyond Quebec, in direction of the Lower Provinces, is the sheerest folly in the world. The arguments in its favor are assumptions without the least truth to support them. They are based upon the idea that the road would constitute the commercial outlet of the Canadas, and make Halifax the great eastern port for all the Provinces. The absurdity of such assumptions will be seen by the fact that, were the road built, flour, which is the great article of export from Upper Canada, could not be sent over it from Montreal to Halifax, for less than two dollars per barrel: while the same could be sent from the former city to New York or Portland for less than one third the sum. It would cost more than double to send it from Quebec to Halifax than to either of the American ports named. All articles of Canadian produce can be sent through the United States, in bond, without being subject to a penny of local taxation or duty. In addition to this, it is well known that the basis of a treaty between the United States and Great Britain has been already agreed upon, which has been sent to England for approval, which provides for free trade between the Canadas and the United States, in all the great staples of the two countries. This treaty will undoubtedly become a law in a few months, so that this country will take the next Canadian harvest, either for exportation or consumption, free of duty. Now when Canadian wheat can be sent to Liverpool, via New York, for seventy-five cents per barrel, we do not believe it will go by way of Halifax, at a cost of \$2 50 per barrel, for the purpose of giving employment to a Canadian road, or for the purpose of building up a Nova Scotia seaport. Commerce is cosmopolitan, and is by no means fastidious about routes, or individuals, but always employs such as accomplishes its objects in the shortest time and at the least cost.

The attempts, therefore, to construct a railroad from Quebec to Halifax, is entirely unwarranted by any commercial want or necessity, and could serve no useful political end. Reciprocity with the United States will effectually supersede all plans for the consolidation of the Provinces. Their great want is free access to the markets of this country. These opened, all arguments in favor of consolidation, or of a more intimate union, will cease to have any influence. They are now listened to, not because they have any soundness in them, but because the present isolated condition of the Provinces lead them to listen to any plans for relief. The natural relations of the Lower Provinces are with the Eastern States: those of Canada with New York. Between themselves there is no substantial bond arising out of

geographical, political, commercial, or social relations.

The through business of a railroad between Montreal and Halifax would be nothing. The local business for the greater part of the distance between Quebec and Halifax, would not pay for the fuel for the locomotives. Upon a portion of the line of about 180 miles, the population does not much, if any, exceed 10,000. Even this pitiful number would contribute nothing toward the support of the road. For a long distance at either end, the road would run parallel to, and near the waters of the River and Gulf of St. Lawrence, which afford much better means for the conveyance of merchandise, than a railroad. That portion of the line removed from navigable waters is of the most sterile character, and incapable of development. In a business point of view, therefore, the project of Mr. Jackson is as utterly chimerical, as would be the building of a road from Quebec to Hudson's Bay. Should the proposed road be made a part of the Grand Trunk, it will inevitably ruin the whole concern. Its stock would not be worth a penny. Should it be constructed as a distinct work, three years would not elapse, before the rails would be taken up, to be applied to some useful purpose.

Personally, we should be very glad to see the proposed road constructed. Having been a resident of the eastern part of Maine, we should take great pleasure in the progress of any work that would tend to develop its resources, as the proposed road could not fail to do. But as a faithful journalist, we are bound to warn the public against a scheme that can only end in loss and disaster. A warning voice is now particularly called for in all enterprises in this country, where Englishmen are the leading parties. Of all foreigners, they understand the least of it, and are the most liable to be imposed upon and deceived. Their maxims and habits of thought will not allow them to learn anything about this country. They never make our system of public works a study, for the purpose of forming a correct opinion of the value of a particular project in which they are solicited to embark. If the scheme be made to look well on paper, (and what one cannot,) and has the endorsement of Hon. Mr. So-and-so, they swallow it with all the gravity that they do their dinner. If it turns out badly, they resign themselves to their ill luck, and never attempt to penetrate the mystery of the failure. Having been bitten through their own fault, they lay down the maxim, that every thing of the kind is bad, and forthwith wind up their investments in that quarter. In the matter of investments in this country, the conduct of the English presents a striking contrast to that of other Europeans. The Germans and French, who are the principal buyers of our securities, make the United States, its political and social condition, its resources, its systems of public works, and the relations they sustain to the wants of the people, the routes and tendency of commerce, subjects of careful and analytical investigation and study. The opinion of Mr. So-and-so may be very valuable, or very worthless, just as he knows something, or nothing. They do not rely upon his opinion, but study the subject on the spot, where it can be only properly studied. They look through one medium only, that of self-interest. Their judgments are not colored by pre-

judices for, or against us. They look only at the evidence in the case. The consequence has been, that they have become our best customers, and have had their pick of our securities. We do not believe that one insolvent security of any railroad company in the United States has been sent to Germany for five years past.

Mr. Jackson and his associates have made a pretty strong dash at this country for new beginners. It would seem to be a dictate of sound sense to close up present risks and see how they are to turn out, before encouraging new ones, the expediency of which are entirely assumed. The point to which they should now direct attention, is to make the most out of the works already undertaken by connecting them, by a line through the State of Maine. The construction of this link is indispensable to the prosperity and the highest usefulness of the roads of both the Upper and Lower Provinces. It would undoubtedly prove a remunerative project. A considerable portion of it would traverse a densely inhabited country, capable of supplying a large traffic, and of contributing largely to the cost of the road. Such a road is the only thing that can save the New Brunswick line. By building it, the contractors of the Grand Trunk will preserve their reputation and their money. By constructing the proposed road from Quebec to Halifax, they will most certainly lose both.

Journal of Railroad Law.

THE RESPONSIBILITY OF COMMON CARRIERS AS AFFECTED BY THE ACTS OF OWNERS.

A common carrier of goods is in the nature of an insurer of such goods as he has undertaken to carry. But he is not so liable unless the goods have been duly delivered to him for transportation, and unless they are left in his possession, without any undue interference on the part of the owner. Yet, when by the acceptance of goods for the purpose of transportation, the carrier has once become legally liable for their safety, he is not discharged, in consequence, of any particular care, once his property, which the owner may have voluntarily assured. Such care must, of course, be assented to by the carrier, and must be bestowed in such a manner as shall not in any way conflict with his general supervision and regulations in regard to the transportation of goods. But the law will not release the carrier from his strict responsibility, unless there have been some unequivocal words, or deeds, on the part of the owner, by means of which, the legal relation of the two parties may fairly be considered to be essentially changed. It sometimes occurs that the consignee of goods takes charge of them on their passage, and before they have arrived at their ultimate place of delivery. In such a case, the risk of the carrier is definitely ended. His responsibility for goods ceases when his control over them ceases.

These remarks were suggested by the case of *Bertram & Co. vs. the New Haven Railroad Company*, lately tried in the Superior Court of this city. In January, 1852, the plaintiff claimed to have delivered to defendants at Albany, 83 head of cattle, to be carried to New Haven. They should have reached their place of destination on Sunday, after the alleged delivery, but did not do so until the following Wednesday. At that time one of the cattle was found to be dead, and three were in such a state that it was necessary to kill

them. The defence set up in an action to recover damages in this case, was, that the cattle had never been actually delivered to the defendants, but that they had let six freight cars to the plaintiffs, at \$35 each, for the purpose of transporting their cattle from Albany to New Haven, under their own care, and that in consequence of a heavy snow-storm defendants had not been able to carry them to New Haven any sooner than they had done. To this it was answered, that had the defendants constructed a temporary platform at New Haven, much delay might have been avoided, and that there was delay before the storm. Judge Bosworth charged the jury, that the cattle certainly did not seem to have been under the exclusive care of the defendants. The plaintiffs were to take care of the cattle and were not to pay freight, strictly so called, but instead thereof, they had hired six of the freight cars for their exclusive use. For any injuries suffered by the cattle in consequence of their having been hooked or trampled upon, while on their way, the defendants could not be considered liable. Whether they had used due diligence in transporting the cattle to New Haven was a question of fact for the decision of the jury. If the defendants had been in this respect guilty of any negligence, they were holden to the plaintiffs therefor. Should the jury consider the defendants to be liable, they should deduct from the gross amount of damages the price due for the use of the cars, and also the value of the killed cattle, whatever that value may fairly be deemed. *Verdict for plaintiffs, \$894.*

RAILROAD RULES.

The Worcester and Nashua, like many other railroad companies, charge 5 cents additional when tickets are bought in the cars, instead of being bought at the station. A passenger in one of their trains, who had previously resisted the rule, lately refused again to pay the 5 cents additional, and was requested by the conductor to leave the train at a stopping place. To this course the passenger interposed a very decided objection, and when a forcible ejection was attempted, he summoned friends to the rescue, and a riot ensued. The obstreperous passenger was prosecuted in Worcester, and fined \$10 with costs.

Virginia.

FINANCIAL OPERATIONS OF THE BOARD OF PUBLIC WORKS.

The Enquirer publishes a synopsis of the financial operations of the Board of Public Works with the State Treasury, during the fiscal year ending 30th September, 1853, transmitted by the Second Auditor to the Governor, in conformity with law. We extract therefrom the following:

The receipts of the Treasury, on account of the Internal Improvement Fund, amounted to \$5,087,428 27; and with the balance on hand, at the commencement of the last fiscal year, made an aggregate of \$5,102,478 23. There was disbursed, during the same period, \$5,010,632 59, leaving a balance in the Treasury, on the 1st of Oct., 1853, of \$91,845 64.

The sum of \$425,947 06 was received on account of dividends, bonus, and interest on the productive investments of the Fund, and premiums on loans obtained. This amount is \$3,341 51 more than was received from the same sources during the year ending 30th September, 1852.

There was received on account of registered and coupon bonds, the sum of \$4,050,486 87.—Deduct from said amount the sum of \$23,500, an investment made by the Board of the Literary

Fund, and \$200 returned—it having been improperly received—and the increase of the outstanding public debt, during the last fiscal year, amounts to \$4,026,786 87.

The aggregate outstanding public debt of the Commonwealth, on the 1st Oct., last, after deducting the amount redeemed, as per exhibit of the Sinking Fund, is ascertained to be \$18,041,775 50.

It is deemed proper here to state, though not mentioned in the annexed statements, that the equated value of the productive investments, held by the Internal Improvement Fund, and the Commonwealth proper, to obtain which the debt of the Commonwealth was incurred, is estimated at \$8,121,500. By equated value is meant that amount, which, at six per cent., yields the revenue of these stocks. Therefore, the outstanding debt of Virginia, on the 1st of October, 1853, less the above value of investments, is \$9,920,275 50.

The disbursements on account of loans to Internal Improvement Companies, to be redeemed in thirty-four years, amounted to \$1,700,900. The sum of \$2,149,552 56 was paid on account of subscriptions and appropriations for purposes of Internal improvement.

The Internal Improvement Fund possesses productive investments amounting to \$5,636,226 30, which is an increase of \$1,993,212 56 over the amount held at the end of the fiscal year for 1852.

The Commissioners of the Sinking Fund, organized under the act passed March 26th, 1853, and in conformity to the 29th section of the 4th article of the constitution; upon principles which insure the payment of the interest, and the gradual extinction of the public debt of the Commonwealth. The establishment of this fund should and must necessarily place the credit of the Commonwealth upon the highest ground. Of the public debt existing on the 1st day of January, 1852, there was authorized to be redeemed certain certificates amounting to \$127,900. Of this amount there has been redeemed \$114,566 67, and the residue the holders thereof have not presented for redemption. The interest upon the amount thus authorized to be redeemed stopped on the 1st August last, the time advertised for its redemption.

The balance in the Treasury to the credit of the sinking fund on the 1st day of October, 1853, is \$13,754 83.

Improvements at the West—Hydraulic Works at Niagara Falls.

Being recently on a leisure excursion at the west, I spent a few days in the neighborhood of that wonder among the natural curiosities of the world—the mighty, majestic Niagara. The tide of fashionable visitors which flows every summer upon this greatly favored locality, had ebbed—the summer birds had departed, and I had room to look around, and ponder upon the wonderful capabilities with which God and nature have endowed this place.

Niagara is fast becoming a business village. Mechanics are building houses and shops, a great number of which are going up, and everything appears to be new and flourishing. I was much struck with the hydraulic canal, which is now in course of construction at the Falls.

The project was started by a few enterprising individuals, who enlisted some influential men in New York city in the project, among them ex-Mayor Woodhull, who is president of the Company. The work appeared to be prosecuted with great vigor and rapidity, and I could not help admiring the energy and industry with which the engineers and contractors devoted themselves to the work, as well as the machinery which was brought to bear upon it. A drilling machine, worked by steam, was of wonderful efficiency in

excavating the earth. It would drill between one and two feet per hour, a six-inch hole, and when the bottom of the canal was reached, a keg of powder was put into the cavity, and an immense amount of rock thrown out by the blast.

I accompanied Mr. Whitney, the chief engineer of the works, and Mr. Avery, one of the leading men at the Falls, over the lauds of the company, which lie between Ontario street and the river's edge, extending nearly a mile along the high bank, below the Falls, a most beautiful spot of ground, containing about seventy-five acres, exclusive of a strip extending entirely across the village, for the canal, which is one hundred feet wide to the river, about half a mile above the Falls. The earth and stone excavated for the canal are taken below to fill up and build out the wharves, which will have sufficient depth of water to float any of the lake vessels or steamers. Here the company will make about five acres of land which must become very valuable, as the river from thence to Buffalo can be made navigable at very little expense. There is an island in the river, a short distance from the mouth of the canal, and a reef runs from the island to the shore a little below the canal, which is so situated that a perfectly safe harbor is formed.

A company was chartered by the last Legislature of New York, for the purpose of constructing a canal to connect lakes Erie and Ontario, and engineers are now on the ground making the necessary surveys, and it is said that the ship canal will, without doubt, start from the Niagara river, but a short distance above the mouth of the canal which is now constructing here—and such a junction would add wonderfully to the business of the Niagara village. Another suspension bridge is to be constructed across the Niagara, about 2 miles below the Falls at Bellevue, where the Great Western and Canada Railroad crosses the river on a suspension bridge. These enterprises, present and prospective, have had the usual effect of public improvements; quite a village has sprung up within a short time, and there can be no doubt that in a few years the whole ground from thence to Niagara village, will be filled with factories, stores and houses, constituting a large and flourishing city, upon one of the most delightful spots in the State of New York. Besides all this, Niagara is one of the most healthful places on the continent.

The west is a mighty country, and the advance of a year there, is equal to the slow march of a century elsewhere.

S. S. R.

Business of Covington, Ky.

The Journal says: The extensive rolling mills of Jordan & Comp., and Morrell, Shoemaker & Comp., are in full blast and worked to their utmost capacity. Hart & Dryer's car manufactory and A. L. Greer & Co.'s locomotive works will soon be in full operation. These four establishments will give employment to about one thousand persons. In addition there are numerous tobacco factories, planing mills, saw mills, glass works, bagging factory, foundry, &c., all, we believe, at work and doing good business. By the first of January next the principal streets of the city will be lighted with gas, and about the same time the splendid suspension bridge which is to connect us with Newport, will be completed. Added to all we have the Cov. and Lex. railroad, which, with 38 miles in operation has already sensibly affected the business of the city; and which, as it stretches itself south, making the im-

portant connections contemplated, will add vastly to the business and general prosperity of Covington.

American Railroad Journal.

Saturday, December 10, 1853.

English and American Railroads.

Below will be found a statement presenting in contrast, the cost, earnings, and ratio of earnings upon their cost, of several English and American roads. We have taken the leading, and we believe some of the best paying English lines. The American roads in the table may be considered as a fair average of the best class roads in this country. The earnings of the former are averaged from the earnings of the last week in October, and are probably very nearly correct. The English, is reduced to Federal currency, by estimating the pound at five dollars.

Comparative statement showing the mileage cost, earnings for October, per cent. of earnings for October, and market value, of several English and American Railroads:

Name of Road.	Miles in operation.	Cost.	Earnings in October.	per cent. Market value.
AMERICAN.				
New York and Erie.....	497	33,070,863	552,995	.01670
New York Central.....	604	33,855,423	555,945	.01642
New York and New Haven.....	61	4,978,487	93,252	.01873
Hudson River.....	144	10,527,954	153,352	.01456
Michigan Southern.....	317	6,888,794	220,804	.03205
Michigan Central.....	280	8,614,193	200,163	.02323
Total American.....	1,803	97,930,419	1,776,417	.01814
BRITISH.				
London and North Western.....	553½	149,245,805	1,089,805	.00730
Great Western.....	319½	90,650,135	465,495	.00514
Great Northern.....	283	53,792,390	415,710	.00771
South Eastern.....	288¼	61,720,260	385,819	.00626
York and North Midland.....	682	93,738,680	623,131	.00665
Eastern Counties.....	322	79,475,345	408,859	.00519
Midland.....	498¾	92,298,825	545,941	.00591
Total British.....	2,917	610,930,340	3,904,791	.00639

It will be seen that taking the above roads as a standard, railway investments in the United States are three times as productive as in Great Britain.

The earnings of American railroads for October, are slightly above the average for the year. We do not know whether such be a fact with English roads.

The cost of American roads is not fairly represented in the above statement. Of the total cost of the New York Central R. R. \$8,885,000 was a bonus payable in bonds divided among the Stockholders, and added to the capital account, by the terms of the recent consolidation of the various companies which make up that line. Previous dividends of a similar character had been made by the several roads. A portion of the consolidated stock is for contemplated roads, and is not yet paid in; so that the actual cost to the Stockholders of the above road, will not exceed \$18,000,000. This road is probably earning more than \$3 per

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	80
Androscoggin and Kennebec.. "	55	809,878	1,016,500	2,064,458	140,561	80,053	none	30
Kennebec and Portland..... "	72	962,621	291,80	2,514,067	168,114	100,552	none	41
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	6	97	24
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,256	none	35
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	104½
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	48
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47½
Northern	82	3,016,634	none.	3,016,634	328,782	163,075	5	88
Manchester and Lawrence.... "	24	717,543	none.	717,543	132,545	51,513	6½	109
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	none
Portsmouth and Concord.... "	47	none.	1,400,000	1,400,000	673,500	none	none	21
Sullivan	26	1,097,600	550,000	1,745,516	495,397	266,539	none	33½
Connecticut and Passumpsic.. Vt.	61	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Rutland	120	8,500,000	3,500,000	12,000,000	1,500,000	Leased to the Vt. C.	none	13½
Vermont Central..... "	117	47	1,500,000	1,500,000	Recently opened.	opened.	none	100
Vermont and Canada..... "	47	392,000	700,000	1,092,000	388,108	130,881	7½	92½
Western Vermont..... "	51	24	none.	1,995,249	659,001	338,215	7	103½
Vermont Valley..... "	24	28	1,830,000	1,995,249	469,656	227,434	6	87½
Boston and Lowell..... Mass.	83	4,076,974	150,000	4,092,927	758,819	331,296	7	101½
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	30,056	30,056	2½	45
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	229,004	72,028	5	55
Cape Cod branch..... "	28	421,205	171,800	633,906	488,793	241,017	7½	91½
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,445	99,589	8	106½
Eastern	75	2,850,000	500,000	3,320,391	574,574	232,787	6	96½
Fall River..... "	42	1,050,000	none.	1,050,000	164,230	43,950	7½	117
Fitchburg..... "	66	3,540,000	112,305	3,623,073	67,251	23,415	none	60
New Bedford and Taunton... "	20	500,000	none.	520,475	101,510	101,510	none	90½
Norfolk County..... "	26	547,015	819,743	1,245,927	24,399	8	8	131
Old Colony..... "	45	1,964,071	282,300	2,293,534	18,648	66,900	4½	59½
Taunton Branch..... "	12	250,000	none.	307,186	137,406	24,399	8	97½
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	110,892	6	65
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	68,194	6½	118½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6	102
Stonington..... R. I.	50	467,700	467,700	935,400	240,572	110,892	6	65
Providence and Worcester... "	40	1,457,500	300,000	1,781,498	253,680	139,514	6	65
Canal..... Conn.	45	922,500	500,000	1,400,000	639,529	294,269	10	118½
Hartford and New Haven.... "	72	2,350,000	800,000	3,150,000	329,041	168,902	none	none
Housatonic..... "	110	none.	2,500,000	2,500,000	69,629	none	none	none
Hartford, Prov. and Fishkill.. "	50	558,861	800,000	1,511,111	114,410	428,173	7	102
New London, Wil. and Palmer "	66	3,000,000	1,641,000	4,978,487	806,713	428,173	7	102
New York and New Haven.... "	61	926,000	440,000	1,366,000	1,380,610	Recently opened.	none	52
Naugatuck..... "	55	750,500	650,000	1,380,610	267,561	116,965	4½	58
New London and New Haven. "	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	58
Norwich and Worcester..... "	91	900,000	1,550,000	2,550,500	Recently opened.	none	none	85
Buffalo and New York City.. N. Y.	132	879,636	872,000	1,921,270	Recently opened.	none	none	130
Buffalo, Corning and N. York. "	69	none.	872,000	1,921,270	Recently opened.	none	none	130
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	none	none	130
Canandaigua and Niagara F.. "	50	425,509	582,400	987,627	76,760	39,360	none	68
Canandaigua and Elmira..... "	47	687,000	400,000	1,070,786	74,241	23,496	none	none
Cayuga and Susquehanna.... "	35	10,000,000	24,003,865	33,070,863	3,537,766	1,691,623	7	81½
Erie, (New York and Erie).... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	67½
Hudson River..... "	130	4,725,250	977,463	6,102,935	681,445	324,494	5	56½
Harlem	95	1,875,148	516,246	2,446,391	205,068	44,070	none	30½
Long Island..... "	504	28,085,600	10,773,823	33,859,423	480,137	195,847	none	115½
New York Central..... "	118	1,579,969	2,969,760	5,183,834	480,137	195,847	none	29
Ogdensburgh (Northern).... "	35	350,000	201,500	607,803	90,616	43,009	4	70
Plattsburg and Montreal.... "	23	174,042	181,000	349,775	Recently opened.	none	none	none
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	none	none
Rutland and Washington.... "	60	850,000	400,000	1,250,000	Recently opened.	none	none	none
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,515	135,017	none	30
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently opened.	none	none	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently opened.	none	none	none
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	94
Camden and Amboy..... N. J.	65	1,500,000	none.	4,327,499	1,388,285	478,413	10	145
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	4	none
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	none
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	none
Erie and North East..... "	20	600,000	none.	750,000	Recently opened.	none	none	125
Harrisburgh and Lancaster.. "	36	880,100	718,227	1,702,523	265,827	106,820	8	none
Philadelphia and Reading.... "	95	6,658,382	10,427,800	17,141,987	2,480,626	1,251,987	7	81½
Phila., Wilmington and Balt. "	98	3,850,000	2,403,276	6,813,639	697,785	383,601	8	78

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	95
Philadelphia and Trenton.... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	102½
Baltimore and Ohio..... Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,884	7	56½
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,237	8	....
Baltimore and Susquehanna.... "	57	.....	.....	.....	413,673	152,536	....	....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	70
Richmond and Petersburg..... "	22	685,000	.....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac..... "	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side..... "	62	1,357,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central..... "	107	1,400,100	446,036	In prog.	176,485	74,902	none	61
Virginia and Tennessee..... "	60	3,000,000	1,500,000	In prog.	.....	.....	none	98
Winchester and Potomac..... "	32	180,000	120,000	416,532	89,776	.....	12	....
Wilmington and Raleigh..... N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	....
Charlotte and South Carolina. S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia..... "	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester. "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia..... "	211	4,000,000	1,214	.....	934,424	456,468	7½	.....
Macon and Western..... "	101	1,214,283	168,000	1,536,283	296,584	153,697	9	109
Muscogee..... "	71	.....	.....	In prog.	.....	.....	.....	.....
South Western..... "	50	586,887	150,000	743,525	129,395	71,535	8	....
Alabama and Tennessee River Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston..... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point. "	88	688,611	.....	1,330,960	173,542	76,079	8	....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia. Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.... "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington..... Ky.	38	1,430,150	900,000	In prog.	.....	.....	.....	62½
Frankfort and Lexington..... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort..... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh..... Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, and Erie..... "	95	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus..... "	135	3,027,000	408,200	3,655,000	777,793	483,454	12	124
Columbus, Piqua and Indiana. "	46	.....	.....	2,000,000	.....	.....	.....	80
Columbus and Lake Erie..... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton "	60	2,100,000	500,000	2,659,653	321,793	200,967	.....	106
Cincinnati and Marietta..... "	.....	.....	.....	In prog.	.....	.....	.....	72½
Dayton and Western..... "	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	60
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,370,784	.....	2,634,157	526,746	314,670	10	113
Mansfield and Sandusky..... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	90
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	87
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley... "	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd "	87	552,000	800,000	1,317,140	Recently opened.	.....	.....	93
Xenia and Columbus..... "	54	1,092,137	119,500	1,257,714	237,506	135,363	15	116
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	90
Indiana Northern..... "	131	.....	.....	.....	Recently opened.	.....	.....	115
Indianapolis and Bellefontaine "	83	.....	.....	.....	.....	.....	.....	166
Lawrenceburg and Ind..... "	90	.....	.....	In prog.	.....	.....	.....	77
Lafayette and Indianapolis.... "	62	.....	.....	.....	Recently opened.	.....	.....	82
Madison and Indianapolis..... "	88	1,650,000	750,000	2,400,000	516,414	268,075	10	78
Peru and Indianapolis..... "	40	.....	.....	In prog.	.....	.....	.....	65
Terre Haute and Indianapolis "	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago..... Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi..... "	135	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central..... "	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago..... "	92	1,932,361	500,000	In prog.	473,548	286,152	.....	122
Michigan Southern..... Mich.	315	2,800,000	2,829,000	6,480,248	592,187	298,046	.....	120
Michigan Central..... "	282	4,000,000	4,067,396	8,614,198	.....	.....	8	109½
Pacific..... Mo.	38	1,000,000	none	In progress	Recently opened.	.....	.....	.....

cent. upon its cost, though only about 80 per cent. upon its capital. The actual cost of the Erie road has not, we presume, exceeded \$20,000,000. The balance has been sacrificed by the unfavorable circumstances under which the road has been constructed. In each of the above roads there are probably \$13,000,000 of what may be termed dead capital.

A comparison of the roads of the two countries shows a much more active internal commerce in the United States, and a much greater movement of persons, than in Great Britain. For the transportation of freight, the three great New York roads, the Central, Erie, and Hudson River, come in direct competition with the Erie Canal and Hudson River. The value of freight passing over the canal the present year will reach, at the lowest calculation, \$225,000,000. The tonnage will reach nearly 3,000,000 tons. The tolls on the canals will exceed \$3,300,000. The traffic of the Hudson River road in the summer months is confined chiefly to passengers. The proportion of freight received from the carriage of passengers, and merchandize upon the roads of the two countries, is very nearly the same.

To Americans, the cost of English roads appears to be excessive and very disproportionate to their traffic. As commercial enterprises they have not proved profitable. We presume, however, that the indirect benefits derived from them, have compensated, in some degree, for the losses suffered in construction. In this country we have been more fortunate, in keeping steadily in view, the great object in the construction of railroads—a remunerative return upon their cost. If we have not such fine works as are found in England, we have the satisfaction of knowing that they have enriched, instead of impoverishing the country; and that our entire railway investment is earning more than 7 per cent. net, upon the cost of our roads.

Michigan Southern Railroad.

We publish this week the recent report of this Company, to which we invite attention. It presents a full, lucid, and favorable, but we think, not an overdrawn statement, of the affairs and prospects of the road. The route occupied by it, is one of the most important in the United States, in a business and commercial point of view.

In the hands of the present directors, the management of the Company's affairs has been characterized by extraordinary energy and capacity, and the result obtained is one which has rarely been equalled by any similar work in this country.

Correction.

In the "Mileage of Engines of New Haven road," published in the Journal of the 3d inst., read 132, instead of "61 miles of road, operated by the New York and New Haven Railroad Company." Also, in same article, at the head of the right hand column of figures, read first nine months in 1853. Engine No. 1, in same column, ran 28,853 miles; No. 2, 19,857 miles. No. 10, in 1851, ran 17,135 miles. z. c.

We regret to be compelled to exclude a number of articles from our present issue, on account of the length of the one on the Pacific Railroad. Our readers must accept the paramount interest and importance attached to this subject, as a sufficient apology for the space it has occupied in our columns for a few weeks past.

Report of the Directors of the Michigan Southern and Northern Indiana Railroad Companies.

The Directors of the Michigan Southern and Northern Indiana Railroad Companies, in presenting this report to the stockholders, deem it proper first to explain the connection that exists between the two companies.

It will be seen, by reference to the accompanying map, that the combined roads extend from Lake Erie through portions of the States of Ohio, Michigan, Indiana and Illinois, to the city of Chicago, forming a continuous line. The part of the road which is in the State of Michigan has been built by the Michigan Southern Company, under a charter granted in that State; and the portion of the road extending from Toledo, directly west through Ohio and Indiana, to Chicago in the State of Illinois, has been and will be built under the charter of the Northern Indiana Company, by authority from said States respectively.

The business to be provided for is in its nature so intimately blended, that it is a necessity, in order to its convenient management, to regard the lines as essentially one; and it would be a convenience to consolidate the companies, and their stock. But authority to do this has not yet been obtained.

A contract has, however, been made between them, having for its object the most efficient and convenient transaction of business. The contract provides, among other things, that the general management of the business in the operating department shall be conducted by the same executive officers and agents. This was necessary in order to secure the most systematic and efficient transaction of the business required to meet the wants of the public, and promote the interests of the stockholders.

By the contract referred to, each company shares in the net earnings of the entire line, according to its respective capital invested in the construction of the road. While, therefore, the companies have each their own capital stock and organization, and are distinct corporations in every respect, co-operating together only by agreement, to simplify the transaction of business and promote their mutual interest, yet, by virtue of this agreement, the different roads are managed and operated as one line. The shares in each company are entitled to the same rate of dividend of the net earnings of both companies: a practical consolidation of the business of the road is thus established.

These preliminary remarks will explain the propriety of treating of the business of the two companies in a joint report. Indeed, their history, interests and business are so closely connected, that it is not convenient to discuss them separately, and this method is regarded as best adapted to give the stockholders of the respective companies an intelligent view of their history and condition.

In September, 1849, soon after the present organization of the Michigan Southern Company, a statement was submitted to the stockholders by the Board of Directors, exhibiting the condition of the road, and the finances of the Company, and soliciting a new subscription of a quarter of a million of dollars, to provide means for extending the road west from Hillsdale. A portion of the stock was subscribed, and in the spring of 1850, the line from Hillsdale to Coldwater, a distance of 22 miles, was put under contract. The road then in operation from Monroe to Hillsdale, a distance of 69 miles, was that originally constructed by the State of Michigan, and had a wooden rail, covered by a flat iron bar. The Tecumseh Branch, 9 miles in length, was also owned by the Company. The Company had leased the Erie and Kalamazoo Railroad, extending from Adrian to Toledo, in length 33 miles; making a total of 111 miles then operated by the Company, all of flat bar construction. In the original grading of these roads, for the most part, the crossing of the valleys was by bridges of timber, the greater portion of which were in a decayed state, and the roads were, generally,

in a bad condition. The whole have since been re-laid with heavy rail, and the valleys mostly filled with permanent embankments, with new bridges and culverts for the streams and water courses. Very little Station accommodation was made in the original construction. It was therefore necessary to incur heavy expenses to put this portion of the line in good order.

In the summer of 1850, the line was put under contract from Coldwater to Sturgis, about twenty-three miles. This made the line of contract for new work, forty-five miles, from Hillsdale to Sturgis: of this the road was opened for use to Jonesville, (5 miles,) in September; to Coldwater, (22 miles,) in December; and to Sturgis, (45 miles,) in March, 1851. No more work was put under contract during the year 1850.

Some delay was experienced in settling the location of the line west of Sturgis, and contracts were not made until May, 1851, for the balance of the road in Michigan.

During the winter and spring of 1851, the Indiana road was put under contract.

The Michigan road was opened to White Pigeon the latter part of July, 1851. The Northern Indiana road was opened in successive stages, during the autumn of 1851, to South Bend; and on the 9th of January, 1852, to La Porte. In February, 1852, the road was opened from Michigan City to Ainsworth's Station, in Illinois, and to Chicago in March following. The connection between La Porte and Michigan City was by plank road, 13 miles in length.

On the 22d of May, 1852, the entire line was opened, and a passenger train went through to Chicago.

A large portion of the track was laid in the very severe winter of 1851 and 1852, and consequently was in poor order, and had to be run with care. The work of adjusting and ballasting the track, with the road in operation, involved a heavy expense. This work, as well as the improvement of the old portion of the road, would have been much less expensive, if, during its progress, the ordinary traffic of the road could have been suspended; but, under the circumstances, this was inadmissible.

In the space of about twenty months, embracing two winters, (one of these peculiarly severe for such work,) and one summer, the Companies constructed about (160) one hundred and sixty miles of new road, and re-laid, and nearly re-built, fifty (50) miles of old road. The construction of a line of railroad of this length, in so short a time, is believed to be without precedent.

Many of the stockholders will recollect the difficulty of procuring subscriptions to the stock: the Directors had strong confidence in the success of the undertaking, but the general feeling of capitalists was distrust of western investments, and very few were disposed to hazard any considerable amount in the undertaking. In addition to this, the financial crisis of 1851 came at a time most embarrassing to the affairs of the companies. During the whole progress of the work they encountered an active hostility which was directed against their credit, assailing their securities, discrediting their finances, and, as far as possible, impairing the confidence of those engaged in the work. It is sufficient at this time to say, that all obstacles were surmounted, active progress maintained, and the work brought into use with unprecedented rapidity.

For the most part, the way stations have been well provided with buildings for the accommodation of passengers and freight, especially on the new portion of the line. On the Michigan Southern road, at Adrian, and on the Northern Indiana road, at La Porte, there are substantial brick shops, roofed with tin, and filled with the most improved machinery driven by stationary steam engines, for repairs of engines and cars.

At Toledo and Chicago there is yet a good deal to be done, to provide the accommodations required for the increasing business of the road. At Chicago, lands have been procured to establish a station in a more central position in the city, and

the buildings will soon be commenced. At Toledo, the Northern Indiana Company have commenced preparing land, docks, warehouses and buildings, for a very commodious station, adapted to the large and increasing business of the road at its eastern terminus, and for the accommodation of connecting roads. At Monroe pier, large expenditures have been incurred, and convenient accommodations provided.

Very active operations have been going on since the early part of this season, in ballasting the road, in filling embankments where temporary bridges had been put in, and widening those that had settled. Owing to the rapid construction, the banks had not time to become well settled until after the road was opened for use. At this time nearly all the old bridges over the water-courses have been superseded by new ones, and the remainder of the valleys filled with substantial embankments. The road bed and track are now in good order, though further work in ballasting will be required. The trains now run from Chicago, through, to Monroe and Toledo, in eight and a half (8½) hours, with great regularity; and this time may be reduced, at an early day, to eight (8) hours.

LENGTH OF ROADS.

The length of roads of the companies is as follows:

Maine Line.

Main line of the Michigan Southern Road.....	133 Miles.
Main line of the Northern Indiana Road.....	118 "
	246 Miles.

Branches.

Tecumseh Branch.....	10 Miles.
Constantine Branch.....	4 "
Erie and Kalamazoo.....	33 "
Michigan City Branch.....	14 "
Goshen Branch.....	10 "
	71 Miles.

Total miles..... 317

STOCK OF ROOLING MACHINERY.

There are now on the road, as follows:

Locomotive Engines.

	6 of 16 tons.....	4½	feet Drivers.
12 "	18 "	4 to 5	" "
6 "	20 "	6	" "
5 "	21 "	4½	" "
6 "	22 "	5	" "
6 "	25 "	6	" "
3 "	25 "	4½	" "

Total, 44

In addition to the above, there are eight (8) engines of the old class, mostly used for ballasting, and hauling wood and lumber.

Contracts have been made for four more engines, of twenty-five tons each, to be on the road during the month of September next.

CARS.

The companies now own passenger and freight cars as follows:

Passenger Cars.

38 first class passenger cars.
8 second "
13 emigrant "
12 baggage cars.
5 post-office cars.

Total, 76 cars, in passenger and post-office department.

Freight Cars.

40 cattle cars, open racks.
99 platform cars.
303 house "

Total, 442

Each car, both in the freight and passenger departments, has eight wheels.

In addition to the above, there are contracted

for, four first class passenger cars—also twelve emigrant cars, and one hundred and twenty-five house freight cars, which are beginning to be delivered, and are expected to be all on the road by the middle of September next. When these are added to the present stock, there will be in the passenger department, ninety-eight (98) cars, and in the freight department, five hundred and sixty-seven (567) cars.

The prospect now is, that the stock of engines and cars will hardly be sufficient for the business of the ensuing autumn. The country along the line of road is fast improving in the extent of land brought under cultivation, and the population is increasing rapidly. Probably there is less than one-third of that part of the country which constitutes the local districts for the business of the road, now under cultivation, or occupied as farms. It is therefore obvious that a large resource for local trade is yet to be developed, by the progressive settlement of lands now occupied.

BUSINESS OF THE YEAR, ENDING JUNE 30th, 1853.

The amount of business done by the companies, for the year, appears from the Treasurer's Report hereto annexed, and is as follows:

The gross earnings of the companies, from their first year operations, have been.....	\$1,200,922 11
The operating expenses, (including taxes and rent of Erie and Kalamazoo railroad,) have been.....	579,635 30

Leaving nett earnings.....	\$621,286 81
From this amount are to be deducted—	
Interest account.....	\$212,265 97
Extraordinary expenses incurred in forming the Boat connections upon the Lakes, during 1852.....	34,357 86
	<u>246,623 83</u>

Leaving, as the actual nett profit for the year.....	\$374,662 98
This is equal to 14 per cent. upon the average amount of capital stock, during the year.	

The Treasurer's Report also exhibits the state of the Income account, as follows:

July 1, 1852. Balance at credit of this account, at this date.....	\$49,614 70
Gross earnings for the year, (as above stated,).....	1,200,922 11
	<u>\$1,250,536 81</u>
Less, operating and expense account.....	\$579,635 30
Less, interest account.....	212,265 97
Less, extraordinary expenses for Boat connection.....	34,367 86
	<u>826,269 13</u>

Jan'y, 1853. Semi-annual dividend of 5 per cent. upon the then amount of the capital stock of the companies.....	124,970 53
	<u>\$124,277 68</u>

July, " Balance at credit of this account.....	\$299,307 15
" " A semi-annual dividend of 7 per cent. upon the capital stock, at this date, (\$2,800,000,) has been declared, amounting to.....	196,000 00

Leaving at credit of account.....	\$108,307 15
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JACKSON BRANCH.

The charter incorporating the Michigan Southern Company, makes it the duty of the Company to extend the Tecumseh branch to the village of Jackson, on the line of the Michigan Central Road. This work the Company deferred until the main line was through. Shortly after this, and during the summer and autumn of 1852, they caused surveys to be made, with a view to establish the proper line, and have recently put the work under contract. The work of relaying the Tecumseh branch, and its extension to Jackson, is now commenced. The length of this branch, from the main line to Jackson, is about forty-one (41) miles.

The road, ballasted and fenced, with full stock of cars, engines and stations, in complete order for use, it is estimated, will cost about \$800,000, equal to about \$19,000 per mile. To provide the necessary means for the construction of this branch, new stock has been issued and distributed among the stockholders to the amount of \$350,000, and an issue of bonds of the Company to the amount of \$500,000 has been authorized, to be secured by a mortgage upon this branch road, to bear interest at seven per cent., and payable in 1855.

It is probable this road will be eventually extended northerly from Jackson, through Lansing, (the seat of government for the State of Michigan,) to the northern part of the State, and it will no doubt be an important feeder to the main line.

There is also a road now being constructed by the St. Joseph Valley Railroad Company, from the Michigan Southern Railroad, at Constantine, to the village of Three Rivers, (a distance of about eight (8) miles,) which probably will be brought into use in October next. From Three Rivers, this road will doubtless be extended northwards at no very distant day; it will ultimately reach some point on the eastern shore of Lake Michigan, and, together with the road through Jackson, will greatly increase the business of the main line of the Michigan Southern Road.

DIRECT LINE FROM TOLEDO TO GOSHEN.

In looking forward to such measures as might ultimately be necessary to secure the best line of railroad between the head of navigation on Lake Erie and Chicago, the Directors of the Northern Indiana Company early obtained corporate rights to make a direct line of railroad from Toledo, in Ohio, connecting with their line in Indiana, and with these, to consolidate the line in Ohio and Indiana under one company. Extensive surveys were made, last season, to determine the best location between Toledo and Goshen. The result has been the establishment of a highly favorable line, varying in length, between the two points, not over two per cent. from an air (or direct) line. The bend in the line is all southwards, making a considerable departure from the present road, and thereby less affecting its local trade, while the best "through" line is secured. The total length of the line from Toledo to Goshen is one hundred and twenty-two (122) miles. There are but four curves on the whole line. There is one straight line seventy (70) miles in length. The maximum grade, going west, is twenty feet to the mile and going east ten feet to the mile. Estimated cost, (including stations and rolling stock,) two and a half millions of dollars, or about twenty thousand dollars per mile.

To provide the means necessary for the construction of this new line, an issue of stock to the amount of \$1,050,000 has been made, and distributed among the existing Stockholders; and an issue of the bonds of the Company has been authorized, to the amount of \$1,500,000; the bonds to be secured by a mortgage of the new road, to bear interest at seven per cent., and to be payable in 1868.

The Ohio and Indiana Companies have been consolidated under the name of the Northern Indiana Railroad Company.

Seventy miles of the road from Toledo, westward, has been put under contract, and the work

is now commenced. The remainder is advertised for contract, and proposals will be received on the first of September next. The rails are now arriving, and will go forward so as to commence laying the superstructure by the first of October. It is the intention of the Board to have the direct line opened by the close of next year. This line passes through a fine district of country, and will be equal to any, of the same extent, in supplying freight and passenger business for the road. It is very well settled, for a new country, and the opening of the road will cause its improvement to increase rapidly.

From what has been said, it will be seen the direct line will be highly favorable as to grades and alignment, and may be run with as high speed as any other road. It will reduce the distance from Chicago to Toledo to two hundred and thirty-one (231) miles, and from the highly favorable character of the line, it may be run in about six hours.

At a point 70 miles west from Toledo, this line is intersected by the Logansport and Northern Indiana Railroad, now in progress of construction. This road is about 90 miles in length, and gives the Northern Indiana Road a connection with the Valley of the Wabash at Logansport. Surveys are now being made to extend the line southwest from Logansport, to form a connection with the Terre Haute and Alton Road at Paris, in Illinois. This will make the most favorable route to connect the navigation of Lake Erie with the Mississippi at Alton and St. Louis, and cannot fail to accumulate a very large business on the eastern section (of 70 miles) of the Northern Indiana Road.

CONNECTIONS WITH OTHER ROADS.

Favorable arrangements have been made at Toledo for connection with the Cleveland and Toledo Road. At Cleveland there is a connection, by the road along the shore of the lake, with Erie, Dunkirk and Buffalo. By the New York and Erie Road, the Buffalo and New York City Road, and the New York Central Road, there are now continuous railroad connections over your line between Chicago and New York and Boston. The line from Cleveland to New York, via Pittsburgh, it is supposed, will be complete in a few months. The Cleveland and Mahoning Road is now in progress of construction from Cleveland, to intersect the Pennsylvania Central Road at or east of Blairsville. This road is of the same gauge as the Michigan Southern and Northern Indiana Roads; and, when it is completed, there will be a continuous line from Chicago to New York, to Philadelphia, and to Baltimore, of uniform gauge. The Erie and Sunbury Road, with its connections, will make another route by which your road will have connection with New York and Philadelphia.

The distances, by the Northern Indiana Road, from Chicago to New York, by several railroad routes now open, and that will be open in a short time, are as follows:

By way of Buffalo and Albany.....	959 miles.
By way of Buffalo and New York City and New York and Erie.....	941 miles.
By way of Dunkirk and New York and Erie.....	936 "

* From Chicago to Toledo.....	231 }	334 miles.
" Toledo to Cleveland.....	103 }	
" Cleveland to Buffalo.....	183 "	
" Buffalo to Albany.....	298 "	
" Albany to New York.....	144 "	

Total (Chicago to New York) as above 959 miles.

† From Chicago to Buffalo (as above).....	517 miles.
" Buffalo to Hornellsville.....	91 "
" Hornellsville to New York.....	333 "

Total, (as above)..... 941 miles.

‡ From Chicago to Cleveland, (as above).....	334 miles.
" Cleveland to Dunkirk.....	112 "
" Dunkirk to New York.....	460 "

Total, (as above)..... 906 miles.

By way of Mahoning line from Cleveland &.....	869 "
By way of Erie and Sunbury, (a line that may be expected in a few years,) uncertain; but will probably be not far from.....	880 "
The distance by way of the Michigan Central and Canada route, when completed, will be &.....	961 miles.
The detention by the Detroit ferry will be equivalent to (at least).....	20 "
The suspension bridge over the Niagara will cause detention, as, most probably, the trains will require to be broken up in passing it, and can hardly be less, reckoning by time, than equivalent to (probably doubly this)..	10 "

991 miles.

From the above it appears that the Northern Indiana route to New York or Boston, via Albany, is 32 miles shorter than the route by the Michigan Central and Canada Roads. The allowance for the detention by the ferry at Detroit, which is equivalent to adding so much of the length of the route, will be considered moderate by railroad men. It is not probable that a suspension bridge of 800 or 900 feet span will have the stability necessary to give the confidence to travellers that will permit trains to pass over unbroken, and a detention of twenty minutes, to break up a train, get it over the bridge and make it up again, cannot be regarded as extravagant, and will most probably be found too low an estimate for the time required. It is obvious, too, that some allowance should be made for the fact, that this route lies, for a portion of the way, through the territory of a foreign government, and must, therefore, be exposed to delays and detentions, resulting from police and custom house regulations. It is therefore believed to be a moderate estimate to put the detention by the Detroit ferry and the Niagara suspension bridge as, in time, making thirty miles in the distance of travelling.

The Northern Indiana Road, from Chicago to Toledo, will be decidedly superior to the Michigan Central Road in grades and alignment, and may be run with higher speed. The road along the south shore of Lake Erie cannot be considered as inferior to the Canada road in the same respects; it will be much less liable to incumbrance, in the winter, from heavy drifting snows, and will have no ferry to be embarrassed by floating ice, as may be expected in the Detroit River. Without regard to other considerations, it must appear from the above that the Northern Indiana Road will have no competitor of equal facilities in communication between Chicago and New York, or Boston, via Albany; but that, by way of Buffalo and Albany and the Hudson River Road, it will be 32 miles shorter than by the Michigan Central and Canada route. On the same principle, by the New York and Erie, via Buffalo and New York City Roads, the Northern Indiana line will be 50 miles—via Dunkirk and New York and Erie, 55 miles—and via Mahoning and Central Pennsylvania Roads, 122 miles, shorter distance to New

† From Chicago to Cleveland (as above).....	334 miles.
" Cleveland to Blairsville.....	172 "
" Blairsville to Dauphin.....	187 "
" Dauphin to New York (by way of Allentown and Easton).....	175 "
Total, (as above).....	869 miles.
§ From Chicago to Detroit.....	283 "
" Detroit to Niagara, via Canada.....	228 "
" Niagara to Albany.....	306 "
" Albany to New York.....	144 "

Total, Chicago to New York, (as above) 961 miles.

York than the route by the Michigan Central and Canada Roads.

The superiority of the Northern Indiana Railroad route over the last named, for connection with Philadelphia, Baltimore and Washington, leaves no room for competition. The distance from Chicago to Philadelphia will be (by Northern Indiana, Cleveland and Central Pennsylvania roads) over 200 miles shorter than by the Canada and Michigan Central route. A glance at the map shows that the route from Chicago, via Toledo and Cleveland, is very direct to Philadelphia and New York. Aside, however, from the question of distance and time of traveling, there are other considerations of great importance that will largely control the course of travel. Between Chicago and Buffalo, the Northern Indiana and Lake Shore lines will be intersected by roads leading southerly and south-easterly, through Indiana, Ohio and Pennsylvania, touching the Ohio River at certain points, and opening communication with Kentucky, Virginia and Maryland, thereby collecting a large traffic, independent of that which reaches the seaboard. Buffalo, the eastern focus of lake commerce, will be reached by the Northern Indiana route without the uncertainty and embarrassments attending ferries over large and rapid rivers, encumbered in the winter with islands of floating ice. In order to reach Buffalo by the Canada road, a side route of 25 miles must be encountered, with all its indirectness, additional distance, and consequent delay, or by a branch from the Canada road, that will be more direct, but must encounter a difficult ferry across the Niagara river: the interest of Buffalo, therefore, will be with the Northern Indiana road.

With the above remarks, it is left for the stockholders to examine the map of the country, and judge if there can be any reasonable grounds to doubt that their roads will command a largely remunerating business. The Directors have heretofore believed, and see nothing to change that belief, that the great western thoroughfare will be along the south shore of Lake Erie, and thence by the Northern Indiana Road to Chicago. Into this route will be gathered, from the numerous railroads intersecting from the south, an immense amount of travel. At Chicago it connects with the Chicago and Rock Island road, which, with the Mississippi and Missouri roads, will form an extension of this great western thoroughfare from the eastern and south-eastern Atlantic seaboard to Council Bluffs, on the banks of the Missouri; and thence, ultimately, it will be extended to the Pacific. No doubt there will be other routes by railroads from the east to the west, but they must be inland, and possess inferior commercial advantages, for the reason that the heavy traffic of the country will seek the great chain of lakes, as the most economical means of transit. To illustrate this:—a barrel of flour may be taken by lake navigation from Chicago to Buffalo for 25 cents, and thence to New York for 50 cents, (which will ultimately be reduced,) a total of 75 cents from Chicago to New York. A similar relative result would be obtained from Toledo to New York.

No railroad transportation can successfully compete with this; and therefore it is, that railroads in the Western States concentrate to the most accessible lake ports. Almost any railroad map will show the concentration to Milwaukee, Chicago, Monroe, Toledo, Sandusky, Cleveland, Buffalo, and other similar lake ports, and especially to the more important ports of Chicago, Toledo, Cleveland and Buffalo. The conclusion is therefore irresistible, that the road which passes through these lake ports, must have an eminent superiority as a great commercial thoroughfare.

A railroad line starting from Buffalo, and following westward along the south shore of Lake Erie, to its head, at Toledo, and then in a direct course, by the roads of the Michigan Southern and Northern Indiana Companies, across the Isthmus of Michigan to Chicago; thence west, to the Mississippi, at Rock Island, and the Council Bluffs on the Missouri, and eventually to the Pacific,

must constitute a channel of trade and travel of unparalleled importance.

Chicago, the western terminus of your roads, is the centre of a large business. The traffic of a large country, independent of the great line west, concentrates there by several railroads, from the north, north-west and south; namely: The Chicago and Mississippi from Alton; the Chicago Branch of the Illinois Central; the Galena; the St. Charles and Mississippi; the Fond du Lac and the Milwaukee Lake Shore road, in addition to those before mentioned. From and to this point an extensive travel will move to and from the east, on the Northern Indiana Road.

To improve the Companies' portion of this great thoroughfare, the new line between Toledo and Goshen has been commenced, and the Board feel confident that this is the true interest of the Companies. The work will be constructed by the Northern Indiana Company, as consolidated.

The line will be constructed with a single track, with bridges and culverts to provide for a double track, which no doubt will be required very soon, and most probably must be commenced immediately after the opening of the new line for business. The Board are fully impressed with the importance of pursuing the most active measures, to provide for the increasing traffic that will seek this channel of communication, and will not hesitate to make further improvements in their line, and a double track, as soon as the growing business of the road may render it expedient.

The litigation with the Michigan Central Railroad Company has not yet been brought to a close. The case is pending in the Supreme Court of the United States, and will probably be decided at the next term of that court at Washington. The Board are fully satisfied the law is with the Northern Indiana Company, and have no reason to doubt that the rights of the Company will be vindicated by a decision in their favor.

The business of the road, for the first year of its operation, ending June 30th, 1853, has exceeded the expectations of the Board. The report of the Treasurer is hereto appended, and exhibits the financial condition of the Company. The Board have every reason to believe the business of the current year will be considerably greater than that of the last. The connections eastward, last winter, were imperfect. The roads on the lake shore line were not completely opened until late in February; and being newly opened for business, at the most unfavorable season of the year, were in bad condition; and being also very inadequately stocked with cars and engines, the small amount of business offered was very much embarrassed. During the present season, these roads are being ballasted, and the machinery increased, so that, by the close of navigation, they will no doubt be fully prepared to conduct with promptness all the trade in passengers and freight that may be offered. Thus far, the summer receipts on your roads are largely in advance of the same during the corresponding period of last year. The increasing trade, and increasing facilities, it is believed, will advance the gross receipts of the current year, at least thirty per cent. over those of last year. By order of the Boards of Directors. JOHN B. JERVIS, President.

July 20, 1853.

TREASURERS REPORT

To the Directors of the Michigan Southern and Northern Indiana Railroad Companies.

I submit, herewith, sundry statements, showing the financial condition of the Companies at the close of the year ending 30th June last.

The statement marked "A," shows the standing of the Companies in general account.

It will be seen, from this account, that the total expenditure for construction and equipment of the Michigan Southern, Northern Indiana, and Erie and Kalamazoo Railroads—317 miles in all—has been \$6,446,854 66; being a little over \$20,000 per mile.

The Companies have also invested \$441,940 14, for steamboats to make the necessary connections

upon Lake Erie. Two of these steamboats, the Southern Michigan and the Northern Indiana, are under charter, for the present season, to the New York and Erie Railroad Company, for the sum of \$75,000. The other boats are run by and at the expense of these Companies.

The account also shows iron rails on hand, provided for the Jackson Branch, to the value of \$281,023 27, and stocks (principally stocks of these Companies, and of the Chicago and Rock Island Railroad Company) to the amount of \$121,677 31.

The statement marked "B," shows the gross earnings of the Companies for the year ending 30th June last, and the amounts paid, during the same time, for operating expenses and interest, including taxes, and rent of the Erie and Kalamazoo Road.

The statement marked "C," exhibits the condition of the income account.

Respectfully subm'ted,

EDWIN C. LITCHFIELD, *Treas'r.*

Office of the Michigan Southern and
Northern Indiana Railroad Com-
panies, New York, July, 1853. }

A.

*The Michigan Southern and Northern Indiana
Railroad Co's in General Account.*

Debtor.

Michigan Southern R. R. Co.:	
Construction acc't.	\$3,237,494 08
Northern Indiana R. R. Co.:	
Construction acc't.	2,929,316 74
Erie and Kalamazoo R. R.:	
Construction acc't.	280,043 84
Steamboats.....	\$6,446,854 66
Iron rails on hand for the Jackson Branch.....	441,940 14
Wood and materi- als on hand..	281,023 27
	106,798 08
	387,821 35
Bills and sums re- ceivable.....	26,393 19
Stocks on hand, (principally of the Chicago and Rock Island, and the Michigan S. and N. Indiana R. R's.).....	121,577 31
Cash in banks....	109,485 28
Cash in hands of superintendent and agents....	210,740 13
	468,195 91
	\$7,744,812 06
	Creditor.

Michigan Southern R. R. Co.:	
Capital stock.....	\$1,400,000 00
Debt to State of Michigan, pay- able \$50,000 per annum, int. at 6 per cent.....	125,000 00
8 per cent. bonds due this day..	28,564 00
Mortgage bonds, 7 per cent., due 1860.....	1,000,000 00
7 per cent. bonds, due 1863.....	288,000 00
8 per cent. income bonds, due 1857	500,000 00
Bills payable.....	543,914 00
	\$3,855,478 00

Northern Indiana R. R. Co.:	
Capital stock.....	\$1,400,000 00
Mortgage bonds, 7 per cent., due	

1861.....	1,000,000 00
7 per cent. bonds, due 1863.....	500,000 00
Bills payable.....	389,481 22
	3,289,481 22
Erie and Kalamazoo R. R. Co. mort- gage bonds, 7 per cent.....	300,000 00
Balance of income account, this day	299,307 15
Dividends due, uncalled for.....	545 69
	\$7,744,812 06

New York, July 1st, 1853.

B.

*Table of Earnings of the Michigan Southern and
Northern Indiana Railroads, for the year ending
30th June, 1853.*

Months.	Passengers.	Freight.	Mails and Miscellan.	Totals.
1852.				
July.....	\$54,303	\$23,168	\$ 42	\$ 77,515
August....	63,408	28,063	126	91,593
September..	68,317	46,972		115,289
October...	79,180	52,051		131,232
November..	41,573	56,805	3,704	102,083
December..	30,444	26,269		56,714
1853.				
January...	30,525	16,159		46,685
February...	39,237	16,187		55,374
March.....	63,460	20,168		83,629
April.....	74,300	28,061	6,017	108,379
May.....	83,032	36,167	25,610	144,809
June.....	93,045	34,470	17,915	145,430
Mails.....		42,183		42,183
Totals..	\$720,825	\$384,496	\$95,600	\$1,200,922

Gross earnings for the year, as above ..	\$1,200,922
Operating expenses, includ- ing taxes and rent of the Erie and Kalamazoo R. R.	\$579,635
Interest.....	212,265
Extraordinary expenses in- curred, in forming the Boat connections upon the Lakes, in 1852.....	34,357
	\$826,259
Nett profits for the year	\$374,662

C.

*Income Account, Michigan Southern and Northern
Indiana Railroad Companies.*

1853.		Debtor.
Jan'y 1.	To dividend declared this date, 5 per cent.,.....	\$124,970 53
July 1.	To operating and expense account, 12 months....	\$579,635 30
" "	To interest....	212,265 97
" "	To extraordi- nary expenses on the Lakes	34,357 86
	Balance.....	826,259 13
		299,307 15
		\$1,250,536 81
1853.		
July 1.	To dividend declared, pay- able July 5, of 7 per cent.....	196,000 00
	Balance.....	103,705 15
		\$299,307 15
1852.		Creditor.
July 1.	By balance this account, this date.....	\$ 49,614 70
	By earnings, from July 1, 1852, to July 1, 1853, as per statement.....	1,200,922 11
		\$1,250,536 81
1853.		
July 1.	By balance.....	\$299,307 15
		\$299,307 15
1853.		
July.	By balance income ac-	

count, after payment

July dividend..... \$103,307 15

Office of the Michigan Southern and
Northern Indiana Railroad
Companies, Nov. 7, 1853. }

The numerous delays attending the issuing of the preceding report, enables the Directors at this time to give a statement of the earnings of these roads, for the last four months of the present year 1852; it is as follows:

	1852.	1853.
Earnings for July.....	\$81,030 70*	\$116,263 02
Do. August..	95,108 67*	154,063 85
Do. Sept.....	118,805 25*	198,387 46
Do. Oct.....	134,747 48*	220,804 02
	\$429,692 19	\$689,518 35
		429,692 19

Increase, four months, (over sixty
per cent.)..... \$259,826 16

E. C. LITCHFIELD, *Treasurer.*

Hempfield Railroad.

The following is an abstract of the annual report recently issued by the above company:

Receipts, from stockholders, corporate and indi-
vidual, in payment of installments... \$199,822 00
Disbursements, in construction, for land
damages, salaries, &c... \$149,646 02
Interest paid on stock.... 465 65

\$150,111 67

Balance on hand..... \$49,710 33
Estimated cost of the road with the
rolling, stock, &c..... \$2,986,778
Stock subscribed..... 1,945,250

Deficiency..... \$1,045,528

The report proceeded to state the means of the Company to supply this deficiency; and described the financial condition of the Company as prosperous and healthy. The Company is entirely out of debt; it has issued no bonds; and has made, and will make no sacrifices in negotiating the securities in its hands. The resources of the Company, in stock, bonds, &c., now in hand and available, amount to \$1,795,138 43.

The Company has issued a notice calling for a monthly instalment of ten per cent. upon all the stock, which has been promptly and punctually met. Arrangements have been made, by the Finance Committee of the City of Philadelphia, to make to the Company, monthly, a payment of \$50,000 upon its stock.

Along the entire route, from Greensburg to Wheeling, all the heavy and most of the light jobs are under contract, and in a fair state of advancement.

Between Wheeling and Washington every section is under contract, with stipulation that they shall all be ready for the opening of the road between these points at the close of the coming year, at or about which time the promised completion of the Chartiers Valley Road will connect the Hempfield Road immediately at Pittsburgh, with the Pennsylvania Central Road. This part of the road is in a great state of forwardness, and is pressed with all possible vigor. There are 1,500 men now working upon the road.

On the Eastern part of the road, the lettings have been principally confined to the heavy jobs, all of which have been commenced and are vigorously urged. If completed within the time fixed by the contracts, this portion will be ready for the superstructure early in the summer of '55. The progress of the entire work equals expectation and maintains the original calculation as to the period of completion.

*The apparent discrepancy between the amounts here stated and those appearing on table B., is accounted for by the fact, that in this table the monthly proportion of the earnings for carrying the mail is added to each month separately, whilst in table B. the whole year's earnings from that source is added in one sum at the bottom,

North Carolina.

North Carolina Railroad.—We learn (says the Raleigh Standard, of Saturday last) that the iron has been laid down upon this road for twelve miles this side of Goldsborough, and that the grading from that place to this is expected to be completed by Christmas. The distance from Goldsborough to the Neuse is twenty-two miles, and an engine, it is expected, will be put on when the iron is laid to the river. The distance from the river to this point is about twenty-six miles. The Company will take charge of the road to the Neuse, or will be entitled to do so, after the 1st January.

We learn that the iron for this, the 1st Division, which extends from Goldsborough to about six miles above Raleigh, is of the heavy T pattern, and looks as if it would do excellent service.

Gov. Morehead, the President of the Company, passed through this place on Wednesday last, on his way to Beaufort. We understand he has recently purchased the iron for the 2d Division, which extends from the point mentioned, above Raleigh, to the Guilford line. We do not know the price he is to pay for the iron.

It is confidently expected that the road will be completed from Goldsborough to this place by May or June next.

We learn that the grading of the North Carolina Road is expected to be completed to Hillsborough by the 1st of January next.

Wilmington and Manchester Railroad.—We understand a train crossed Eagle's Island yesterday, and that the passenger and freight trains will run regularly to that point on and after Monday next.—This will reduce the time in this line about three-quarters of an hour. The staging is now reduced to fourteen miles, and within ten days a further reduction of five miles will be made. The gap between the two ends of the road is now only nine miles, which the Company hope to finish—except the bridge—by the close of the year.

Raleigh and Gaston Road.—The Report of the President and Directors exhibited a prosperous and satisfactory condition of the Company's affairs. We learn that the receipts for the fiscal year, from freight, passengers and mail service amounted to about \$120,000; and the expenses for the same period, exclusive of construction account, about \$60,000. A dividend of 3 per cent. has been declared by the Directors, and \$2,500 appropriated to the sinking fund.

The following gentlemen constitute the Board of Directors for the ensuing year: George W. Mordecai, Thomas Miller, N. T. Green, and L. O'B. Branch on the part of the stockholders; and John G. King, Dr. William J. Hawkins, and Gaston H. Wilder on the part of the State. Mr. Branch was unanimously re-elected President of the Company, the affairs of which he has managed during the past year with such signal ability and success.—*Ral. Star.*

Iron Rails via Quebec.

The large quantity of Iron Rails for our Western roads, imported via the St. Lawrence, (some 80,000 tons per annum,) has induced several houses in Quebec to give their almost exclusive attention to its transshipment at that point to the ports on the Upper Lakes, to which it may be destined. The attention of those Western roads which are in the habit of receiving their iron by that route, is invited to the Card of Messrs. John Anderson & Co., of Quebec, in another column. They are very largely engaged in this trade, and we understand possess ample facilities for giving it the utmost despatch. Our railroad companies will understand the advantage of having competent parties on the spot to attend to their affairs.

Machinists' Tools.

A SUPERIOR CLASS.

DESIGNED particularly for Railroad work, manufactured by L. B. TING & CO., (late ALDRICH, TING & Co.)
Corte 7, 1853. LOWELL, MASS.

P. J. Tournadre,
Chief Engineer Vicksburg, Shreveport and Texas R.R.,
Vicksburg, Miss.

To Locomotive Engine Builders and Engineers.

THE Proprietors offer for rent for a term of years, with immediate possession, the splendid property, known as the BELLEVILLE IRON WORKS, situated on the Mississippi, directly opposite the City of New Orleans, and within 300 feet of the River, with which it is connected by fine wharves and landings.

The buildings are of brick, with slated roofs, and were erected in 1848 at a very heavy expense; are of a most substantial and durable character and admirably fitted for a Foundry and Machine Shops, or almost any mechanical business. They now contain a new and powerful Engine and Boiler and sufficient machinery, say, planing machines—lathes—boring machines, blacksmith's tools, &c., &c., to employ 100 mechanics, and could be put in working order in a few days. The Buildings cover a lot 300 feet square and are amply large to receive the necessary machinery for the use of 800 to 1000 workmen.

The terminus and depot of the New Orleans, Opelousas and Great Western Railroad is situated about 300 yards from the above property, which could be availed of to great advantage for the manufacture of Locomotives and Railroad work, generally as well as Steam Engines, Sugar Mills, and other descriptions of Machinery.

There are no Shops in New Orleans for the manufacture of Railroad Machinery, and as the Railroad Companies now organized in that city contemplate the construction of over 1000 miles of road, a large part of which is already under contract,—the property now offered for lease offers a most eligible opportunity for parties desiring to contract to furnish the Engines and Machinery, for those roads. Responsible contractors with their works on the spot would have an advantage over Northern Workshops in contracting for the work of the Railroads terminating in New Orleans. The Establishment and prospect of remunerating work to be secured immediately are worthy the attention of manufacturers and Engineers generally.

Applications from responsible parties will be promptly attended to, and to satisfactory parties the proprietors of the Works can offer favorable terms and arrangements.

Letters may be addressed to

R. B. SUMNER,
No. 61 Camp Street,
New Orleans;

and further information may be had by applying to Messrs. BARSTOW & POPP, Pine Street, New York.

Railroad Iron Via Quebec.

JOHN ANDERSON & Co.,

COMMISSION MERCHANTS,
SHIPPING AGENTS AND BROKERS,
QUEBEC,

PARTICULAR attention given to the Transshipment of Iron in Transit for the Western Lake Ports, likewise to the Shipment of Rails in Great Britain.
Quebec, Dec. 2, 1853.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by
JOHN H. HICKS, 90 Beaver st.

1300 Tons Yorkshire T rail, weighing 56 lbs. to the yard, and of a superior quality daily due and for sale by,
NAYLOR & CO.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.
Sept. 11, 1852. ly

Valuable Works on Railroads, Railway Engineering, Steam Engines, &c.

LARDNER'S RAILWAY ECONOMY, 1 vol. \$2 00
THE STEAM ENGINE, STEAM NAVIGATION, ROADS AND RAILWAYS, Explained and Illustrated by Dr. LARDNER, 8th Edition, revised and improved..... 2 00
TREDGOLD ON THE STEAM ENGINE, 3 vols., 4 to., 1/2 calf..... 50 00
TREDGOLD'S PRACTICAL TREATISE ON RAILROADS AND CARRIAGES..... 1 50
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TREATISE ON TUBULAR AND GIRDER BRIDGES..... 31
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TRAUTWINE ON EXCAVATIONS AND EMBANKMENTS..... 1 00
Imported and for sale by JOHN WILEY, 167 Broadway, New York.

N. York and N. Haven R. R. NOTICE OF SUMMER ARRANGEMENTS,

Commencing Monday, May 9, 1853.

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk, and Bridgeport.	9.35 A. M.—Express from New Haven, stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Supt.
New Haven, May, 1853.

Stuart, Serrell & Co.,

CIVIL ENGINEERS,

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A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By John C. Trautwine, Civil Engineer—with 10 Copper Plates.
Price One Dollar each—postage on the Curves Three Cents—on the Excavations and Embankments, Six Cents.

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WILLIAM HAMILTON,
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May 4, 1853.

ESTABLISHED 1796.

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Our Illustrated and priced Catalogue is furnished on application and sent by mail free of charge.

Nov. 12, 1853

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY SIX PER CENT. FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW, LANIER & Co. }
No. 52 Wall-st., Oct. 6, 1853. }

THE LITTLE MIAMI RAILROAD COMPANY offer for sale one million of their **SIX PER CENT. BONDS**, with coupons. Interest and principal payable in New York, the former half-yearly, 1st of November and 1st of May. They are in sums of \$1,000 each, payable the 1st day of May, 1858.

These Bonds are issued under the express authority of the Legislature of the State of Ohio; and are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station-houses, &c., up to this date \$2,708,109 19.

This Company hold stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also, in the Hillsborough Road the amount of \$11,716.

The receipts of the Road have been as follows:

For the year ending Dec. 1, 1844.....	\$18,623 36
For the year ending Dec. 1, 1845.....	46,327 58
For the year ending Dec. 1, 1846.....	110,052 02
For the year ending Dec. 1, 1847.....	221,139 52
For the year ending Dec. 1, 1848.....	280,085 78
For the year ending Dec. 1, 1849.....	321,398 82
For the year ending Dec. 1, 1850.....	405,597 24
For the year ending Dec. 1, 1851.....	487,845 89
For the year ending Dec. 1, 1852.....	526,746 35
The receipts from Dec. 1, 1852, to Sept. 1, 1853, 10 months were.....	544,625 59
For the same period year before.....	411,797 06

Increase in 10 months.....\$132,823 53

The position of this road, being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia Road, and runs in connection with the Cleveland and Columbus Road; in fact they are now run as one line greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of 5 per cent. in 1852. In 1852 two cash dividends of 5 per cent. were made.

The present surplus and reserve fund amounts to.....	\$98,546 10
The mortgage covers the entire line of road, costing to date...	2,708,108 19
To be expended on double track, &c.	1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is one of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the City of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. LANIER, Esq., of this city, in trust for the bondholders, with ample power to take possession of the Road, its real and personal estate, franchises, &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. The mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

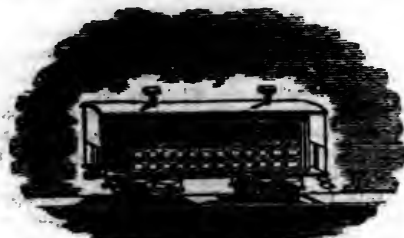
City of Cincinnati, and all other debts of the Company, excepting this loan of \$1,500,000.

These Bonds are offered at private sale by the undersigned, Agents of the Company.

Printed statements of the affairs of the Company, and any further information relative to the securities, will be given by

WINSLOW, LANIER & CO.,
No. 52 Wall-st.

Elmira Car Manufactory.



THE Undersigned is prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

WM. E. BUTTER.

Elmira, N. Y., June 1, 1853.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Watson's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, HENRY SIZER, Agent,
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Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

Railroad Car Works.

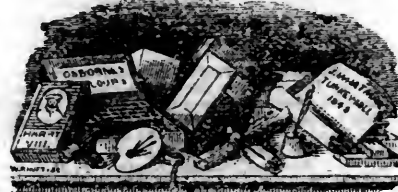
THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

F. HUNGERFORD & CO.

Mayeville, Ky., Sept. 20, 1853.

Hufty's

Engineers, Architects and Draftsmen's STATIONERY EMPORIUM.



WHATMAN'S Turkey Mill Drawing paper, Tracing paper, Plan and Profile, Protractors, Drawing Pins, Faber's, Jackson's and other makers' Pencils; Field, Level, and Memorandum Books of various patterns; Mathematical Instruments, Tape-lines, Mouth Glue, Cross Section paper, Triangles, Sabel Brushes, Gum Bands, Maiden Gum, Red Tape, Ink, Inkstands and Sand, Water Colors, Pallets, Patent Binders for letters, Portfolios, etc., together with a general assortment of Stationery and Blank Books. All goods packed with care, and forwarded to any part of the United States.

JOSEPH HUFTY,
Successor to H. L. Lipman,
139 Chestnut st., Philadelphia.

May 15, 1851.

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1853.

A. N. GRAY, Cleveland, O.,

RECEIVER AND FORWARDER of Railroad Iron, Chairs and Spikes

Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.

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January 12, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

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NORTHERN INDIANA, I. T. PHILLIPS, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 198 Broadway, corner Dey-st., N. Y.

MONTREAL & NEW YORK AND Plattsburgh and Montreal RAILROADS.

Open through from Plattsburgh to Montreal.

Passenger Trains leave Montreal for Plattsburgh at 6 30 a.m. and 5 p.m., arrive at 8 a.m. and 7 30 p.m.

Leave Plattsburgh for Montreal 7 30 a.m. and 4 p.m., arrive a 10 a.m. and 6 50 p.m.

Trains connect at Montreal with Steamers for Quebec, and the St. Lawrence and Atlantic Railroad for Sherbrooke and intermediate stations.

Trains connect at Moers Junction with Northern (Ogdensburg) Railroad for Ogdensburg and Lake Ontario Steamers for Lewiston, Niagara Falls and Upper Canada, and all ports on the Western Lakes.

Trains connect at Plattsburgh by Steamer to Burlington with Rutland and Burlington Railroad and connecting lines for Troy, Albany, New York and Boston, and all intermediate stations. Also with steamers for Whitehall to the Saratoga and Washington Railroad, and connecting lines of road to Troy, Albany and New York.

Passengers will find this route unequaled for comfort and dispatch, and attended with less fatigue and delay than any other. It possesses moreover the advantage of a short ferrage of only fifteen minutes across the River St. Lawrence at Caughnawaga, which has never been known to freeze, and can be confidently relied upon at all seasons of the year.

Freight Trains run daily each way.
For particulars see Freight and Passenger Tariff.
Baggage checked through.

H. W. NELSON, Superintendent.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Dunkirk and Buffalo.

MAIL, at 8 1/2 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Binghamton and Corning, and proceed the next morning.

ACCOMMODATION, at 12 1/2 p. m. for Delaware and all intermediate stations.

WAT, at 3 1/2 p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 5 p. m. for Dunkirk and Buffalo.

EXTRA, at 6 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 5 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MINOT, Supt.

Notice to Contractors.

WARSAW & ROCKFORD RAILROAD.

THE preliminary Surveys are now complete for the First Division, (about 120 miles) from Warsaw, through Nauvoo, Oquawka, Keithsburg, Rock Island and to Port Byron, including both Rapids of the Mississippi, and the location progressing. The character of the country is such, and the surveys so near to any location that will be made, that Contractors can satisfy themselves of the value of the work as well now as hereafter. Proposals are asked at the Office of the Company in Warsaw, Hancock County, Illinois, for the construction of the whole or part of the road, either by quantities or by the mile. Contract will not be made before the 1st of January, 1854, and only so soon thereafter as advantageous offers can be made. The Company are willing to make general contract, for cash or for cash and securities.

The route of the road is generally in the valley and second bottoms of the Mississippi, and the work can be completed very rapidly. The road is important as one of the improvements of the navigation of the Rapids, and also from its several (two at least) connections with other railroads.

WM. H. ROOSEVELT,
President.

W. R. KINGSLEY,
Engineer.

T. S. O'SULLIVAN,
Consulting Engineer.
Warsaw, Nov. 17, 1853.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.
Jan. 20, 1849.

Railroad Iron.

2,000 TONS FIRST CLASS WELSH RAILWAY IRON, to be made to any ordinary T pattern required by the buyers, and for shipment from Newport, Wales, in December, January, and March next, apply to the undersigned, for many years connected with the largest house in the trade.
JOHN H. AUSTIN & CO.,
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A Valuable Farm in Illinois for Sale.

SITUATED in the Village of Seward's Point in Montgomery County 7 1/2 miles North of Hillsborough, about 36 South of Springfield the Capital of the State, about 18 West of the Illinois Great Central Railroad, about 4 or 5 North of the Alton & Terre Haute Railroad and about 18 miles West of the intersection of the two, containing 80 acres of rich prairie land.

Apply by letter or in person to

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To Railroad Companies, Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—

Railroad Iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms.

Also, McMullen's superior WHITE ROPE, not only for Railroads, but all other purposes, and of any size or thickness required.
Office No. 25 Cliff street,
New York.

Aug. 10, 1853. 3m

Notice to Contractors.

COVINGTON & OHIO RAILROAD.

PROPOSALS will be received, at the Office of the Covington and Ohio Railroad, in Covington, until the 15th of December next, for the graduation and masonry of about seventy-five miles of the above road; of which, the eastern portion, comprising fifty miles, lies next west of Covington, and the western portion, consisting of about twenty-five miles, lies between the Kanawha River and the mouth of Big Sandy. A large share of the work to be let—including bridging and tunnelling—is heavy and desirable, and is well worthy the attention of responsible contractors. The western sections of the above work are now ready for examination, and the eastern portion will be prepared for inspection by the 8th of December.

Further information may be obtained on application at the company's offices at Covington and Guyandotte

By order of the Board,
CHARLES B. FISK,
Chief Engineer.

N. B.—The Board of Public Works, of Virginia, under whose direction the Covington and Ohio Railroad is to be constructed, on State account, will meet, at Covington, on the 15th of December, above named, for the purpose of receiving and acting on the proposals that may then be offered.
Nov. 10th, 1853.

To Railroad Companies.

COLLINS' PATENT VENTILATORS,

FOR

Ventilating all kinds of
PUBLIC AND PRIVATE BUILDINGS
Railroad Cars, Depots, etc.



THE Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of, for giving pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P.R.R., Altoona, Feb. 8, 1853.

This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.

STRIKLAND KNEASS,

Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.

Asssts. BAKER & WILLIAMS,

Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,
3m40 OLIVER W. BARNES,
Principal Assistant Engineer P. R. R. Co.

Krupp's

CELEBRATED CAST STEEL,

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATERS and other Cast-Steel Rollers, of any dimensions not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines, not exceeding 3000 lbs. in weight.

Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

Orders received by

THOMAS PROSSER & SON,
23 Platt street, New York.

Sole Agents for the United States.
Nov. 10, 1853.

To Contractors.

CHIEF ENGINEER'S OFFICE, N. & P. R. R. Co.,
Norfolk, Oct. 13, 1853.

SEALED PROPOSALS will be received by the Undersigned at this office from the 8d, until the 15th day of December next, at noon, for the graduation and masonry of 62 miles of the Norfolk & Petersburg railroad between the city of Norfolk and Warwick Swamp in the county of Sussex.

The line will be divided into sections of about 4 miles, and bids will be received for one or more of said sections.

Maps and profiles of the line will be ready for inspection and specifications with forms of proposals may be had of the undersigned on and after the first day of December.

Payments will be made in current money during the progress of the work in proportion of four-fifths of the amount due.

As soon as practicable after the examination of the proposals, those to whom the work will be allotted will be duly notified, and if deemed necessary required to give bond with satisfactory security for an amount not exceeding one-tenth of the amount of work to be done.

The company reserves the right to accept such proposals as in their judgment will secure the prompt and faithful execution of the work according to contract, or reject all, if none are satisfactory.

The line is easy of access, the country through which it passes is of mild climate and abundant in supplies. Postage on all communications must be prepaid.

W. MAHONE,
Chief Engineer.

Small Rails.

THE SUBSCRIBERS manufacture and keep constantly for sale, Light Rails of the most approved patterns, weighing 22, 25, 28, 40 and 50 lbs per yard, suitable for Colliers, Miners, Quarrymen and Contractors, or for turn outs, depot and branch tracks.

CHARLES E. SMITH & Co.
Fairmount Iron Works, Philadelphia.
1744 CHAS. E. SMITH, HENRY MORRIS,
THOS. T. TASKER, WISTAR MORRIS.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Lignum Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

Henry I. Ibbotson,

MANUFACTURER OF

FILES AND SAWS,

Warranted of superior quality.

Office and Warehouse, 218 Pearl st., New York.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL,"

an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to

execute in the BEST manner, and with DISPATCH.

They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits

Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.
SECOND QUARTO SERIES, VOL. IX., No. 51.] SATURDAY, DECEMBER 17, 1853. [WHOLE No. 922, VOL. XXVI.

The Mechanical Engineering department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.
Saturday, December 17, 1853.

ENTERED according to Act of Congress, in the year 1853, by EDWIN F. JOHNSON, in the Clerk's Office of the District Court of Connecticut.

Railroad to the Pacific--Northern Route.

Its General Character, Relative Merits, etc.

By EDWIN F. JOHNSON, C. E.

(Continued from Page 789.)

In respect to the several routes proposed for a railroad to the Pacific, through the region of country under consideration, it will be seen, from what has been stated above, that the Sierra Nevada Mountains constitute a much more formidable obstacle to the proposed road than do the Rocky Mountains proper.

They rise to a very great height, from 4000 to 11000 feet above the level of the "Great Basin," or 10000 to 15000 feet above the level of the sea. Col. Fremont, who effected a passage across them in the winter of 1845, found the elevation of the Pass, at the source of the American river, a branch of the Sacramento, to be 9338 feet.

Such is the nearness of this elevated range to the Bay of San Francisco, and such also its height, as to discourage the idea of overcoming it by any direct route for a railroad, to say nothing of the repulsive and impracticable character of the Great Basin, which must be crossed by a line thus located, and consequently, attention has very properly been directed to two Passes near the southern extremity of the range which lead from the lower valley, occupied by the Tulare Lake and its tributaries, (which are distinct from the San

Joaquin,) to the valley of the Colorado, known as the Walker and Tejon Passes.

These Passes are about 60 miles distant from each other, and are reached from San Francisco by a route leading at first southerly to the south point of an arm of San Francisco Bay, which juts down in that direction. Thence northwardly around the north side and near the base of Mount Diablo, a point in the Coast Range, 3750 feet high. Thence turning southerly and rising from the level of the Bay, passes up the valley of the San Joaquin, and through that of the Tulare Lake, to the summit at one of the Passes which separate the waters of the latter lake from those which flow towards the Colorado.

Of the two Passes named, Walkers is the most northerly, and is situated, according to Fremont, in Lat. 35° 17' N. and Long. 118° 35' W., and has an elevation, probably, of about 5000 feet above the sea.

It is distant from San Francisco, by the route described, not less than 360 miles, and is only seventy miles in a direct line from the shore of the Pacific.

From this Pass three distinct routes to the valley of the Mississippi have been proposed.

One of these, advocated especially by the St. Louis interest, proceeds from Walkers Pass northeasterly to the Vegas de Santa Clara, on the Rio Virgen. Thence easterly to the Colorado. Thence up the Grand river branch of the Colorado, and across by what is called, the Cochatope Pass, in the mountain range between the Colorado and Del Norte, to near Fort Massachusetts, situated in the Del Norte valley, near the latitude of 38° North. Thence, passing by Bents Fort on the Arkansas river, to the Smoky Hill Fork of the Kansas river, and down the valley of the latter, across the State of Missouri to St. Louis, a distance from San Francisco, of 2100 miles, estimated as follows:

From San Francisco to Walkers Pass..	360 miles.
From Walkers Pass to St. Louis, direct line.....	1682 "
Add to latter for deviations from direct line 12 per cent., the same as allowed on the northern route.....	158 "
Total.....	2100 "

From the best information to be obtained, it is

highly probable that Walkers Pass is impracticable, and that the line must be carried to the Tejon Pass, farther south, which is lower, and which, although not altogether free from difficulties, is much the most favorable of the two. This will lengthen the line, probably, eighty miles, making the entire distance 2180 miles, or say 2130 miles, assuming, what is not very probable, that the line may be shortened 50 miles by crossing the Coast Range south of Mount Diablo. This estimate makes this line to St. Louis 170 miles longer than the line from Chicago to De Fuca, and 530 miles longer than from the west end of Lake Superior to De Fuca.

The second route referred to, leads eastward from the Tejon or Walkers Pass, across the valley of the Colorado, near the latitude of 35° N., to that of the Rio Grande Del Norte, crossing the latter a little south of Santa Fe, near Albuquerque or Per Alta. Thence on to the valley of the Canadian river, and terminating on the Mississippi at some point south of, and not far from, the mouth of the Ohio.

This is very nearly the route proposed in the Bill of Senator Gwinn, which was before the Senate of the United States at its last session.

That route, as delineated on the map accompanying the Bill, had four termini on the Mississippi and one on the Gulf of Mexico, in Texas, with an extension at the opposite extremity from San Francisco to Puget Sound.

The distance by this route from San Francisco to Memphis, one of the proposed termini on the Mississippi, was estimated at 2000 miles. A computation similar to that made on the route to St. Louis, makes it more than this, viz:

From San Francisco to Walkers Pass..	360 miles.
From Walkers Pass to Memphis, direct..	1604 "
Add to latter for deviations from direct route, say ten per cent., or two per cent. less than upon the route to St. Louis.....	160 "
	2124 "
Add estimated increase by Tejon Pass.....	66 "
	2190 "
Deduct for passing south of Mount Diablo.....	50 "
Total.....	2140 "

The route from San Francisco to Memphis is, therefore, by this estimate, 180 miles longer than from Chicago to De Fuca, and 540 miles longer than from the west end of Lake Superior to De Fuca.

The Tejon Pass is at the junction of the Sierra Nevada with the Coast Range. At this point there is also an opening in the Coast Range, leading to Los Angeles. This opening offers a more direct route to San Francisco than by the Tulare and San Joaquin valleys, but the country between the Coast Range and the Pacific is less productive, not being as well watered in summer as the valleys of Tulare and San Joaquin, which are supplied by the numerous streams from the Nevada Mountains. The western slopes of the latter include, also, most of the *placers* in which gold is found, and it is here that most of the population of southern California will, probably, be situated, and it is only, also, from the San Joaquin valley, that a continuous line of railroad can be conveniently carried to the Sacramento valley, north of the Bay of San Francisco, considerations of great importance, all indicating the San Joaquin valley as the most suitable for the location of the proposed road.

The third route leads from Walkers or the Tejon Pass to the mouth of the Gila, on the Colorado, 50 or 60 miles from the mouth of the latter. Thence up the valley of the Gila, and across the elevated Plateau, which lies parallel nearly with the Mexican boundary, to the valley of the Del Norte. Thence down the latter a short distance to El Paso; and from El Paso through the northern part of Texas to the Mississippi, at a point or points which will best concentrate the travel and business of the States east of that river.

The distance by this line from Memphis to San Francisco, is greater than by the route last named, and cannot be estimated at less than about 2200 miles. This result is obtained by adding fourteen per cent. only to the direct distance from Memphis to Walkers Pass and increasing the amount by the estimated distance to San Francisco, as given upon the other routes, to the same point. This is also, probably, about the distance by the same route between San Francisco and New Orleans, diverging at Trinity river, in Texas, and passing through Logansport.

If the terminus of this route on the Pacific is fixed at San Diego, instead of San Francisco, the distance to the points named on the Mississippi, will be about 400 miles less, or about 1800 miles in all, and if a terminus be made at Galveston, which is said to be the best port for large vessels in Texas, the distance will be still further reduced about 300 miles, making the distance from Galveston to San Diego 1500 miles nearly, and to the Colorado river 1320 miles.

Of these several routes, the two first traverse the entire breadth, east and west, of the comparatively unproductive region already described, including what has hitherto been called the American Desert, on the east of the Rocky Mountains, and the entire country west of the Nevada Mountains. A region comprising a distance of at least 1000 miles, upon either of the routes, and west of the Del Norte valley is, with few exceptions, a nearly barren region, without timber, and in many places without water, having few attractions

for settlers. A region containing no navigable streams, by means of which, materials and provisions can be conveyed to the line of the road while building. On the contrary, materials and provisions for the entire length of both routes must be mostly conveyed from the two extremes of each; and it is only by this tedious and expensive process that a road, upon either can be constructed, and the fuel which is to furnish the power by which they are to be operated must be charged with the cost of transportation for hundreds of miles upon the road, and the water, without which the iron horse, all powerful as it is, is impotent, must, for several hundred miles on either route, after being sought for in vain from the barren sands beneath, or the brassy heavens above, be obtained at great cost by digging deep into the earth, or by forming artificial channels leading from the streams where the flow of water is permanent, to convenient points on the line of the road.

Such is the general character of the two most northern of the three routes leading from Walkers or the Tejon Pass to the Mississippi, either of these being longer than the northern route from Chicago to the Pacific, even should their directness be improved by the finding, which is not at all probable, a practicable Pass across the Nevada Mountains by the valley of Owens Lake and Kings river.

Either of these routes, estimating from the Mississippi river to San Francisco, have a much greater rise and fall in the aggregate than is found on the northern route. This will be apparent so far as the northernmost of the two routes is concerned, when it is considered that the summit between the waters of the Del Norte and Colorado is probably, not less than 8000 feet above the sea. This summit is 300 miles, nearly, north of San Felipe, where the Del Norte, by Col. Emory's measurement, is 5158 feet above the sea. By his measurement, also, the valley of that river for some distance below San Felipe to near the Mexican boundary is inclined at the average rate of six feet, nearly, per mile, and as rivers usually descend most rapidly near their source, it is not unreasonable to suppose that the valley above San Felipe rises at the average rate of at least 9 feet per mile which gives for the probable elevation of the summit the amount above stated.

The elevation of the surface at the Vegas de Santa Clara, west of the Colorado, according to Fremont, is 5280 feet. The Colorado at the crossing, or at the point rather where the line would leave that river, is not higher, probably, than about 3000 feet. Add to this the ascent of the Nevada summit at Walkers Pass, or the Tejon Pass, and the descent therefrom to the Pacific; also the rise and fall incurred in passing from the valley of the Smoky Hill Fork of the Kansas to that of the Arkansas, and from the latter to the valley of the Del Norte, and in surmounting the many secondary ridges or ranges into which the surface of the country is broken for the entire distance from the Del Norte valley to the Pacific, and it makes, at the lowest reasonable estimate, a total rise and fall, as stated above, greatly exceeding what will be encountered upon the Northern route.

If a comparison is made in this respect with the

next route passing near Albuquerque south of Santa Fe, a similar result will follow; showing, probably, if any thing, a greater difference in the total rise and fall in favor of the Northern route. Upon this route the same Pass over the Nevada Mountains may be adopted. The Colorado must be crossed lower down or nearer to its mouth, and consequently at a much lower level, that river having but little descent, comparatively, below the parallel of 35°. There is at present no evidence by which a lower summit can be inferred between the Colorado and the Del Norte. The line crosses the Del Norte at a lower level, and the ascent may be greater in leaving the valley of that river to pass over into that of the Mississippi. Altogether the entire rise and fall on this route will, probably, be found to be as great, if not greater, than upon the route next north leading to St. Louis. In addition to this it should be noticed that the terminus, on the Mississippi, of this route at Memphis, is farther removed from New York city than is St. Louis, an objection which applies with still greater force to the third line near the Mexican boundary.

This latter line has features which are different from the two last named. After leaving Walkers or the Tejon Pass, it descends nearly to the level of the sea at the crossing of the Colorado. From thence, unless permission is obtained to carry it over better ground through Mexican territory, it must be kept in the valley of the Gila until it attains a suitable point in the latter for passing on to the great plain which extends through to the Del Norte, and which is supposed to have an elevation of about 4500 or 5000 feet above the level of the sea.

From this plain, which is covered with detached or isolated ridges or mountains, and which from its low elevation marks the division between the Rocky Mountains on the north, and the Mexican Andes or Cordilleras, the line descends the valley of the Del Norte to El Paso, which is elevated, by barometric measurement, 3812 feet above the sea. Thence rising from and leaving the Del Norte valley it traverses the northern portion of Texas and has a rise and fall, when it reaches the Mississippi, as great, probably, if not greater, than is encountered on either of the two routes next north of it; so that in this particular and in that of distance, it has no advantage over either of those routes, estimating from the Mississippi at one extreme, and San Francisco at the other.

In another view it possesses advantages which do not attach to the other two routes named, and which will, probably, be considered as entitling it to more consideration. Those consist in its entire freedom from snows, and in the connection which can be made from it with San Diego on the Pacific, and the Ports of Texas on the Gulf of Mexico, and also with the Gulf of California. This route, from all accounts, passes from the Mississippi to the Del Norte through a generally fertile region, very well supplied with timber for two thirds of the distance, to where it meets the southern part of the Llano Estacado or Staked Plain but west of the Del Norte to San Diego, a distance by the line of the road of probably 800 miles, the country, according to Gen. Kearney, is "destitute of timber, producing but few cotton-wood and mesquite trees" and "very little grass or vegetation." This portion traverses the high

and dry plain described between the Del Norte and the Gila, and the sand plains and deserts which extend from the lower part of the valley of the Gila to the Pacific; features, which upon this route and the two next north of it, present difficulties and obstacles to the construction and successful operation of a railroad, of a nature far more serious than can possibly be experienced from snows upon any of the other routes. To this should be added the apprehensions in regard to the character of the climate, which, whether they have any just foundation or not will serve to enhance greatly the cost of the work, and when finished, will, at certain seasons, induce travellers to give their preference to a more northerly route, if such a route is offered for their choice.

The connection with San Francisco by this route may be shortened, as described in the case of the two routes to Memphis and St. Louis, by passing on the west instead of the east side of the Coast Range. The objections which were urged to the adoption of this course also apply to this route. The distance by it from Galveston to the Colorado is between 1300 and 1400 miles, and should a shorter connection be made with the Gulf of California in what is now Mexican territory, by carrying a line from some point not very far to the east of the San Pedro branch of the Gila across the Province of Sonora to the nearest point on the Gulf, the distance from ocean to ocean will still be from 1200 to 1300 miles.

A line thus located may possess some importance in reference to the trade with Australia and the islands of the South Pacific, but even this importance is greatly lessened in view of the undoubted superiority of the shorter lines situated farther south, across the Isthmus for accomplishing the same object.

It is quite evident that this route, notwithstanding it has superior merits in a commercial and military view, and in its entire freedom from snows and its less distance from ocean to ocean, compared with the two next north of it, does not, it must be obvious from all that has been said, possess the characteristics which are requisite to render it the great commercial thoroughfare between the Atlantic and Pacific, to an equal degree with the Northern route. On the contrary it is exceedingly doubtful, as will be shown hereafter, whether if constructed it can command any very considerable portion of the business and travel between the Bay of San Francisco and the leading cities of the Atlantic.

In respect to the time required for building and the cost of construction of the several routes, there will be found a vast disparity in favor of the Northern route, compared with either of the other routes named.

As already stated neither of the routes leading to San Francisco can be approached at any intermediate point between the Mississippi or Missouri and the Pacific, for the delivery of materials or supply of provisions, unless it be at one point on the most southern line near where it crosses the Colorado. At every other point on this route, and at all points on the other two, the iron rails with their fixtures, the materials for the stations and depots and the provisions for the sustenance of the laborers must be transported from the extremities of the road, or otherwise conveyed by teams from distant points at a very great cost.

In another place an opinion has been expressed as to the probable cost, under certain circumstances, of the Northern route and of the branch of 220 miles connecting it with Lake Superior. In that estimate the entire cost is placed at \$100,000,000.

This estimate is, of course, based mainly upon such descriptions of the country as were most reliable, and is according to the best judgment of the writer, who has had no inconsiderable experience and knowledge of the cost of railroads in various portions of the country for the last twenty-five years.

An opinion formed in a similar manner, upon data of a like character, in respect to the Southern routes, makes the probable cost of either, vastly greater than that of the Northern route. This results from their greater length; the less favorable character of the surface; the probable greater amount of rock; the almost total absence of timber for much of the distance; their inaccessibility; the greater difficulty of securing labor; and the very much greater length of time required for their construction, producing a large interest account, and preventing early returns upon the capital invested.

This is true of the routes from St. Louis and Memphis crossing the valley of the Del Norte. It is also in a great measure true of the most southern route.

No very correct or satisfactory opinion can be formed of the probable cost of either of the lines leading from St. Louis or any of the points named south of that city, to San Francisco or San Diego, owing to the peculiar character of the country west of the Del Norte, since in all the varieties of railway construction in this country, or in Europe, no parallel can be found to the circumstances which there exist on those routes.

Upon each of them for a distance of 700 miles and upwards, during that season when the sun is most powerful, scarcely any rain descends to moisten the dry and parched ground, and lay the clouds of dust which are raised and swept by the winds over its treeless surface, and the little that falls at other seasons is not sufficient, in most places, to produce any appreciable effect upon the thirsty soil, and none at all where the surface is of the character represented in the vicinity of, and for a number of miles west of, the Colorado, viz: a waste of drifting sands unstable and changeable, nearly, as the waves of the sea.

In a region of this character, it remains yet to be ascertained; how much labor is required to form embankments and excavations of given dimensions, and fortify them, if it be possible, against external influences, so that both may not again be speedily obliterated or rendered comparatively useless by the winds of Heaven.

It remains also to be ascertained what plan of construction is the best for the track and for the buildings and other appendages of the road. Whether timber under its necessarily great cost can be used with propriety to any extent instead of stone or metal, in forming the track, and for other purposes; and if so used, will be sufficiently secure from destruction by fire in those arid wastes, or whether in the absence of the *bois de vache* or "buffalo chips," which will become very scarce in the immediate vicinity of the railroad, the Indian, (still the principal tenant of that unin-

habitable region,) will hesitate to obtain from the material of the road the means to cook his hasty meal, or warm, in winter, his shivering limbs.

It remains also to be ascertained, whatever plan of construction may be adopted, what is the actual cost of labor, of materials, and of provisions, etc., under the great and extraordinary inconveniences and disadvantages which will necessarily surround and encumber the execution of the work. And should it finally be completed, it remains to be seen what will be the actual cost of operating and maintaining under the great disadvantages which must forever exist, and to appreciate which, the past history of railroads affords no antecedents, or any evidence upon which a correct judgment can be formed, further than the certain assurance of the cost exceeding greatly the limits of all past experience.

This is the true aspect necessarily presented by the subject when the question of cost of either of the three routes named is seriously considered, and cannot be changed unless it shall appear that whatever has been written of the country is untrue or the facts have been greatly exaggerated and distorted, or unless, what is about equally probable, Providence shall interpose and remove that great barrier, the Cordilleras of California, and compel, also, the trade winds to distribute their treasures in a less partial manner over the entire region from the Pacific to the Rocky Mountains.

On the subject of cost, therefore, the only conclusion at which it is at present possible to arrive, is, that all things considered, including difference in climate and other circumstances named, either of the three southern routes must cost very much more, mile for mile to build, than the northern, and will cost, also, very much more to operate and maintain, and in arriving at this conclusion it is not forgotten that the northern route has also its difficulties. That on portions of it there is a scarcity of timber, and in some few places, perhaps, of water, and that the conveyance of materials, etc., on much of the line, will be attended with unusual expense, but aside from these the work possesses no extraordinary character, and there is no good reason to suppose that it can very much, if any, exceed the limits of an estimate as liberal as the one herein presented. The country through which this line passes is, in general, susceptible of improvement, and will be settled, probably, about as fast as the road can be built; a circumstance which, while it will contribute greatly to the business of the road, will add to its security, and materially lessen the expense of operating and maintaining it.

That this is a just conclusion is evident from the fact, that even now the tide of emigration and settlement is setting more strongly in that direction than any other under the combined attraction of soil and climate, and this movement will be greatly accelerated whenever the line of railroad is completed, as it soon will be, direct from Chicago to the Mississippi, and more especially when it is known that a railway is to be constructed upon the proposed northern route to the Pacific.

It has been stated that the portion of the most southern route, from the Mississippi to the Del Norte passes through a region of country possessing many attractions for settlers, a region which will in time undoubtedly fully justify the construction of a railroad for its accommodation.

West of the Del Norte, the country has few attractions of an agricultural character, but the mountains and the valleys on either side of the Gila are said to be rich in minerals and in the precious metals. To obtain suitable access to them and to fulfil in a proper manner our treaty relations with Mexico, a railway to the Valley of the Gila or the Del Norte is important; but beyond this it is difficult to perceive any present necessity or advantage commensurate with the expense for such an improvement, a conclusion in which our readers will more readily acquiesce when they come to see from the remarks which follow the degree of interest, the State of California really has in such an improvement.

With respect to the other lines projected from the Mississippi or Missouri rivers towards the Colorado Valley, they will, if judiciously located, and extended so as to keep a proper pace with the movement of the population, be well sustained in their course to the Rocky Mountains, but beyond these no inducements exist for their extension, or are likely to exist for many years to come; unless at a few points where there are very favorable passes, it shall be found expedient to enter the borders merely of the immense waste which lies beyond.

Under an enlarged commercial view of the subject the more populous of the States lying to the East of the Mississippi, have very little interest comparatively in the adoption of any central or more southern route from that river to the Pacific.

To illustrate the truth of this latter position let it be assumed, that San Francisco is a point on the Pacific as desirable to be reached as the Straits of De Fuca,—that its distance from St. Louis for instance by any practicable route is no greater than the distance of De Fuca from Chicago; that the cost of constructing and maintaining and operating a railroad upon the former route is no greater than upon the latter, with no more elevation to be overcome—that the country through which the former passes is equally productive with the latter, and will afford a revenue from a way business in time equally great, all which assumptions are untrue, what then would be the aspect which the question would present, and which of the points St. Louis or Chicago would be the most convenient and easy of access by the mass of the population between the Mississippi and the Atlantic?

The question is very easily answered by a reference to the map and drawing thereon a straight line connecting the two cities of St. Louis and Chicago, and from a point midway on this line drawing another as AB in a south-easterly direction perpendicular to it, which it will be seen meets the Atlantic in the vicinity of Wilmington, N. Carolina. Any point in this latter line is evidently equidistant from St. Louis or Chicago and hence all places to the north of it, must be nearer to Chicago than to St. Louis.

The portion of the population of the United States which is thus situated nearest to Chicago comprises two-thirds of the whole. That section of the Union also includes much the greatest portion of the capital of the country, and at least seven-eighths of its commercial and manufacturing interest; branches of national industry which will

contribute most to the business of the road when built.

If the mouth of the Kansas river is assumed as the eastern terminus of the proposed central road, the distance from it to San Francisco, will probably be found as great as from Chicago to De Fuca, the latter route still possessing all the other important points of superiority, enumerated above. Indeed if a point be taken far enough west on the route from St. Louis to San Francisco, to place that route on a par with the Northern route, in respect to distance, gradients, expense of constructing and operating combined, to say nothing of the inferiority of San Francisco, as a terminus compared with De Fuca. and if from that point a direct line be drawn to Chicago, as is done upon the map from St. Louis to Chicago, and this line be bisected by another at right angles to it drawn to the Gulf of Mexico, it will be seen that, as between the two routes named, nearly every State east of the Mississippi is nearest to the Pacific by the Northern route.—In fine, if the States east of the Mississippi were expunged and St. Louis stood the acknowledged best point for the eastern terminus of the proposed road, the very best route that could be selected from it to the Pacific, would be the Northern route.

Chicago is not only situated the nearest to the most populous and most commercial and manufacturing portion of the Union, and also to the Canadas, which will contribute largely to the proposed road, but it has the great advantage of a position at the extreme limit of navigation of the Great Lakes, a navigation which is so much cheaper than the cheapest conveyance by railroad, as to attract by a force which cannot be resisted most of the freight passing between New York and the Pacific, over any route leading from St. Louis, so that in comparing the Northern with the St. Louis route it would be the most correct to assume the latter as terminating at Chicago, in which case the disparity between the two in favor of the Northern route will be still more apparent.

This view of the subject exhibits in a striking manner the great disparity between the two routes, and presents in a strong and clear light the superiority of the Northern route as compared with any more southerly route proceeding from St. Louis to the Pacific.

St. Louis has not only not the advantage in position in its relation to the leading cities of the Atlantic as Chicago, but any route passing from it to the West has no such invaluable feature as is possessed by the Northern route, in the opportunity it affords for a connexion with the navigation of the Lakes, by the branch to Lake Superior, which reduces the distance by railroad between that navigation and the Pacific to not more, probably, than 1600 miles; neither can it command in so great a degree the European trade and intercourse, with Asia across the continent, which must constitute a large portion of the business of the Northern route and add greatly to its revenue; a trade which will yield larger profits upon the Northern route, just in proportion as the expense of carrying upon that route is less, in consequence of the less cost and less expense of operating and maintaining it as compared with the more southern routes.

The attention of the English government and of

English capitalists is already seriously directed to the subject of a communication by railroad across the continent from the Great Lakes, and should the Northern route not be built, a road designed to accomplish the same object will undoubtedly at no very distant day be attempted within the British possessions, on ground, which although not by any means as favorable as is to be found within our own borders, is still sufficiently favorable to render a road constructed upon it superior, in many respects, probably; to any of the more southern routes, and upon which if a road is built it will command somewhat more than the lion's share of the Pacific trade.

Such is the great advantage in position of the Northern route as a commercial thoroughfare, such the character of the country through which it passes, connecting as it does by the best route the most important points on the Atlantic and Pacific, and touching in its course the most populous and growing portions of the Mississippi and St. Lawrence valleys, that if either of the proposed lines to the south of it were previously constructed by government aid, the force of circumstances and private enterprise would in time cause it to be built, even if our English neighbors should attempt a similar communication; and when built it would become the leading channel of communication between the two oceans.

It has been stated that neither of the routes proposed leading from San Francisco to the Mississippi, could, if built, command the entire trade and travel between the Bay of San Francisco and the Atlantic. Transportation by sea being very much less expensive than by railroad, the routes by the Isthmus notwithstanding the greater distance, will doubtless continue to participate largely in the trade between the points named. This will be especially the case when the construction of the canal connecting the two oceans is accomplished, a work which if it proves as feasible as represented, is deserving of more consideration than any other of the Isthmus projects, and will, in all probability, take from them whatever of interest the North American State might otherwise have in their construction.

Such also are the physical characteristics and probable future commercial relations between the several portions of our country on the Pacific, that a communication by railway connecting California with Oregon and Washington will be found indispensable. Upon the map of Senator Gwin, already alluded to, a line is projected extending from the Bay of San Francisco to Puget Sound, and it is understood that a grant of lands will be solicited from Congress for its accomplishment.

If a practicable passage can be found from the upper part of the valley of the Sacramento to that of the Willamette or of the Fall River, it cannot be long before it will be occupied for the purposes of a railroad; and when so occupied a communication will be at once opened, by which the population of California will be able to avail themselves of the great facilities afforded by the Northern route for communicating with the eastern States of the Union.

The ground at the northernmost sources of the Sacramento is undoubtedly quite elevated, but it can scarcely be so high as to make the entire rise and fall from the Sacramento valley to Lake Superior or Lake Michigan, equal to what it is by

either of the southern routes to the Mississippi. Col. Fremont, who passed up the valley of Fall River, describes it as having a rich soil covered with noble forests. He found the elevation where he left it near its source 4000 feet above the sea. Between the sources of the Fall River and the Sacramento are interposed those of the Klamath which flows in to the Pacific a little north of Humboldt harbor.

A road extending from the Sacramento valley, which is the most populous and productive portion of California, and carried from thence along the valley of Fall River and across the high prairie plains east of the Columbia to the valley of Clark's River, will connect with the Northern route at a point which will make the distance by railway from the Bay of San Francisco to Lake Superior not more than 2100 to 2200 miles; a distance no greater than by either of the proposed southern lines from San Francisco to the Mississippi, and possessing in comparison with the latter many and great advantages.

If instead of a railroad communication between the Bay of San Francisco, and Oregon and Washington, reliance is placed on the communication by water with the Ports of the latter, the Northern route will probably still prove the best and most eligible of the inland routes from that Bay to the Atlantic States.

The distance from San Francisco to the mouth of the Columbia by water is about 600 miles, and from the latter to Lake Superior, as estimated, is 1750 miles, or 2350 miles in all. This is very little greater than the distance from San Francisco to St. Louis, and probably less than from San Francisco, to Chicago by the St. Louis route. The former is very much the cheaper route of the two for transportation. Only 1750 miles of railroad conveyance to Lake Superior the remainder being ocean navigation and 2110 miles only to Chicago; while from San Francisco to Chicago the entire distance by railroad is not less than 2430 miles; nearly 700 miles more than to the west end of Lake Superior, a point as near to the Atlantic by the unrivalled navigation of the Lakes as is Chicago.

From the Bay of San Francisco to Chicago the distance by railroad as estimated by the Northern route is 2560 miles. This is 130 miles more than the estimate between the same points by the way of St. Louis. If instead of the Bay of San Francisco, a point to the north of it in the Sacramento valley is selected, nearer to the centre of population of California, the distance will be very nearly the same as on the two lines to Memphis and St. Louis, but the Northern route will have in respect to the latter this decided advantage.

It passes through in its entire extent, a country susceptible of improvement and settlement, and will consequently transact relatively a larger way business.

For 1300 to 1700 miles of the distance it forms a part of what must be by the immutable laws of cause and effect, the great commercial inland route of the continent, the highway between the northern Atlantic and Pacific, a thoroughfare such, probably, as the world has never witnessed, transporting annually its hundreds of thousands of passengers and a vast amount of freight.

This being its character and the expense of transportation by any medium of intercommuni-

cation being invariably less, as the amount of business to be done is greater, it follows that the cost of transport by this route from San Francisco to Lake Superior or to Chicago will be less than it can be on any other route from the same point to the Mississippi. Add to this the greater cheapness of transportation during the season of navigation from Lake Superior to the leading cities on the Atlantic, compared with that from the Mississippi to the same points, and it gives to the Northern route as a means of communication between California, and the older States of the Union east of the Mountains, a character which cannot be surpassed by any other inland route, from the Bay of San Francisco to the Mississippi.

The cost of transportation will not only be less upon the Northern route in consequence of the greater amount of business done upon it, but it will be a cheaper road to operate and to maintain, and so much cheaper as to lessen materially the charges for transportation, if those charges on the several routes are made with reference to a fair remuneration for the expenses incurred and capital invested. This follows from its having, in general, easier gradients, a much less amount of elevation to overcome, in the aggregate, on the main line from the lakes to the Pacific; the cost of fuel, provisions and materials, for repairs of road and engines will be less, and all other expenses incident to the operation and maintenance of the road will also be less.

It will not only be the cheapest inland route for transport between the States east of the Rocky Mountains and the Pacific, but it will be the most expeditious route for travel. The easier gradients, and less elevation, and the more complete and efficient equipment upon a road doing a large business, will enable it to maintain a higher speed, and it will be subject to fewer contingencies in respect to the regularity of movement of its trains, and it will be less liable to interruptions from snows, and floods, and drifting sands and other causes, than the more southern routes.

Irrespective of a connection with the northern route and a communication by means of it with the Atlantic States, the population of California have a deep interest in securing, if practicable, a line of railroad direct from the Sacramento valley to Oregon and Washington. Such a road will give to them direct access to the timber and agricultural regions of the latter, and in a military view, will give to them the means of defence, which cannot be so well or efficiently obtained in any other way. The population which is gathering on the Pacific coast, and is rapidly increasing in numbers, is, even at this time, probably, sufficiently numerous to resist any hostile force which can be brought to bear upon it by sea. All that is required is a line of interior communication by railroad and telegraph, parallel with the seaboard, by means of which the forces of the country can easily and quickly be transported to the exposed points, which are few in number, and the erection at proper points of a few marine and floating batteries, and the establishment, also, at convenient points of depots containing arms and munitions of war. By adopting this course, California, while securing for itself what will conduce most to its advantage in a military view, is at the same time, doing that which will contribute also most to its advantage commercially, in securing a direct connection with

the territories north, and with the best inland route to the leading States and cities on the Atlantic.

To be continued.

Finances of South Carolina.---Public Debt and Assets.

6 per cent Fire Loan Bonds, payable in London, '58 and '68.....	\$937,777 78
6 per cent Fire Loan stock, payable in '60 and '70.....	865,590 15
6 per cent of 1839, (balance past due not bearing interest).....	8,418 30
5 per cent 1838, balance.....	45,214 84
3 per cent at nominal value, \$114,438 40, but at market price would amount to.....	73,986 19

Total..... \$1,870,986 76

The treasury has paid from the sinking fund, since 1st of October, \$6,032 50 of the six per cents of 1839, reducing the balance to \$2,385 80. The bank also holds of the five per cent stock of 1838 the sum of \$6,678 11, and also \$7,441 53 of three per cents, which was purchased with the sum of \$4,668 16. The amount of indebtedness is diminished by these several payments and purchases.

The assets of the State consist of the bank and various railroad stocks. The assets under the charge of the bank may be summarily set down as follows:—

Total funds in the bank, as exhibited by the annual statement 1st October.....	\$7,919,932 49
Deduct bank liabilities, issues, deposits, &c.....	4,086,590 22
Balance, being assets, the property of the State.....	\$3,833,342 27
South Carolina railroad and bank stock.....	641,000 00
Greenville Railroad Company.....	348,000 00
Wilmington and Manchester Railroad Company.....	200,000 00
Charlotte and Columbia Railroad Company.....	69,200 00
King's Mountain Railroad Company.....	50,000 00
Laurens Railroad Company.....	34,000 00

Total..... \$5,175,542 27

In addition to the funded debt due by the State, there is due to the bank the sum of \$177,691 22 for cash paid to the South Carolina Railroad Company, when \$25 per share on the stock of that company was called in. As the whole par value of the stock is set down among the assets of the State, it is necessary to notice the debt in an estimate of her finances.

The profits of the bank during the year have amounted to \$330,000, exceeding the profits of the previous year \$21,594 93. From these profits have been paid the fire loan debt, \$100,963, and the balance carried to the sinking fund amounts to \$229,037. The account exhibits a larger balance than usual; but the bank has advanced to contractors for arms, &c., about \$51,000, which is a set off against this balance. The sum of \$75,500 has also been advanced to the Greenville Railroad Company, which is the amount of the assessment on the stock held by the State in that company, and which, if paid by the State, will make a further reduction of the cash balance in the treasury. The bank holds the notes of the company, with security for the amount of the advance.

Panama Railroad.

The following is the statement recently put forth by the Panama Railroad Company, showing its financial condition:

Amount of stock issued to date.....	\$2,621,572
do. bonds converted into stock..	92,000
do. do. outstanding.....	808,000

Total..... \$3,521,572

Bonds to be issued, in conformity with an act of the Legislature, to finish the road..... \$1,478,428

Capital stock, as per charter..... \$5,000,000

Motive power on the Narrow Gauge.

By ZERAH COLBURN.

As a proper sequel to the recent article in the Journal, wherein I gave a detailed statement of the engine equipment of the New York and Erie road, the capacity and weight of the narrow gauge is presented for comparison. The capacity, live weight, and speed of the trains, moved by the re-

spective equipments of the two gauges, being nearly equal under the same conditions of grades, &c., it is plain that the broad gauge either employs an unnecessary excess of power, or that additional power is required by reason of increased resistance. The circumstances of the transportation effected upon the two gauges being generally familiar to engineers and railroad men, it is hardly

necessary, after the illustrations given in my previous articles, to enlarge upon this point. No more will therefore be attempted than to give a general illustration of the equipment of the narrow gauge; the examples being taken from such roads as afford, from their physical features or business, a fair comparison with the statements already given.

Equipment of Engines of the Northern Railroad of New York, June, 1852.

Name of Engine.	Builder.	No. of Drivers.	Diam. of Drivers. ft. in.	Number of Trucks.	Size of Cylinder. Inches.	Weight of Eng's in working order. Tons.	Weight on Drivers. Tons.	Weight of Tender. Tons.	Whole Wt. E & T. Tons.
Sorel.....	Amoskeag Co.....	4	6 2	4	16×20	23,77	15,06	16,05	39,82
Richelieu.....	Taunton Co.....	4	5 6	4	15×20	23,68	15,30	12,65	36,53
Rideau.....	Essex Co.....	4	5 6	4	16×20	25,80	16,80	15,50	41,80
Oswegatchie.....	Boston Locomotive Works.....	4	5 6	4	15×18	21,52	13,20	15,01	36,53
Deer.....	Lewis Kirk.....	4	5 8	4	16×20	25,35	16,25	14,25	39,60
Trent.....	Essex Co.....	4	5 0	4	15×18	20,50	13,50	15,11	35,61
Welland.....	Ditto.....	4	5 0	4	15×18	24,90	15,15	13,35	38,25
Ottawa.....	Taunton Co.....	4	5 0	4	15×18	21,75	13,35	12,51	34,26
Ontario.....	John Souther.....	4	5 0	4	15×20	22,85	14,77	15,00	37,85
Ausable.....	Boston Locomotive Works.....	4	5 0	4	15×18	20,50	13,50	15,11	35,61
Saranac.....	Ditto.....	4	5 0	4	15×18	20,50	13,50	15,11	35,61
La Grasse.....	Ditto.....	4	5 0	4	15×18	20,50	13,50	15,11	35,61
Chateaugay.....	Ditto.....	4	5 0	4	14×18	17,35	11,20	12,50	29,85
Niagara.....	Essex Co.....	4	4 6	4	15×24	26,20	17,10	15,55	41,75
Michigan.....	Ditto.....	4	4 6	4	15×24	26,10	17,15	15,70	41,80
Raque.....	Boston Locomotive Works.....	4	4 6	4	16×20	23,41	14,98	14,03	37,44
Erie.....	Ditto.....	4	4 6	4	16×20	23,41	14,98	14,03	37,44
Superior.....	John Souther.....	4	4 6	4	16×20	22,20	13,90	13,13	35,33
Genessee.....	Essex Co.....	4	4 6	4	15×20	24,88	15,65	13,35	38,23
St. Clair.....	Ditto.....	4	4 6	4	15×20	24,32	15,32	13,30	37,62
Huron.....	Ditto.....	4	4 6	4	15×20	24,88	15,65	13,35	38,23
St. Lawrence.....	Boston Locomotive Works.....	4	4 6	4	16×20	22,40	14,90	15,11	37,51
St. Regis.....	Ditto.....	4	4 6	4	16×20	22,40	14,90	15,11	37,51
Champlain.....	Ditto.....	4	4 6	4	15×20	19,75	12,33	15,21	34,96
Salmon.....	Ditto.....	4	4 0	0	14×20	17,25	17,25	12,50	29,75
Little Salmon.....	Ditto.....	4	4 0	0	11½×20	13,80	13,80	7,75	21,55
Little Trout.....	Ditto.....	4	4 0	0	11½×20	13,80	13,80	7,75	21,55
Chazy.....	Hinkley & Drury.....	2	4 6	4	11½×20	.....	.....	.....	.....

Equipment of Engines, Fitchburg Railroad, February 1853.

Name.	Builder.	Cylinder.	No. of Drivers.	Diam. of Drivers.	No. of Trucks.	Tube Surface. square feet.	Fire box Surface. square feet.	Grate Surface. square ft.
Vermont.....	Hinkley & Drury.....	13½x20	4	5 0	4	526,6	42,4	8,2
Keene.....	".....	13½x20	4	5 0	4	526,6	40,1	8,4
Brattleboro.....	".....	13½x20	4	5 0	4	526,6	40,1	8,4
Lexington.....	".....	13½x20	4	5 0	4	526,6	40,1	8,4
A. Crocker.....	".....	15x20	4	4 6	4	572,7	46,3	8,6
Waltham.....	".....	15x20	4	4 6	4	572,7	46,3	8,6
Tudor.....	".....	11x20	2	5 0	4	334,9	37,9	8,2
Gardner.....	".....	1½x18	4	5 0	4	522,3	48,3	8,2
Athol.....	".....	15x20	4	4 6	4	563,5	48,6	8,4
Leominster.....	".....	15x18	4	5 0	4	572,7	49,2	7,9
Concord.....	".....	15x20	4	4 6	4	563,5	48,6	8,4
Shirley.....	".....	14x18	4	5 0	4	513,1	48,3	8,2
Groton.....	".....	15x18	4	5 0	4	572,7	50,7	8,4
Cambridge.....	".....	15x18	4	5 0	4	572,7	50,7	8,4
Lincoln.....	Boston Locomotive Works.....	16x20	4	4 6	4	600,2	55,3	9,9
Littleton.....	".....	15x18	4	5 0	4	572,7	50,8	8,4
Boston.....	Lyman & Souther.....	16x20	4	5 6	4	649	48,6	8,6
Massachusetts.....	Rebuilt by Boston Locomot. Works.	15x20	4	5 6	4	806,3	53,6	8,6
Ontario.....	Boston Locomotive Works.....	16x20	6	3 10	4	678,3	55,3	10,0
Champlain.....	".....	16x20	6	3 10	4	678,3	55,3	10,0
Fitchburg.....	".....	16x20	4	5 6	4	600,2	54,6	9,7
Charlestown.....	".....	16x20	4	5 6	4	600,2	54,3	9,7
Anthracite.....	".....	16x20	4	4 6	4	596,4	63,5	9,9
Bunker Hill.....	".....	16x20	6	3 10	4	678,3	54,9	9,9
The Union.....	".....	16x20	4	5 6	4	687,2	62,9	9,9

New York Central Railroad Equipment from Utica to Schenectady, December 1852.

Engines.	Weight of Engine in running order.	Weight of Tender loaded.	Weight of Engine and Tender with wood and water.	Diameter of Drivers.	Size of Cylinder.	No. of Drivers.	No. of Trucks.	Tube Surface.	Fire box Surface.	Grate Surface.
1	27,045	19,995	47,040	4 8	10½×16	5	12 ×16	19 41,170	22,885	64,055
2	36,070	24,055	60,125	4 8	12 ×16	5	12 ×16	20 51,480	28,540	80,020
3	49,050	28,500	77,550	5 6	14 ×22	7	12 ×26	21 51,480	28,540	80,020
4	54,900	34,830	89,730	5 6	15½×26	8	10½×16	22 51,240	28,610	79,880
						9	11½×21	23 54,360	28,170	82,530
						10	12 ×20	24 49,700	28,900	78,600
						11	12 ×20	25		
						12	13 ×22	26 53,240	35,110	88,350
						13	13 ×20	27 53,240	35,110	88,350
						14	12 ×26			
						15	13½×18			
						16	13 ×22			
						17	13 ×22			
						18	13 ×20			

Weights of Engines on Reading Railroad, November 30th, 1852.

Name.	Builder.	Weight, lbs.
Atlas.....	M. W. Baldwin.....	60,480

Hercules.....	M. W. Baldwin.....	60,480	Missouri.....	Newcastle Co.....	42,112
Texas.....	".....	60,400	Columbus.....	".....	41,440
Alabama.....	".....	50,400	Tuscarora.....	".....	26,422
Kentucky.....	".....	50,400	Pennsylvania.....	".....	25,536
Indiana.....	".....	49,056	Manatawny.....	Wm. Norris.....	30,912
Princeton.....	".....	50,400	America.....	".....	30,016
Montezuma.....	".....	50,400	Conestoga.....	Locks & Canals Co.....	26,432
Amazon.....	".....	50,400	Shamokin.....	".....	26,432
Warrior.....	".....	50,400	Potomac.....	".....	26,432
Florida.....	".....	50,400	Roanoke.....	".....	26,432
Washington.....	".....	50,400	Engineer.....	Braithwaite & Co.....	19,712
Empire.....	".....	50,400	Rocket.....	".....	18,816
Pocahontas.....	".....	50,400	Planet.....	".....	18,816
Yorktown.....	".....	50,400	Gowan & Marx.....	Eastwick & Harrison.....	24,640
Rio Grande.....	".....	45,024	Cambridge.....	Lewis Kirk.....	57,120
United States.....	".....	41,664	<i>Equipment of Engines, Penna. Central Railroad,</i>		
New England.....	".....	44,128	<i>January 1, 1853.</i>		
New York.....	".....	42,784			
Ontario.....	".....	42,784			
Virginia.....	".....	42,794			
Hudson.....	".....	43,904			
Niagara.....	".....	43,904			
Pacific.....	".....	43,680			
Independence.....	".....	43,680			
Oregon.....	".....	43,680			
St. Lawrence.....	".....	43,680			
Constitution.....	".....	43,680			
Champlain.....	".....	45,024			
Dauphin.....	".....	53,088			
Baltic.....	".....	51,296			
Perry.....	".....	53,312			
Seminole.....	".....	29,344			
Baltimore.....	Ross Winans.....	62,720			
Maryland.....	".....	62,720			
Delaware.....	".....	62,720			
Ohio.....	".....	62,720			
Patapsco.....	".....	55,104			
Minesota.....	".....	50,400			
Georgia.....	".....	53,984			
Louisiana.....	".....	53,586			
Iowa.....	".....	56,896			
Wisconsin.....	".....	56,448			
New Jersey.....	".....	57,120			
Mississippi.....	".....	59,360			
Connecticut.....	".....	59,360			
New Hampshire.....	".....	59,360			
Utah.....	".....	58,688			
Mohawk.....	Edward S. Norris.....	43,456			
Genesee.....	".....	43,680			
Alleghany.....	Reading Railroad Co.....	53,536			
Wyomissing.....	".....	60,256			
Pawnee.....	".....	60,256			
Swatara.....	".....	60,256			
Perkiomen.....	".....	60,256			
Tennessee.....	".....	60,256			
Powhatan.....	".....	60,256			
Illinois.....	".....	62,048			
Michigan.....	".....	62,944			
Wyoming.....	".....	43,904			
Palo Alto.....	".....	46,592			
Monterey.....	".....	44,576			
Sanatoga.....	Rebuilt by Read. R. R. Co.....	43,008			
Mahonoy.....	".....	45,248			
Atlantic.....	".....	45,024			
Philadelphia.....	".....	45,248			
California.....	".....	48,160			
Chesapeake.....	".....	44,800			
Monocacy.....	".....	36,736			
Reading.....	".....	36,288			
Schuylkill.....	".....	32,928			
Osceola.....	".....	33,152			
Huron.....	".....	33,152			
Erie.....	".....	33,152			
Ontalaunee.....	".....	32,704			
Buena Vista.....	Reading Railroad Co.....	37,856			
Vera Cruz.....	".....	37,408			
Cerro Gordo.....	".....	37,632			
Gazelle.....	Rebuilt by Read. R. R. Co.....	24,640			
Atlanta.....	".....	23,072			
Antelope.....	".....	20,832			
Stag.....	Reading Railroad Co.....	32,704			
Ariel.....	".....	12,320			
Witch.....	".....	11,648			
Maine.....	Boston Locomotive Works.....	44,800			
Massachusetts.....	".....	45,024			
Vermont.....	".....	45,248			
Carolina.....	Newcastle Co.....	42,112			

Equipment of Engines, Penna. Central Railroad, January 1, 1853.

Name.	Number of Drivers.	Size of Drivers.	Weight of Engine.	Weight on Drivers.
		ft. in.	pounds.	pounds.
Alleghany.....	4	4 6	45,275	25,825
Armstrong.....	4	5	38,675	22,875
Antelope.....	4	6 6	.....	.....
Atlanta.....	4	6 6	.....	.....
Beaver.....	8	3 6	43,350	43,350
Blair.....	2	6	40,175	21,000
Butler.....	4	5	38,675	22,875
Bradford.....	4	4 6	44,800	25,400
Bedford.....	6	3 6	57,875	42,037
Berks.....	6	3 6	57,875	42,037
Cambria.....	4	4 6	40,825	25,320
Clarion.....	4	4 6	45,275	25,825
Columbia.....	4	4 6	44,800	25,400
Clinton.....	4	4 6	44,800	25,400
Clay.....	2	4	23,350	14,600
Centre.....	4	4 6	44,800	25,400
Clearfield.....	4	4 6	44,800	25,400
Crawford.....	4	4 6	44,800	25,400
Dauphin.....	6	3 6	57,875	42,037
Erie.....	4	4 6	44,800	25,400
Elk.....	4	4 6	44,800	25,400
Franklin.....	4	4 6	30,650	16,750
Fayette.....	4	4 6	46,110	26,490
Greene.....	4	4 6	46,200	26,490
Huntingdon.....	4	4 6	45,275	25,825
Harrisburg.....	2	4 6	23,900	12,000
Heisley.....	4	4	.....	.....
Indiana.....	2	6	40,175	21,000
Juniatta.....	4	4 6	45,275	25,825
Lycoming.....	4	4 6	46,110	26,490
Latrobe.....	6	3 8	54,000	43,000
Lebanon.....	6	3 6	57,875	42,037
Mifflin.....	2	6	40,175	21,000
Mercer.....	6	3 6	57,875	42,037
Penrose.....	2	4 6	24,225	12,000
Pike.....	4	5	47,100	27,480
Susquehanna.....	4	5	38,675	22,875
Somerset.....	4	5	47,100	27,450
Union.....	4	5	47,100	27,450
Venango.....	4	4 6	44,800	25,400
Wyoming.....	4	5	36,675	22,875
Washington.....	6	3 6	34,675	34,675
Westmoreland.....	8	3 7	50,975	50,975

The weight of the 15 inch cylinder engines of the Fitchburg road, such as the Cambridge, Littleton, &c., is 42,440 lbs.; the weight on drivers being 26,750 lbs., and weight of tender, with wood and water, 25,900 lbs. The weight of the Concord and Athol is 44,110 lbs each, of which 30,810 lbs. are on drivers, The ten wheel engines weigh 48,000 lbs., of which 36,000 lbs. are on the drivers.

The heaviest express engines of the Hudson River road have 16½ inch cylinders, 22 inch stroke, two pairs of 7 feet drivers and truck. Boiler contains 139 tubes, 2 inches diameter and 12 feet long, equal to 873½ square feet of tube surface. Weight in running order 55,275 lbs., of which 35,275 lbs. are on drivers,

The heaviest express engines of the Boston and Worcester road have 16 by 20 inch cylinders and four 5½ feet drivers and truck, 637 square feet tube, 58 do. of fire box and 10¾ do. of grate surface. Weight in running order 47,095 lbs.

Evansville and Illinois Rail Road.

We are gratified to be able to announce, that with anything like auspicious weather, the Evansville and Crawfordsville Railroad will be completed in little over one week from this time to Vincennes. In two weeks certainly, Vincennes and Evansville may claim to be united by Railroad.—It will be a happy consummation, and we are sure, one that the citizens of both places will be delighted to realize. The White River bridge is not yet completed, but the work is rapidly going on. It is now confidently anticipated the structure will be finished by the middle of next January. Until that time, passengers and freight are obliged to be transferred at White River. But this does not cause very much delay, and allows passengers a few minutes opportunity of inspecting the bridge works. The President of the road, Hon. Sam'l. Hall, has recovered his health, and is now active in pushing forward everything in connection with it. We have heretofore been called upon to compliment his industry and faithfulness. He has labored under peculiar difficulties in his office, but in spite of all obstacles is carrying the work forward successfully. There will be no delay in pursuing the work beyond Vincennes, and ere long we will be connected with Crawfordsville and Terre Haute.—*Evansville Journal.*

Share and Money Market.

The Stock Market has shown but little activity for the past week, and whatever tendency has manifested itself has been downward. Our markets are now controlled by the state of the English markets, and prices on this side take their cue from the price of *consols*, which fluctuate according to the prevailing rumors in favor of war or peace. The last advices were not deemed satisfactory. Our Roads are in excellent condition, and there is no doubt that favorable news from Europe would cause a rapid movement upward.

There is little doing in negotiation of new securities. The season of the year is unfavorable to activity in any department of business. For first-class securities the market is firmer, and is, we think, steadily improving. The following statement will show the earnings of several railroads for November, compared with the same month of

	1852.	1853.
Hudson River.....	123,520	88,698
Erie.....	50,327	348,838
Few York and New Haven.....	72,420	54,509
Ohio and Penn.....	73,427	40,275
Nor. and Worcester.....	26,652	21,746
Stonington.....	23,000	15,000
Eight Avenue, (City).....	25,379	new,
Sixth.....	26,219	"
Third.....	28,241	"
Rock Island and Chicago.....	59,421	"
Cleveland and Toledo.....	61,443	"
Michigan Southern.....	165,840	105,599
Cincinnati. Hamilton and Dayton.....	35,802	27,615
Macon and Western.....	26,073	27,017
Penn. Central.....	240,145	134,535
New York Central.....	400,821	361,859
Cleveland and Pittsburgh.....	40,550	29,362

We have at last a Report from the Erie Railroad; or, rather, we have the *loan* of a copy from a friend, for a day or two, (the Company never favoring us with any of their publications); an elaborate, detailed, and, in many respects, a lucid and instructive Report, of some 122 pages:—a Report indicating real labor, and, in the main, intending to convey information, instead of misleading.

It is the first time that the Company have ever given an account of the history, progress, and system of management of the road. The information the Report contains, and the great labor its preparation indicates, is a striking commentary upon the position that Mr. Loder took last spring, that "the report to the Legislature was all that was necessary to give the public an idea of the condition and management of the road"! We are glad to find, that Mr. Loder, in retiring from the Board, carried his peculiar notions with him. We are inclined to believe that the present Report embodies much interesting information which will be new to even him.

The Report is divided into ten heads, viz.:

1. The history of the undertaking.
2. A topographical description of the route, and the obstacles which prevent the construction of competing lines.
3. Its tributary roads and water lines within and beyond this state.
4. The resources for business, the trade of the West, and the portion of it due to the New York and Erie Railroad, from its location and facilities.
5. The character of the road, as now constructed, and its cost.
6. An analysis of its present business.
7. A comparison of its business, revenue and expenses, with that of former years, and of other roads.
8. The organization and management of the road.
9. Its financial condition.
10. The probable future revenue and expenses.

Each of these heads is elaborated to nearly the size of the previous Report of the Company. They are followed by a large number of tables, which present the leading characteristics of the road, such as its grades, elevations, and alignment, the amount and condition of its equipments; with others, showing its working economy for the past year; the movement of persons and property, the sources of revenue, the proportion of passenger to freight receipts, of receipts and expenditure, etc. etc. The tables embody a great amount of interesting information in reference to the general subject of railway transportation, useful to this, as well as to other companies. It will constitute a good starting point for future reports of a similar character, and is all the more acceptable for coming so late in the day.

The cost of the road and equipment to the present date, and the expenditures during the past year, are stated as follows:—

On what account.	Present cost.	Expend. of year ending Sep. 30, '53.
Grading, transportation of laborers and materials and gravel and hand-cars, \$12,959,619.97	\$2261,889.43	
Superstructure,.....	2,374,186.08	451,219.07
Iron.....	3,764,216.03	896,860.58
Stations, buildings and fixtures, viz.:		
Freight and Passenger Depots.....	513,362.87	57,887.98
Water Stations and Wood Sheds.....	254,941.21	66,324.91
Machine and Workshops.....	233,778.97	33,547.84
Machinery in Shops..	161,604.78	28,241.58
Depot and stores in New York.....	92,974.01	4,029.50
Land, land damages and fences.....	1,159,515.16	82,149.49
Locomotives and fixtures.....	1,362,971.45	12,984.16

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	80
Androscoggin and Kennebec..	55	809,378	1,016,500	2,064,458	140,561	80,053	none	30
Kennebec and Portland.....	72	952,621	291,80	2,514,067	163,114	100,552	none	41
Port., Saco and Portsmouth..	51	1,355,500	123,884	1,459,384	208,669		6	97
York and Cumberland.....	20	285,747	341,100	713,605	23,946	11,256	none	24
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	104
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern	82	3,016,634			328,782	163,075	5	47
Manchester and Lawrence....	24	717,543					6½	89
Nashua and Lowell.....	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord....	47			1,400,000			none	
Sullivan	26			673,500			none	21
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516			none	33½
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	25
Vermont Central.....	117	8,500,000	3,500,000	12,000,000				13½
Vermont and Canada.....	47	1,500,000		1,500,000	Leased to the Vt. C.		cent.	100
Western Vermont.....	51	392,000	700,000		Recently opened.		none	
Vermont Valley	24						none	
Boston and Lowell..... Mass.	28	1,830,000		1,995,249	388,108	130,881	7½	97
Boston and Maine.....	83	4,076,974	150,000	4,092,927	669,001	338,215	7	104½
Boston and Providence.....	53	3,160,390	390,000	3,546,214	469,656	227,434	6	88
Boston and Worcester.....	69	4,500,000	425,000	4,845,967	758,819	331,296	7	102½
Cape Cod branch.....	28	421,295	171,800	633,906	60,743	30,066	2½	45
Connecticut River.....	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern.....	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	91½
Fall River	42	1,050,000	none.	1,050,000	229,445	99,589	8	106½
Fitchburg	66	3,540,000	112,305	3,623,073	574,574	232,787	6	96½
New Bedford and Taunton..	20	500,000	none.	520,475	164,230	43,950	7½	117
Norfolk County.....	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony.....	45	1,964,070	282,300	2,293,534	322,213	101,510	none	90½
Taunton Branch.....	12	250,000	none.	307,136	137,406	24,399	8	
Vermont and Massachusetts..	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	131
Worcester and Nashua.....	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	61½
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	98½
Stonington..... R. I.	50		467,700		240,572	110,892		66
Providence and Worcester...	40	1,467,500	300,000	1,731,498	253,690	139,514	6	100
Canal..... Conn.	45	922,500	500,000	1,400,000			4	65
Hartford and New Haven....	72	2,350,000	800,000	3,150,000	639,529	294,269	10	118½
Housatonic.....	110			2,500,000	329,041	168,902	none	
Hartford, Prov. and Fishkill..	50			In progress	69,629		none	
New London, Wil. and Palmer	66	568,861	800,000	1,511,111	114,410			39½
New York and New Haven....	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	102½
Naugatuck	62	926,000	440,000				8	
New London and New Haven..	55	760,500	650,000	1,380,610	Recently opened.		none	52
Norwich and Worcester.....	54	2,121,110	701,600	2,596,488	267,561	116,965	4½	58½
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,000	Recently opened.		none	85
Buffalo, Corning and N. York.	132			In progress			none	65
Buffalo and State Line.....	69	879,636	872,000	1,921,270	Recently opened.		none	130
Canandaigua and Niagara F..	50			In progress				
Canandaigua and Elmira.....	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna....	35	687,000	400,000	1,070,786	74,241	23,496	none	
Erie, (New York and Erie)...	464	10,000,000	24,003,865	33,070,863	3,537,760	1,691,623	7	79
Hudson River.....	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	67½
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	55½
Long Island.....	95	1,875,148	516,246	2,446,391	205,068	44,070	none	30½
New York Central.....	504	23,085,600	10,773,823	33,859,423				115½
Ogdensburg (Northern)....	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	29
Oswego and Syracuse.....	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal....	23	174,042	131,000	349,775	Recently opened.		none	
Rensselaer and Saratoga....	25	610,000	25,000	774,495	213,078	96,737		
Rutland and Washington....	60	850,000	400,000	1,250,000	Recently opened.			
Saratoga and Washington....	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland.....	32	237,690	100,000	329,577	Recently opened.			33
Troy and Boston.....	39	430,936	700,000	1,043,357	Recently opened.		none	
Watertown and Rome.....	96	1,011,940	650,000	1,693,711	225,152	116,706	8	94
Camden and Amboy..... N. J.	65	1,500,000		4,327,499	1,888,385	478,413	10	145
Morris and Essex.....	45	1,022,420	128,000	1,220,325	149,941	79,252	7	
New Jersey.....	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central.....	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	
Erie and North East.....	20	600,000		750,000	Recently opened.			125
Harrisburgh and Lancaster..	36	830,100	713,227	1,702,523	265,327	106,320	8	
Philadelphia and Reading....	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	81½
Philad., Wilmington and Balt.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	78

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn. 250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	95	
Philadelphia and Trenton.....	" 30							
Pennsylvania Coal Co.....	" 47						102½	
Baltimore and Ohio.....	Md. 381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	56½
Washington branch.....	" 38	1,650,000		1,650,000	348,622	216,237	8	
Baltimore and Susquehanna.....	" 57				413,673	152,536		
Alexandria and Orange.....	Va. 65			In prog.				
Manassas Gap.....	" 27			In prog.				
Petersburgh.....	" 64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville.....	" 73	1,372,324	200,000	In prog.				70
Richmond and Petersburg.....	" 22	685,000		1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac.....	" 76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side.....	" 62	1,357,778	640,000	2,106,467	62,762			
Virginia Central.....	" 107	1,400,100	446,036	In prog.	176,485	74,902	none	61
Virginia and Tennessee.....	" 60	3,000,000	1,500,000	In prog.			none	98
Winchester and Potomac.....	" 32	180,000	120,000	416,532	89,776		12	
Wilmington and Raleigh.....	N. C. 161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	
Charlotte and South Carolina.....	S. C. 110							
Greenville and Columbia.....	" 140	1,004,231	300,000	In prog.				
South Carolina.....	" 242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester.....	"			In prog.				
Georgia Central.....	Ga. 191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	" 211	4,000,000	1,214		934,424	456,468	7½	
Macon and Western.....	" 101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee.....	" 71			In prog.				
South Western.....	" 60	586,887	150,000	743,525	129,395	71,535	8	
Alabama and Tennessee River.....	Ala. 55			In prog.				
Memphis and Charleston.....	" 93	776,259	400,000	In prog.				
Mobile and Ohio.....	" 33	879,868		In prog.				
Montgomery and West Point.....	" 88	688,611		1,330,960	173,542	76,079	8	
Southern.....	Miss. 60							
East Tennessee and Georgia.....	Tenn. 80	885,000	541,000	In prog.				
Nashville and Chattanooga.....	" 125	2,098,814	850,000	In prog.				
Covington and Lexington.....	Ky. 38	1,430,150	900,000	In prog.				62½
Frankfort and Lexington.....	" 29	357,218		584,902	87,421	44,250		80
Louisville and Frankfort.....	" 65							
Maysville and Lexington.....	"			In prog.				
Cleveland and Pittsburgh.....	Ohio. 100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland and Erie.....	" 95							
Cleveland and Columbus.....	" 135	3,027,000	408,200	3,655,000	777,793	483,454	12	124
Columbus, Piqua and Indiana.....	" 46			2,000,000				80
Columbus and Lake Erie.....	" 61							
Cincinnati, Ham. and Dayton.....	" 60	2,100,000	500,000	2,659,653	321,793	200,967		106
Cincinnati and Marietta.....	"			In prog.				72½
Dayton and Western.....	" 40	310,000	550,000	925,000	Recently opened.			80
Dayton and Michigan.....	" 20			In prog.				
Eaton and Hamilton.....	" 36							60
Greenville and Miami.....	" 31							
Hillsboro.....	" 37			In prog.				
Little Miami.....	" 84	2,370,784		2,634,157	526,746	314,670	10	113
Mansfield and Sandusky.....	"	900,000	1,000,000	1,855,000				
Mad River and Lake Erie.....	" 167	2,387,200	1,767,000	4,110,148	540,518	113,401		95
Ohio Central.....	" 57			In prog.				90
Ohio and Mississippi.....	"							87
Ohio and Pennsylvania.....	" 187	1,750,700	2,450,000		Recently opened.			
Ohio and Indiana.....	"			In prog.				
Scioto and Hocking Valley.....	"							
Toledo, Norwalk and Clevel'd.....	" 147	552,000	800,000	1,317,140	Recently opened.			94½
Xenia and Columbus.....	" 54	1,092,137	119,500	1,257,714	237,506	135,363	15	116
Evansville and Illinois.....	Ind. 31			In prog.				
Indiana Central.....	"							90
Indiana Northern.....	" 131				Recently opened.			115
Indianapolis and Bellefontaine.....	" 83							166
Lawrenceburg and Ind.....	" 90			In prog.				77
Lafayette and Indianapolis.....	" 62				Recently opened.			82
Madison and Indianapolis.....	" 88	1,660,000	750,000	2,400,000	516,414	268,075	10	78
Peru and Indianapolis.....	" 40			In prog.				65
Terre Haute and Indianapolis.....	" 72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.....	Ill. 135	2,400,000	4,000,000	4,600,000				
Chicago and Mississippi.....	"							
Illinois Central.....	"							136
Galena and Chicago.....	" 92	1,932,361	500,000	In prog.	473,548	286,152		122
Michigan Southern.....	Mich. 315	2,800,000	2,629,000	6,430,246	592,187	293,046		120
Michigan Central.....	" 282	4,000,000	4,067,396	8,614,193			8	109
Pacific.....	Mo. 38	1,000,000	none.	In progress	Recently opened.			

Passenger and Baggage Cars.....	322,659 62	59,780 84
Freight and other Cars.....	1,470,402 45	320,048 40
Telegraph.....	50,081 69	5,385 57
Duane-st. Pier.....	12,878 86	
Dunkirk Harbor Improvement.....	12,066 74	1,505 84
Steamboats and barges on Hudson River.....	205,586 90	24,675 00
Office Expenses.....	195,906 63	24,576 24
Engineering.....	476,878 57	20,733 40
Agencies.....	148,068 00	80,381 45
Contingencies.....	172,325 71	93,625 50
Interest on Stock, according to terms of subscription, &c. &c.....	1,651,694 13	115,254 66
Interest on first Mortgage Bonds paid to State Controller.....	499,944 17	
Discount on sale of Bonds.....	1,765,464 08	
Construction previous to 1845.....	1,361,616 13	
	\$31,222,834 21	\$4,651,101 44

This statement presents some curious points of contrast to the balance sheet of Sept. 30th, 1852, published at the instance of the company in March last, the credit side of which was as follows:

	1852.
Graduation, masonry and bridges..	10,661,624 92
Superstructure, including iron.....	4,790,322 46
Passenger and freight stations, buildings, and fixtures, included above.....	
Land, land damages, and fences..	1,077,365 67
Locomotives and fixtures, and snow plows.....	1,349,987 20
Passenger and baggage cars.....	262,878 78
Freight and other cars.....	1,162,745 00
Engineering and agencies.....	475,821 29
Office expenses in New York, and various offices on the line, salaries of officers, clerks, etc., since 1845, exclusive of transportation department.....	171,420 39
Steamboats, barges, etc.....	180,911 90
Duane st. pier.....	12,878 86
Depot in West st., and stores, (present value \$200,000).....	88,944 51
Dunkirk harbor improvements, including 50 acres of land, (present value \$100,000).....	10,560 90
Telegraph.....	44,696 12
Contingencies.....	78,700 21
New stock issued to old stockholders on reorganization of the company in 1845.....	894,500 00
Indebtedness of the old company assumed by the present company in 1845.....	467,116 13
Interest on stock and indebtedness of the Co.....	2,507,123 28
Expenses in negotiating first mortgage bonds.....	100,371 33
Interest on same to May, 1851.....	678,107 64
Discount on 7 per cent. certificates..	34,857 60
Discount on 2d mortgage bonds.....	461,074 51
Discount on income bonds.....	257,539 47
Discount on convertible bonds of 1871.....	351,892 70
Discount on convertible bonds of 1862.....	381,565 60

Total.....\$27,551,205 71

We knew that the latter statement to be incorrect, when made, and it seems that the Company have since found out the error. We then stated the balance claimed was a forced one as the Company now admit.

The Balance sheet as now presented is as follows:

Balances of general ledger.—Sept. 30, 1853.		
Construction.....	\$31,222,834 21	
Cash on hand.....	\$428,484 04	
Materials.....	795,462 23	
Real Estate.....	12,850 47	1,236,796 74
Stock of the Buffalo and State Line R. Co., at par.....	314,300 00	
Bonds of the Corning and Blossburg R. R. Co., at par.....	9,000 00	323,800 00
Advanced to Union R. R. Co., for improvements of road....	143,427 77	
Advanced to owners of Lake Erie steamers.....	154,714 83	
Advanced to owners of Lake Erie propellers.....	61,463 04	359,606 64
Unadjusted accounts.....		83,306 57
Total.....	\$33,225,843 16	
Capital Stock issued.....	\$10,000,091 08	
Funded debt.....	\$20,173,868 90	
Floating debt.....	2,635,026 49	22,853,895 39
Transportation.....		366,390 69
Interest due March 1, 1854, on Mortgage Bonds 1835.....		466 00
Total.....	\$33,225,843 16	

We do not suppose it is worth the while to be very critical upon the present statements of the Company, but it strikes us that it is deficient in not showing what has become of the *net earnings* of the road to date. The dividends upon stock were paid from *capital*, till January 1, 1852. Up to Sept. 30, 1852, Mr. Loder, in his letter of 10th of March last, stated the *net earnings* to be 3,963,795 47. The Directors should have charged themselves, this sum, as well as money received from *capital*, and should have given the object, to which it was applied. There is no reason why the earnings of a road should not be accounted for as well, as receipts from other sources. It is *customary* for other companies to do so. We hardly know of an exception, except in the above case. We are still more surprized at the neglect of so obvious a duty; from the fact that the Directors do not appear to credit themselves with the large *deficit* in the revenue of 1852 which was found to exist, as we understand, on closing up the business of that year. Allowing the statement of the Company to be correct in its results, it is unbusiness like. If *incorrect*, it shows that the Company have not yet entirely got rid of some of their old habits.

The statistical portion of the report relating to its working economy, and physical characteristics of the road, is well stated. The *argumentative* part is in a strain of the highest eulogism, and some positions taken that are hardly tenable. The difficulties that surrounded the undertaking are graphically described, but no allusion is made to previous *mismanagement*, which have been greater obstacles to the progress of the work, than any of a *physical* or *financial* character.

We think the report would have been more complete, and much more useful, had an additional chapter been added upon the impropriety of parties, occupying influential positions in the management of the road, speculating on its stock and

securities, and the tendency of such speculations to demoralize the general tone of service on the road, and to impair both the judgment and integrity of the interested parties.

We have no doubt strenuous efforts have been recently made, to correct abuses, and improve the general system of management. Important reforms are claimed to have been made. A direct reference to the chief sources of the abuses that have been committed, would have been more candid and manly, though perhaps it was hardly to be expected. It is something to know that to a certain extent they are understood and appreciated, even by the directors.

We are happy to notice that the Receipts of the Road are in advance of the estimates of the most sanguine.

Locomotives for Grades.

There is a large amount of ingenuity wasted every year in endeavours to adapt a system of efficient and economical motive power for indulating roads. We say *wasted*, as we believe that the ordinary engines are adapted to maximum grades, and by going farther, we may say that there is no system of motive power which can be *economically* applied to extreme grades.

All the plans which have been proposed for the operation of extreme grades provide for an increase of the *adhesion* of the engine. An increase simply of adhesion is not however, an increase of the power. The adhesion, already in excess, requires no increase except provision be made for extra steam power, either by an increase of pressure in the cylinders or a reduction in the size of the drivers. Now with the ordinary modes of generating and applying steam we cannot increase the power by an elevation of pressure, except by providing additional boiler capacity, which would involve of itself still greater adhesion; nor by reducing the diameter of the drivers can we secure the limit of traction desired, as these have already been made of the smallest diameters consistent with practical working, and this too, without disturbing the necessary relation between steam power and adhesive power.

The ordinary pressure of steam in the boilers of locomotives is from 70 to 130 lbs. per square inch, and we may perhaps take 100 lbs. as a fair average. This pressure cannot be preserved in the cylinder under the ordinary speed of freight engines, except by providing much more than the usual allowance of steam room in the boiler. To make this allowance, we must recollect, involves increased weight. The available working pressure in the cylinders if taken at 50 pounds, would never, in ordinary cases of working, produce a traction greater than the amount of adhesion necessarily due to the weight of the machinery for working that pressure. We will take for illustration an engine designed for working grades. Cylinders 19 inches diameter, 22 inches stroke, and drivers of 50 inches diameter; whole weight 30 tons, or 60,000 lbs. At a pressure of 60 lbs. per inch the rotative power at the rims of the driving wheels amounts to 7,942 lbs. The adhesion upon an ordinary rail would be 8,571 lbs., allowing the friction of iron on iron at one seventh the pressure. We should say that this is considered a low estimate and that allowing an available friction of one sixth the pressure, or 10,000 lbs., would provide for a pressure of about 65 lbs. per inch in the cylinders. And

in the face of these facts we find engines of the above dimensions of cylinder and wheel, working upon 116 feet grades, with an adhesive weight of but 22½ tons, the surplus, or dead weight, in excess of the demands for adhesion, being carried on a truck. It is evident from this that if the adhesion were increased one third, by the amount now carried on the truck, that there could be an opportunity for working at a much greater pressure than is now employed, provided the present capacity and *weight* of the parts are sufficient for its generation.

To show how certainly the corresponding adhesion is involved by a given steam power, we will consider what must be the weight of the machinery and materials to generate and apply a rotative power at the rims of the drivers of 8000 lbs. The boiler of such an engine would require to be of 48 inches in diameter, with tubes of 14 feet length, and would weigh, made of 5-16 inch iron, 3½ tons. The tube surface of about 1000 feet, would require a weight of 2 tons of tubes.—The frame for such an engine would weigh full 2 tons. Four pairs of connected drivers of 48 inches diameter would weigh, with the axles, 8 tons.—Two 19 by 22 inch cylinders, with chests, pistons and cylinder fastenings would weigh 2½ tons. The valve motion, connecting rods, slides and cross heads, springs, driving boxes, chimney, steam pipes, etc. would weigh 6 tons. The water in the boiler, equal to 100 cubic feet, would weigh 3 tons, the wood would average nearly ½ ton; and men, tools and extra fittings ½ ton more. Here we have 28 tons as the necessary weight of necessary parts of the machinery, the whole of which may be made available for adhesion by coupling the wheels.—This adhesion fully equal under ordinary circumstances to the given traction of 8000 lbs. and with a good rail would be in excess. This amount of adhesion would be constant, while an engine of the assumed proportions would have the given traction only when working up to the full capacity of its boiler and cylinders.

The only question of the necessity for especial adaptation of locomotives to grades, is whether the ordinary engines can be worked at the maximum of safe pressure without deficiency of adhesion. With the present construction of boiler and mode of supplying steam to the cylinders, the relation of steam power to adhesive weight is established, and the latter is sufficient. If a boiler can be made capable of generating a higher pressure of steam with less weight of furnace, tubes and shell, and with less wood and water; if the frames, cylinders, wheels and axles, and the smaller parts can accomplish the same work with less weight of material, then the adhesion may become less than the *power* which it renders available.

The advocates of the especial adaptation of grade engines, claim that by increasing the adhesion beyond the limit of the surface-friction, lighter engines may be used. Now if *lighter* engines of ordinary construction are used, *less* steam will be generated and applied, the *traction* will be reduced below the limit of adhesion, and the engine will be yet incapable of operating heavy loads on heavy grades.

It is needless to describe or even to specify the plans which have been devised for increasing the adhesion. They have all been based upon an as-

assumption that "the power of an engine is measured by its adhesion", a conclusion which the ordinary working of locomotives proves to be incorrect. If this were true the *truck* would be laid aside and we could not speak of "dead weight", as every addition of weight, for whatever purpose, would produce additional power.

It will readily appear upon a little consideration that any engine which can exert upon a level the full power due to its capacity of cylinder and size of driving wheel will do as much upon any grade of practicable pitch. It is not that engines will not perform as well upon grades as elsewhere, but that grades themselves involve an expenditure of power in overcoming them, often to an extent beyond the ability of either the tractive or adhesive power of the engine used. For a rise of 16 to 20 feet in a mile the resistance to a train moving slowly is twice that upon a level; on a grade of 35 to 40 feet, three times as much; on a grade of 200 feet per mile the resistance would be fully eleven times that upon a level, and the steam power used for a given load must therefore be eleven times greater.

The expense of steam power must be largely dependant on the weight of steam used, as the evaporation of water is proportional to the amount of fuel consumed and to the destruction of the furnaces and tubes by heat. The power exerted involves also its corresponding wear of machinery and consequent expense for lubrication and repairs, so that it may be assumed that even could a lighter construction of locomotive be used with provision for extra adhesion, the expense of operating grades would still be very nearly in proportion to their increased resistance as compared with a level road.

In cases where the general transportation is sufficient always to furnish full trains, equal to the entire power of the locomotive, the equation of grades becomes a matter of much interest. An engine working up only half of its power may expend the additional power necessary to overcome a moderate rise, and without showing the extreme disadvantage of undulation in its full light. It is for those cases however where the transportation is heaviest that the economy of power is especially regarded.

Z. C.

New Orleans, Jackson and Great Northern Railroad.

REPORT OF THE PRESIDENT AND CHIEF ENGINEER.

To the Directors of the N. Orleans, Jackson and Great Northern Railroad Company.—Gentlemen—The undersigned has the honor to lay before you a report from James H. Grant, Chief Engineer, which will inform you of the progress made in the surveys and location of the company's road, and the condition of its work, with an estimate of the cost of completing the same from the city to the State line. I also beg leave to submit the annexed statement, from the Secretary, of receipts and expenditures.

The estimates of the Chief Engineer exhibit \$1,027,099 as the sum necessary to complete the road from the city to the State line, and to meet this expenditure, the means and resources of the company available within the period when needed, are deemed sufficient.

The resources of the company, over and above the cost of the road to the State line, amounting to about two millions of dollars, will be applicable to the grading and construction of the road from thence to the Tennessee river, and there is a reasonable expectation that the citizens of Missis-

sipi on the line of the road, with proofs in favor of its ultimate completion, will have every motive to accelerate its progress by increasing their subscriptions; and I would respectfully recommend the early adoption of a plan best calculated to effect this purpose. With the means secured to grade the road from the State line to the Tennessee river, a distance of three hundred and twenty-two miles, there is no reason to distrust our ability to command, when required, on the faith of the works of the company, the means necessary to procure the iron and a complete equipment.

The undersigned, with Mr. Slidell, appointed as your Commissioners to negotiate the mortgage bonds of the Company, with a view of providing a sufficient fund, in addition to resources already secured, to complete, at an early period, the entire road from New Orleans to the Tennessee River, proceeded to London in July last. On our arrival in that city, we ascertained that owing to the advancing rates of interest, caused by the apprehension of a serious deficiency in the harvests, and the probability of political troubles, calculated to disturb confidence among capitalists, it was quite impracticable to effect the sale of new loans. Finding this unfavorable state of affairs, we deemed it advisable to defer placing the bonds on the market for sale, and what has since transpired, in respect to the general depreciation in the value of public stocks and railroad securities, will, I hope, be deemed a sufficient and satisfactory reason for the postponement of negotiations, which we are not without encouragement to renew on the appearance of a favorable change in monetary affairs. If the company had been prepared to sell its bonds a few months earlier, I am entirely satisfied that the basis of their security and the promises of the scheme, would have ensured success. Now that its works are more advanced, and in a few months the section between the city and the State line will be finished and in operation, with over two millions of dollars of expenditure, there is still more reason to regard success as neither equivocal nor doubtful, on the revival of confidence and a demand for stocks of acknowledged security.

If we look to the history of improvements commenced in other States of the Union, the progress we have already made will compare favorably with any similar enterprise. We have before us a certainty of being able to complete nearly ninety miles of road on or before the ensuing July, besides having overcome in its construction, difficulties, by many deemed insurmountable, but now ascertained by the Chief Engineer to be of no serious importance.

While daily experience is demonstrating that natural channels of commerce are inefficient in competition with those of an artificial character, and is suggestive of the necessity of counteracting the powerful efforts made to impair our commercial superiority, we have derived from the late afflicting epidemic fresh motives to animate our zeal, and to persevere in the prosecution of the works of the company. Aside from the immense commercial importance they possess, the convenience and facility they will afford to our citizens and those of the interior States cannot be overestimated in value, when, with the connections of our road with others completed and in progress under the fostering aid of the States of Tennessee and Virginia, Washington City may be reached in two days, at a speed of twenty-five miles per hour.

In the present condition of the company, the progress made in its works, and the remaining resources for their extension, we have everything to hope and no cause for discouragement.

Very respectfully, your obedient servant,

JAMES ROBB, President.

N. Orleans, Jackson and Great Northern Railroad, }
Engineer Department, N. Orleans, No. 24, 1853. }

James Robb, Esq., President:

Sir—In compliance with your request, communicating the wishes of the Board of Directors, that I should submit to them an accurate statement of the condition and progress of the works

of the company under my charge, I respectfully report as follows:

SURVEYS, LOCATION AND CONTRACTS.

The entire line of road from New Orleans to Nashville, a distance of 550 miles, has been carefully surveyed, and a final location made of 409 miles, between New Orleans and Chickasaw, on the Tennessee River, intersecting the Memphis and Charleston road in Bear Creek Valley, 400 miles from New Orleans; 256½ miles have been placed under contract, viz: 87½ miles from New Orleans to the State line, 95½ miles from the State line to Jackson, 23½ mile from Jackson to Canton, and 50 miles from Aberdeen, south. The entire line of road is free from any engineering difficulty, and the route will compare favorably with any in the Union; not only with reference to the gradients, alignments, facility and cheapness of construction, but in the elements of travel and traffic necessary to insure a certain and profitable return on its cost.

PROGRESS OF THE WORK.

The graduation, cribbing and and piling of near seventy miles, have been constructed between this city and the State line, sixty-two of which are ready for the reception of the cross-ties and iron rails. The track laying has been commenced at the main depot, also between the North Pass and the "Piny Woods," and from the latter point it is progressing towards the State line. The bridges at the North, and South Pass, Manchac, are in a state of forwardness, and will be speedily completed in a substantial manner. In regard to this portion of the work of the company, I am entirely satisfied that the plans adopted for crossing the Passes are attended with no practical difficulty whatever, and that the structures will be permanent and safe for the passage of your trains. The same remarks apply equally to the cribwork in progress of construction across the Swamp Prairie, and the whole series of swamp between the city and the "Piny Woods," will be passed without encountering any material engineering difficulty.

COMPLETION OF THE ROAD TO THE STATE LINE.

The agreement as to the time for the completion of the contract of Messrs. Thos. C. Bates & Co., from the South Pass Manchac to the State line, a distance of forty-one miles, will enable them to deliver it in a finished condition on or before the 1st of July next, and the state of forwardness of the work between the city and the South Pass is such as to insure its completion within the same period of time. This being done, there are no obstructions in the way of having the entire road, from the city to the State line, in operation, with a daily train of cars running on and after the 1st of July next.

COST OF FINISHING TO STATE LINE.

The following is an estimate of the expenditure necessary to cover the cost of completing the road to the State line:

Thos. C. Bates & Co., balance of their contract.....	\$295,612
Contractors from depot to South Pass.....	178,500
Expenses of laying track.....	55,500
Iron rails, chairs and spikes for 87½ miles less amount received and on hand.....	471,987
Engineering and superintendence.....	25,000
Total.....	\$1,027,099

Plans for the main depot buildings have not been prepared, and it is not deemed advisable to commence their erection until the road is completed to the State line. The temporary building constructed on the company's grounds will answer all purposes for the present. Any further expenditures at this time for that purpose would be premature and uncalled for. The company have received 3,700 tons of iron rails, and have advices of the further shipment of 3,800 tons expected to arrive in December and January, making in all 7000 tons, which will iron the road for the distance of 65½ miles. The remaining 3000 tons due on the contract for 10,000 tons made by Messrs. R. Wil-

son, Hallett & Co., of Liverpool, are deliverable in February next. Three locomotive engines have been purchased; also a sufficient number of burden cars to transport the necessary materials for laying the track.

OPERATIONS IN MISSISSIPPI.

In Mississippi, between the State line and Jackson, a portion of clearing for the roadway is opened, and on the division between Jackson and Canton, embracing a distance of 23½ mile, about one-half of the graduation is finished. From Aberdeen south, the work has been commenced, and for the present will be prosecuted to the extent of collections made from the subscribers in Monroe county.

The foregoing is respectfully submitted as a general outline of the operations of the company up to this time, deferring to the period of the annual meeting of the stockholders the detailed report made up from plans, maps, profiles and notes belonging to surveys and location, exhibiting the progress of the work, rolling stock on hand, description of location, grades and curves, and a careful estimate of the entire line to Chickasaw, on the Tennessee river, including a complete equipment of engines and cars.

Very respectfully, your ob't. servant,
JAMES H. GRANT,
Chief Engineer.

The statement of receipts and expenditures of the company up to the present time is as follows:

RECEIPTS.	
Received by Assessments on Capital Stock.....	\$685,919 62
Received on account of State Subscription.....	165,000 00
Sale of Real Estate Tax Bonds.....	905,000 00
Miscellaneous.....	29,063 22
	\$1,280,982 84
EXPENDITURES.	
Construction.....	\$645,245 32
Rails.....	270,963 72
Engines.....	24,949 21
Surveys.....	104,090 87
Real Estate.....	58,957 48
Cash on hand.....	88,320 02
Miscellaneous.....	92,852 22
Total.....	\$1,282,992 84

Statement of the Mobile and Ohio Railroad Company.

The Mobile and Ohio Railroad Company being about to make an issue of first mortgage bonds for the purpose of purchasing superstructure and equipment, and placing the same on their Road, deem it a proper occasion to submit a brief statement of the condition of their affairs, and their plans for the future.

The line of the Mobile and Ohio Railroad extends from Mobile, on Mobile Bay, to the mouth of the Ohio River, opposite Cairo, the Southern terminus of the Illinois Central Railroad, extending from that point, north to Chicago, on Lake Michigan.

The length of line proposed to be built is as follows:

Main trunk from Mobile to Cairo,	494 miles.
Branches,	40 "
Turnouts and sidings,	60 "

Total, 594 miles.

The cost of preparing the road bed for the rails, embracing graduation, bridging, masonry, etc., etc., as estimated by the Company's Engineer, John Coilde, Esq., is \$5,107,576

The route is exceedingly favourable for the cheap construction of a Railroad, involving little work of an expensive character. No streams of any magnitude are crossed on the whole line. No Road in the United States of equal length can be constructed, probably, at less cost.

For the purpose of preparing the road bed for the superstructure and equipment, local stock subscriptions have been obtained to the amount of

\$5,107,576, which it is believed, are solvent and payable beyond contingency, and will be paid in as fast as wanted for construction.

Of the whole Road, 33 miles, commencing at Mobile, are already completed, and in successful operation. The balance of the line is under contract to be ready for the rails on the first day of January, A. D. 1856. The work is being rapidly urged forward, and is already so far advanced, as to impose, it is believed, no impediment to the laying of iron as fast as it can be delivered upon the line. One hundred miles are already prepared for the rails.

The Company have purchased, and have on hand, a sufficient quantity of rails, with the other necessary items, for 150 miles of track. The laying of the rails will be commenced immediately, and will be urged on with all practicable despatch.

The cash expenditures on account of construction, up to the present time, amount to \$1,500,000. This sum does not embrace the 20 per cent reserved in all cases, as security for the faithful performance of contracts.

The total cost of the Road, as estimated by the Company's Engineer, is as follows, viz:

3,600 tons of iron already laid.....	\$151,200
7,100 " " " in Mobile, (cost).....	369,200
60,000 " " " to arrive, (estimated cost).....	3,979,600
Chairs, spikes, laying track, freights, etc., etc.,.....	700,000
Equipment.....	1,700,000
Graduation, masonry, etc., as above,....	5,107,576

Total estimated cost of Road,.... \$12,001,576

The above estimate has been prepared with great care, and will not, it is believed, be exceeded.

The means provided are as follows:

Stock subscription, sufficient to grade and bridge the road,.....	5,107,576
State of Tennessee bonds equal to \$8,000 per mile of line in that State,....	940,000
Proceeds of mortgage bonds,.....	6,000,000

Total,..... \$12,047,576

The security for the bonds now issued will be as follows:

Cost of graduation etc.,.....	5,107,576
Cost of superstructure and equipment,....	6,900,000
Lands for depots, stations, etc., including 49 acres at Mobile, in addition to Lands donated by Congress,.....	500,000
One million one hundred and fifty-six acres of land granted by Congress in aid of a Railroad from Mobile to Chicago, on and along the line of the Road estimated at the low price of \$5 per acre,.....	6,000,000

Total value of security,..... \$18,501,576

Or, three times greater than the amount sought to be borrowed.

The value of the lands owned by the Company are believed to be estimated at a much less value than their real worth. Experience has shown that the construction of a Railroad adds immediately more than \$5 per acre to the value of all land lying within ten miles of its line.

It is well known that the Illinois Central Company are constructing their Road, almost entirely, with the proceeds of bonds based upon the lands granted by Congress to that, in connection with the Mobile and Ohio Roads. There can be no doubt that the cash value of these lands is much greater than the entire debt of the Company. The lands that are made the basis of the construction bonds of the Illinois Company, are valued at over ten dollars per acre, or twice the estimated value of the land belonging to the Mobile and Ohio Company. The latter prepare their road for the superstructure entirely by means of local subscriptions, which are considered. In similar cases, as ample security for the loan of moneys required for iron and equipment.

For the purpose of making the security avail-

able to the bondholders, the franchise, road bed, equipment, rolling stock of the Company, and the lands received from the general Government, have been conveyed in trust to Morris Ketchum and John J. Palmer of New York, and Wm. R. Hallet of Mobile, all gentlemen of the highest respectability, and of well known credit in financial circles, with full authority to sell said lands, and in case of default by the Company, to take possession of, manage, make sale, or otherwise dispose of all the Company's property and franchises for and on account of the creditors of the Company. To said mortgage, which is annexed, reference is had for a more full statement of the Company's charter, privileges, route of road, objects, etc., etc.

In addition to the security described, the Company have full confidence that both the interest and principal of the above bonds will be amply provided for by the earnings of their Road. They believe it occupies a route possessing business resources unsurpassed by any other Road in the United States. It traverses a section of country distinguished for its fertility, for the extent and value of its productions, filled with a numerous, active and wealthy population, which must use the above Road as the most convenient outlet to a market. The liberal local subscriptions obtained are at once evidence of the great interest felt in the work, on the part of the inhabitants on its line, and of the ability to supply a liberal traffic to the road. The road runs in the natural direction of trade, and must command the business of a larger belt of country than any other road of equal length in the United States. One of the leading items of freight will be Cotton, which, from its great value, will bear a high charge for transportation, which is one of the reasons that render Southern roads among the most profitable works in this country.

Pursuing a route nearly equi-distant from the navigable waters of the Mississippi on the one hand, and the Tombigbee on the other, the road will not suffer from the competition of navigable rivers, while its directness will equally protect it from competition of rival works. From a carefully prepared estimate of the Company's Engineer, it is believed that the net receipts from the road the first year after its opening cannot be less than \$1,500,000. Deducting from this sum \$400,000 for interest and expenses on account of funded debt, there will be left \$1,100,000 for dividends, or about 20 per cent per annum. The Company now offer their securities to the public, fully convinced of their soundness, and believing that none of a higher character have ever been issued by any Railroad Company in this country under similar circumstances.

SIDNEY SMITH,
President.

Mobile, Nov. 25th, 1853.

Performance of a Locomotive.

During some trials of engines, made upon the Baltimore and Ohio road, in the month of November, 1852, several trains of upwards of 250 tons gross weight were drawn up the 82 feet grades between Baltimore and Martinsburg. This performance, of a single engine, we are not led to suppose an extreme one, but it affords a very interesting illustration of the resistances of such grades, and of the traction and adhesion of the engines.

On the 10th of November, engine No. 72, built by the Baltimore and Ohio Road Company, took, besides its own weight, that of its tender and of 18 cars, weighing with freight 259.22 tons, up the 82 feet grade. The dimensions of the engine were as follows: 20 inch cylinder; 22 inch stroke; eight connected drivers of 43 inches diameter and having chilled tires. Tube surface about 1200 square feet and grate surface 18 square feet. Whole weight about 28¾ tons of 2000 lbs., all of which is on drivers.

Our object, with the *facts and data* of this performance before us, is to show the extent of tractive power exerted, and the amount of adhesion which the chilled tires must necessarily have possessed in order to make this steam power available.

In estimating the resistances of the train and engine we will take the data established by Pam-bour which are demonstrably correct, and are always adopted by engineers in the estimation of resistance. It is, perhaps, however fair that his allowances for tons of 2240 lbs. should be adopted for tons of 2000 lbs.

1. Friction of engine gear alone, without load, 6 lbs. per ton weight of engine.

2. Friction of wheels, axles, &c., of engine and tender, 9 lbs. per ton.

3. Friction of train by itself 8 lbs. per ton.

4. Friction of engine gear is 1 lb. additional for every additional ton of train.

Let W = tons weight of engine.

" w = tons weight of tender.

" L = tons of wagons and load.

" L' = tons of engine, tender and train.

The force necessary to balance the resistances alone being

$$6W + 9(W + w) + 9L = 6W + 9L'$$

Let now the slope of any grade as 5280 + 82 (= '01553) be called $\frac{1}{s}$, then the increased force

of traction on grades will be $\frac{2000L'}{s}$ and this brings an increased strain on the engine gear of $\frac{2000L'}{8s}$, the additional friction of engine gear being one eighth that of train.

To obtain the practical results of the above equation add 6 pounds per ton weight of engine to 9 lbs. per ton weight of both engine and tender: or $172\frac{1}{2}$ lbs. to 405 lbs., equal to $577\frac{1}{2}$ lbs. This, added to 9 lbs. per ton of load, 2,198 lbs., amounts to $2,775\frac{1}{2}$ lbs. The whole gravity of the engine and train, being 82 + 5280ths part of their entire weight, is found to be 8,945 lbs., which being increased one eighth, as the extra friction of engine gear, becomes 10,063 lbs. This added to the first amount of $2,775\frac{1}{2}$ lbs. amounts to $12,838\frac{1}{2}$ lbs., which, at least, must have been the total resistance of the engine and train on the 82 feet grade. This would be equal, with an engine of the dimensions of the No. 72, to an effective pressure of $62\frac{3}{4}$ lbs. per square inch of the pistons: ($12,838\frac{1}{2} \div 20 \times 20 \times 22 \div 48 = 62\frac{3}{4}$ nearly). This tractive power being exerted, the *adhesion* of the chilled tires must have been in equilibrium with it to render it available, whereby the adhesion of an engine of 57,400 lbs. weight is known to be $12,838\frac{1}{2}$ lbs., or nearly *one fourth*, and this, too, with *chilled tires*.

Engine No. 72 has however performed a greater feat than the above, that of taking 18 cars, weighing, with freight, 225 tons, up the 116 feet grades west of Cumberland. By applying the foregoing equation to this performance we find the resistance overcome to be 15,722 lbs., or equal to an effective pressure of very nearly 77 lbs. per square inch on the pistons, and as this load could not have been moved but for a corresponding traction and adhesion, we must admit the adhesion of the chilled tires in this case to have been $15,722 \div 57,400 = .274$, or nearly *three tenths* of the pressure.

The resistances of trains either upon levels or inclines are capable of exact estimation. The resistance of gravity, especially, which is the most important one on a grade of 116 feet per mile, is inevitably the same fraction of the load as is the *rise of the length of grade*. The resistance of gravity alone of the above load, with engine and tender, on a grade of 116 feet per mile, is necessarily 11,695 lbs., which of itself, without any allowance for any friction of the train, would require an adhesion to overcome it of more than one-fifth the weight of the engine.

The following statement exhibits in a consecutive manner the data and results of this trial. It is arranged from information received on application to Mr. S. J. Hayes, the Master of Machinery of the Baltimore and Ohio railroad.

Number of Engine on company's list....	72
Weight of Engine in running order.....	57,400 lbs
Diameter of Cylinder.....	20 in.
Length of stroke.....	22 "
Diameter of Drivers.....	43 "

All the weight on eight coupled drivers having cast iron chilled tires.

Number of eight wheel cars in train....	18
Weight of cars and load thereon.....	225 tons.
Length of grade on which trial was made.....	4 miles.
Height of grade, equal to 116 feet per mile.....	464 feet.
Speed of train on grade per hour.....	7 miles.
Pressure of steam, (blowing off strongly,).....	90 lbs.

No assistant engine was used in any part of the trial; the engine No. 72 being stopped and started, with its train, upon the grade, by its own unaided power. The drivers, Mr. Hayes says, did not slip, and sand was used in two or three instances only when the sun did not shine.

The train hauled up the 82 feet grade was moved at the rate of $7\frac{1}{2}$ miles per hour, the pressure of steam in the boiler being from 100 to 125 pounds. The length of this grade is $2\frac{1}{2}$ miles. At a subsequent trial a train of two cars less, or 16 cars, and weighing 213-100 less, was taken up at a speed of $12\frac{1}{2}$ miles an hour. A train of 17 cars was also taken up at 10 miles an hour.

To any one conversant with the operation of the locomotive, it will be plain that, with the data given, the power exerted must have been at least what we have stated; and the fact of its having been made wholly available through the sufficiency of adhesion, presents us with an enlarged estimate of the latter element of power. The fact that any engine with the extreme capacity of cylinders and smallest diameter of wheels ever used for locomotives; working besides at the high effective pressure of 77 lbs. per square inch of the piston, and having but little dead weight, being probably lighter, for the steam power exerted, than any other engines in America,—all before us; and combined with evidence of the fact that the adhesion was *at least equal* to this entire force, derived from the steam pressure, affords an extremely interesting illustration of the extent and mutual relation of the elements of locomotive power.

The fact that this adhesion was derived from the *chilled cast iron surface* is but another evidence of the entire reliability of the chilled tire, and sets at rest all doubts of its capacity in the respect of its adhesion.

We do not believe that the transportation upon

any other railroad, of any gauge, in this country, shows so large a duty done by the expenditure of a given power, or by a given capacity of locomotives, as that of the Baltimore and Ohio.

ZERAH COLBURN.

Buffalo and Pittsburg Railroad.

We learn from the *Buffalo Commercial Advertiser* that Messrs. MOORE & PIERSONS, the contractors for the whole line of the Buffalo and Pittsburg railroad, went out on the line of the road yesterday, with a strong force of hands, carts, horses, tools, &c., for the purpose of commencing work forthwith and prosecuting the same with vigor. They are about to put in operation steam excavators at two points on the road, where heavy excavations have to be made. Messrs. Moore & Piersons have just completed their large contracts on the Great Western Railroad, in Canada, and the energy with which they prosecuted that work gives good assurance that the undertaking upon which they have now entered will not suffer any delay under their hands.

This road is looked upon by the citizens of Buffalo, and by the people along the line of the route, as the best project which has ever been placed before that community. It is the key by which the coal and iron mines of Pennsylvania are to be opened to Western New York; and as every inhabitant of the surrounding country must consume more or less of coal and the manufactures of iron, it becomes evident that, an indirect support, at least, must be rendered to this road, from the commencement of its operations, by every family in that section of country. When this road and the Alleghany Valley railroad, with their connections, are completed, the cars can run directly from the mines to the coal yards and foundries along the route, delivering their productions at the point of manufacture and consumption without transshipment.

As the city of Buffalo is the great point of shipment and debarkation of the commerce of the Great Lakes, containing at present 65,000 inhabitants, with a probability of an increase to 100,000 by the time these roads are completed, it will be seen that this route *must* have a business, from the transportation of coal and iron alone, equal to the payment of a handsome dividend on its entire cost. But, besides this, there is every probability that it will be called upon to supply the southern peninsula of Canada also with coal through the connection which it will form with the Buffalo, Brantford and Goderich and Great Western roads.

The Sault St. Marie Canal will be completed about the same time, opening the iron regions of Lake Superior to the freedom of the lake navigation, by which the iron workers of Buffalo will be in receipt of the rich ores of that section.

These latter ores, when mixed with those of Pennsylvania, it is said, make the most serviceable iron which has ever been produced. It will be seen therefore that with these facilities Buffalo may increase her manufactures with a rapidity commensurate with her magnificent and lucrative commerce; and with the whole Lake country of the West for a market for her machinery, and other manufactures of iron, it is impossible to predict the extent of her growth and importance; but, if she will put forth the efforts necessary to increase her manufactures and commerce in the same ratio with the increase of the western

country generally and the commercial marts of that country in particular, there is no reason why she may not maintain her present position of commercial metropolis of the Lakes.

In view of these facts the citizens of Buffalo should yield to the Buffalo and Pittsburg Company a hearty and unqualified support in its efforts to push forward their work to an early completion. As an investment we look upon it as one of the most promising roads in the country, and to none will it yield so large a dividend as those interested in the advancement of Buffalo.

Finances of Virginia.

The annual report of the Second Auditor of the Board of Public Works of Virginia, for the fiscal year ending 30th of September, 1853, states that the receipts of the Treasury, on account of the Internal Improvement Fund, amounted to \$5,087,428 27; and, with the balance on hand at the commencement of the last fiscal year, made an aggregate of \$5,102,478 23. There was disbursed, during the same period, \$5,010,632 59, leaving a balance in the Treasury, on the 1st October, 1853, of \$91,845 64.

The sum of \$425,947 06 was received on account of dividends, bonus, and interest on the productive investments of the fund, and premiums on loans obtained. This amount is \$3,341 51 more than was received from the same sources during the year ending 30th September, 1852.

There was received, on account of registered and coupon bonds, the sum of \$4,050,486 87. The increase of the outstanding public debt during the fiscal year amounts to \$4,026,786 87.

The aggregate outstanding public debt of the Commonwealth on the 1st October last, after deducting the amount redeemed, as per exhibit of the Sinking Fund, is ascertained to be \$18,041,775 50.

It is deemed proper here to state that the equated value of the productive investments held by the Internal Improvement Fund, and the Commonwealth proper, to obtain which the debt of the Commonwealth was incurred, is estimated at \$8,121,500. By equated value is meant that amount which, at 6 per cent., yields the revenue of these stocks. Therefore, the outstanding debt of Virginia, on the 1st October, 1853, less the above value of investments, is \$9,920,275 50.

The disbursements on account of loans to internal improvement companies, to be redeemed in thirty-four years, amounted to \$1,700,000. The sum of \$2,149,552 56 was paid on account of subscriptions and appropriations for purposes of internal improvement.

The Internal Improvement Fund possesses productive investments amounting to \$5,636,226 30, which is an increase of \$1,993,212 56 over the amount held at the end of the fiscal year for 1852. In arriving at this result, I have deducted from the amount stated in the report of that year the sum of \$100,000 loaned to the Rappahannock Company, which, though secured by bond, and mortgage, was not then, nor is it now, productive.

The establishment of the Sinking Fund should and must necessarily place the credit of the Commonwealth upon the highest ground. Of the public debt existing on the 1st day of January, 1852, there was authorized to be redeemed certain certificates amounting to \$127,900. Of this amount there has been redeemed \$114,566 67, and the residue the holders thereof have not presented for redemption. The interest upon the amount thus authorized to be redeemed stopped on the 1st of August last—the time advertised for its redemption.

The balance in the treasury to the credit of the Sinking Fund on the 1st day of October, 1853, is \$18,764 88.

Machinists' Tools.

A SUPERIOR CLASS.

DESIGNED particularly for Railroad work, manufactured by L. B. TING & CO., (late ALDRICH, TING & Co.)
 October 7, 1853. LOWELL, MASS.

P. J. Tournadre,
 Chief Engineer Vicksburg, Shreveport and Texas R.R.,
 Vicksburg, Miss.

To Locomotive Engine Builders and Engineers.

THE Proprietors offer for rent for a term of years, with immediate possession, the splendid property, known as the BELLEVILLE IRON WORKS, situated on the Mississippi, directly opposite the City of New Orleans, and within 300 feet of the River, with which it is connected by fine wharves and landings.

The buildings are of brick, with slated roofs, and were erected in 1848 at a very heavy expense; are of a most substantial and durable character and admirably fitted for a Foundry and Machine Shops, or almost any mechanical business. They now contain a new and powerful Engine and Boiler and sufficient machinery, say, planing machines—lathes—boring machines, blacksmith's tools, &c., &c., to employ 100 mechanics, and could be put in working order in a few days. The Buildings cover a lot 300 feet square and are amply large to receive the necessary machinery for the use of 800 to 1000 workmen.

The terminus and depot of the New Orleans, Opelousas and Great Western Railroad is situated about 300 yards from the above property, which could be availed of to great advantage for the manufacture of Locomotives and Railroad work, generally as well as Steam Engines, Sugar Mills, and other descriptions of Machinery.

There are no Shops in New Orleans for the manufacture of Railroad Machinery, and as the Railroad Companies now organized in that city contemplate the construction of over 1000 miles of road,—a large part of which is already under contract,—the property now offered for lease offers a most eligible opportunity for parties desiring to contract to furnish the Engines and Machinery,—for those roads. Responsible contractors with their works on the spot would have an advantage over Northern Workshops in contracting for the Work of the Railroads terminating in New Orleans.

The Establishment and prospect of remunerating work to be secured immediately are worthy the attention of manufacturers and Engineers generally.

Applications from responsible parties will be promptly attended to, and to satisfactory parties the proprietors of the Works can offer favorable terms and arrangements.

Letters may be addressed to
R. B. SUMNER,
 No. 61 Camp Street,
 New Orleans;
 and further information may be had by applying to Messrs. BARSTOW & POPE, Pine Street, New York.

Railroad Iron Via Quebec.

JOHN ANDERSON & Co.,
 COMMISSION MERCHANTS,
 SHIPPING AGENTS AND BROKERS,
QUEBEC,

PARTICULAR attention given to the Transhipment of Iron in Transit for the Western Lake Ports, likewise to the Shipment of Rails in Great Britain.
 Quebec, Dec. 2, 1853.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 55 lbs. to the yard, already shipped, and expected here soon—for sale by
JOHN H. HICKS, 90 Beaver st.

1300 Tons Yorkshire T rail, weighing 56 lbs. to the yard, and of a superior quality daily due and for sale by,
NAYLOR & CO.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.



THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to **CHAS. SCRANTON, Oxford Furnace P. O.,** will be attended to promptly.
 Sept. 11, 1852. 17*

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 Imported and for sale by **JOHN WILEY,**
 167 Broadway, New York.

N. York and N. Haven R. R.

NOTICE OF SUMMER ARRANGEMENTS,

 Commencing Monday, May 9, 1853. 

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation for New Haven.	5.30 A.M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A.M.—Commutation from New Haven.
9.10 A.M.—Special for Port Chester.	6.15 A.M.—Accommodation from New Haven.
11.30 A.M.—Accommodation for New Haven.	8.15 A.M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
3.00 P.M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	1.07 P.M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
4.00 P.M.—Accommodation for New Haven.	4.00 P.M.—Special, from Port Chester.
5.00 P.M.—Express for Boston, stopping at N. Haven.	4.00 P.M.—Accommodation from New Haven.
5.35 P.M.—Commutation for N. Haven.	9.30 P.M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
6.30 P.M.—Special for Port Chester.	

GEORGE W. WHISTLER, Jr., Sup't.
 New Haven, May, 1853.

Stuart, Serrell & Co.,

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 Rooms 22, 24, 26 & 27,
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CHARLES B. STUART, **EDWARD W. SERRELL,**
DANIEL MARSE, **SAMUEL McELROY.**

New Works on Civil Engineering.

THE Field Practice of laying out Circular Curves for Railroads.—By **JOHN C. TRAUTWINE,** Civil Engineer—2nd edition in pocket-book form.
 A new and rapid method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams.—By **JOHN C. TRAUTWINE,** Civil Engineer—with 10 Copper Plates.
 Price One Dollar each—postage on the Curves Three Cents—on the Excavations and Embankments, Six Cents—
 For sale by **WILLIAM HAMILTON,**
 Hall of the Franklin Institute,
 Philadelphia.
 May 4, 1853.

ESTABLISHED 1796.

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OPTICIANS and Dealers in Mathematical Instruments, at the old established stand, 48 Chestnut street, Philadelphia, Pa. Mathematical Instruments separate and in cases, Protractors, Spacing Dividers, Drawing Pens, Ivory Scales, Tape Measures, Salometers, Spy Glasses, Microscopes, Spectacles, Hydrometers, Platina Points, Magic Lanterns, etc., etc.
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 Nov. 13, 1856

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY SIX PER CENT. FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW, LANIER & Co.
No. 52 Wall-st., Oct. 6, 1853.

THE LITTLE MIAMI RAILROAD COMPANY
Offer for sale one million of their SIX PER CENT. BONDS, with coupons. Interest and principal payable in New York, the former half-yearly, 1st of November and 1st of May. They are in sums of \$1,000 each, payable the 1st day of May, 1858.

These Bonds are issued under the express authority of the Legislature of the State of Ohio; and are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station-houses, &c., up to this date \$2,708,109 19.

This Company hold stock in the Columbus and Xenia Railroad Company to the amount of \$386,000, which now commands a premium of 20 per cent. Also, in the Hillsborough Road the amount of \$11,716.

The receipts of the Road have been as follows:
For the year ending Dec. 1, 1844. \$18,623 36
For the year ending Dec. 1, 1845. 46,327 58
For the year ending Dec. 1, 1846. 116,052 02
For the year ending Dec. 1, 1847. 221,139 52
For the year ending Dec. 1, 1848. 280,085 78
For the year ending Dec. 1, 1849. 321,398 82
For the year ending Dec. 1, 1850. 405,597 24
For the year ending Dec. 1, 1851. 487,845 89
For the year ending Dec. 1, 1852. 526,746 35
The receipts from Dec. 1, 1852, to Sept. 1, 1853, 10 months were. 544,625 59
For the same period year before. 411,797 06

Increase in 10 months. \$132,823 53

The position of this road, being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia Road, and runs in connection with the Cleveland and Columbus Road; in fact they are now run as one line greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of 5 per cent. in 1852. In 1852 two cash dividends of 5 per cent. were made.

The present surplus and reserve fund amounts to. \$98,546 10
The mortgage covers the entire line of road, costing to date. 2,708,108 19
To be expended on double track, &c. 1,500,000 00

Value of security. \$4,208,109 19

The security for the payment of these Bonds is one of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the City of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. LANIER, Esq., of this city, in trust for the bondholders, with ample power to take possession of the Road, its real and personal estate, franchises, &c., and to sell the same to the high bidder for cash, if default be made in payment of interest or principal. The mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

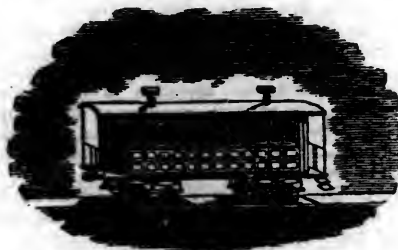
City of Cincinnati, and all other debts of the Company, excepting this loan of \$1,500,000.

These Bonds are offered at private sale by the undersigned, Agents of the Company.

Printed statements of the affairs of the Company, and any further information relative to the securities, will be given by

WINSLOW, LANIER & CO.,
No. 52 Wall-st.

Elmira Car Manufactory.



THE Undersigned is prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

WM. E. RUTTER.

Elmira, N. Y., June 1, 1853.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Watson's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, HENRY SIZER, Agent,
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Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

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THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

F. HUNGERFORD & CO.

Maysville, Ky., Sept. 20, 1853.

Hufty's

Engineers, Architects and Draftsmen's
STATIONERY EMPORIUM.



WHATMAN'S Turkey Mill Drawing paper, Tracing paper, Plan and Profile, Protractors, Drawing Pins, Faber's, Jackson's and other makers' Pencils; Field, Level, and Memorandum Books of various patterns; Mathematical Instruments, Tape-lines, Mouth Glue, Cross Section paper, Triangles, Sabel Brushes, Gun Bands, Maiden Gum, Red Tape, Ink, Inkstands and Sand, Water Colors, Palettes, Patent Binders for letters, Portfolios, etc., together with a general assortment of Stationery and Blank Books. All goods packed with care, and forwarded to any part of the United States.

JOSEPH HUFTY,
Successor to H. L. Lipman,
139 Chestnut st., Philadelphia.

May 15, 1851.

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be finished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1854.

A. N. GRAY, Cleveland, O.,

RECEIVER AND FORWARDER of Railroad

Iron, Chairs and Spikes

Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.

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January 12, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHILLIPS, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 8 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dry-st., N. Y.

MONTREAL & NEW YORK AND Plattsburgh and Montreal RAILROADS.

Open through from Plattsburgh to Montreal.

Passenger Trains leave Montreal for Plattsburgh at 6 30 a.m. and 6 p.m., arrive at 8 a.m. and 7 30 p.m.

Leave Plattsburgh for Montreal 7 30 a.m. and 4 p.m., arrive at 10 a.m. and 6 50 p.m.

Trains connect at Montreal with Steamers for Quebec, and the St. Lawrence and Atlantic Railroad for Sherbrooke and intermediate stations.

Trains connect at Moores Junction with Northern (Ogdensburg) Railroad for Ogdensburg and Lake Ontario Steamers for Lewiston, Niagara Falls and Upper Canada, and all ports on the Western Lakes.

Trains connect at Plattsburgh by Steamer to Burlington with Rutland and Burlington Railroad and connecting lines for Troy, Albany, New York and Boston, and all intermediate stations. Also with steamers for Whitehall to the Saratoga and Washington Railroad, and connecting lines of road to Troy, Albany and New York.

Passengers will find this route unequalled for comfort and dispatch, and attended with least fatigue and delay than any other. It possesses moreover the advantage of a short ferrage of only fifteen minutes across the River St. Lawrence at Caughnawaga, which has never been known to freeze, and can be confidently relied upon at all seasons of the year.

Freight Trains run daily each way.

For particulars see Freight and Passenger Tariff
BAGGAGE checked through.

H. W. NELSON, Superintendent.

New York and Erie R. R.

PASSENGER TRAINS
leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Dunkirk and Buffalo.

MAIL, at 8 45 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Binghamton and Corning, and proceed the next morning.

ACCOMMODATION, at 12 45 p. m. for Delaware and all intermediate stations.

WAT, at 3 45 p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.

EMIGRANT, at 6 p. m. for Dunkirk and all intermediate stations.

On Sundays only one Express Train—at 6 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAR. MINOT, Sup't.

Notice to Contractors.

WARSAW & ROCKFORD RAILROAD.

THE preliminary Surveys are now complete for the First Division, (about 120 miles) from Warsaw, through Nauvoo, Oquawka, Keithsburg, Rock Island and to Port Byron, including both Rapids of the Mississippi, and the location progressing. The character of the country is such, and the surveys so near to any location that will be made, that Contractors can satisfy themselves of the value of the work as well now as hereafter. Proposals are asked at the Office of the Company in Warsaw, Hancock County, Illinois, for the construction of the whole or part of the road, either by quantities or by the mile. Contract will not be made before the 1st of January, 1854, and only so soon thereafter as advantageous offers can be made. The Company are willing to make general contract, for cash or for cash and securities.

The route of the road is generally in the valley and second bottoms of the Mississippi, and the work can be completed very rapidly. The road is important as one of the improvements of the navigation of the Rapids, and also from its several (two at least) connections with other railroads.

WM. H. ROOSEVELT,
President.
W. R. KINGSLEY,
Engineer.

T. S. O'SULLIVAN,
Consulting Engineer.
Warsaw, Nov. 17, 1853.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.
Jan. 20, 1849.

Railroad Iron.

2,000 TONS FIRST CLASS WELSH RAILWAY IRON, to be made to any ordinary T pattern required by the buyers, and for shipment from Newport, Wales, in December, January, and March next, apply to the undersigned, for many years connected with the largest house in the trade.
JOHN H. AUSTIN & CO.,
2 Ingram Court, Finchchurch street London.

A Valuable Farm in Illinois for Sale.

SITUATED in the Village of Seward's Point in Montgomery County 7 1/2 miles North of Hillsborough, about 36 South of Springfield the Capital of the State, about 18 West of the Illinois Great Central Railroad, about 4 or 5 North of the Alton & Terre Haute Railroad and about 18 miles West of the intersection of the two, containing 80 acres of rich prairie land.

Apply by letter or in person to
S. S. ROCKWELL,
No. 15 South Second str. Williamsburgh.

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—
Railroad Iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

India-Rubber Railroad Car Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new Factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMullen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.
Aug. 10, 1853. 3m New York.

Notice to Contractors.

COVINGTON & OHIO RAILROAD.

PROPOSALS will be received, at the Office of the Covington and Ohio Railroad, in Covington, until the 15th of December next, for the graduation and masonry of about seventy-five miles of the above road; of which, the eastern portion, comprising fifty miles, lies next west of Covington, and the western portion, consisting of about twenty-five miles, lies between the Kanawha River and the mouth of Big Sandy. A large share of the work to be let—including bridging and tunnelling—is heavy and desirable, and is well worthy the attention of responsible contractors. The western sections of the above work are now ready for examination, and the eastern portion will be prepared for inspection by the 8th of December.

Further information may be obtained on application at the company's offices at Covington and Guyandotte

By order of the Board,
CHARLES B. FISK,
Chief Engineer.

N. B.—The Board of Public Works, of Virginia, under whose direction the Covington and Ohio Railroad is to be constructed, on State account, will meet, at Covington, on the 15th of December, above named, for the purpose of receiving and acting on the proposals that may then be offered.
Nov. 10th, 1853.

To Railroad Companies.

COLLINS' PATENT VENTILATORS,

FOR

Ventilating all kinds of
PUBLIC AND PRIVATE BUILDINGS
Railroad Cars, Depots, etc.



THE Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of, for giving pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P. R. R., Altoona, Feb. 3, 1853.
This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.
Messrs. BAKER & WILLIAMS,
Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,
OLIVER W. BARNES,
3m40 Principal Assistant Engineer P. R. R. Co.

Krupp's

CELEBRATED CAST STEEL,

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATES and other Cast-Steel Rollers, of any dimensions not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines, not exceeding 3000 lbs. in weight. Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

Orders received by

THOMAS PROSSER & SON,
23 Platt street, New York.

Sole Agents for the United States.
Nov. 19, 1853.

To Contractors.

CHIEF ENGINEER'S OFFICE, N. & P. R. R. Co.,
Norfolk, Oct. 13, 1853.

SEALED PROPOSALS will be received by the undersigned at this office from the 3d, until the 15th day of December next, at noon, for the graduation and masonry of 62 miles of the Norfolk & Petersburg railroad between the city of Norfolk and Warwick Swamp in the county of Sussex.

The line will be divided into sections of about 4 miles, and bids will be received for one or more of said sections.

Maps and profiles of the line will be ready for inspection and specifications with forms of proposals may be had of the undersigned on and after the first day of December.

Payments will be made in current money during the progress of the work in proportion of four-fifths of the amount due.

As soon as practicable after the examination of the proposals, those to whom the work will be allotted will be duly notified, and if deemed necessary required to give bond with satisfactory security for an amount not exceeding one-tenth of the amount of work to be done.

The company reserves the right to accept such proposals as in their judgment will secure the prompt and faithful execution of the work according to contract, or reject all, if none are satisfactory.

The line is easy of access, the country through which it passes is of mild climate and abundant in supplies. Postage on all communications must be prepaid.

W. MAHONE,
Chief Engineer.

Small Rails.

THE SUBSCRIBERS manufacture and keep constantly for sale, Light Rails of the most approved patterns, weighing 22, 25, 28, 40 and 50 lbs per yard, suitable for Colliers, Miners, Quarrymen and Contractors, or for turn outs, depot and branch tracks.
CHARLES E. SMITH & Co.
Fairmount Iron Works, Philadelphia.
HENRY MORRIS,
WISTAR MORRIS.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

Henry I. Ibbotson,

MANUFACTURER OF

FILES AND SAWS,

Warranted of superior quality.

Office and Warehouse, 218 Pearl st., New York.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the BEST manner, and with DISPATCH. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 52.]

SATURDAY, DECEMBER 24, 1853.

[WHOLE No. 923, VOL. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, December 24, 1853.

ENTERED according to Act of Congress, in the year 1853, by EDWIN F. JOHNSON, in the Clerk's Office of the District Court of Connecticut.

Railroad to the Pacific--Northern Route.

Its General Character, Relative Merits, etc.

BY EDWIN F. JOHNSON, C. E.

(Continued from Page 905.)

GENERAL REMARKS.

In consequence of the imperfection of the data from which the elevations of all that portion of the proposed Northern route lying between the *Hauteurs des terres* of the Mississippi and the Columbia were obtained, it would be singular if they should not be found somewhat at variance with the results which will ere long be furnished by the surveys now in progress.

By far the greater part of the portion of the route which is thus uncertain, is situated in the immediate vicinity of the Upper Missouri and Clark rivers. Any error which may be found in the estimated elevations of this portion, cannot, it is conceived, be so great as to affect appreciably the general character of the route.

In forming an opinion of the ascent of the Missouri valley from Fort Pierre, and of the elevation of the main summit, reliance is necessarily placed mainly upon information derived from the journal of Lewis and Clark. This journal was not published until after the death of the former, and did

not receive from him the corrections and amendments which would probably have been made on a final revision for the press. It is, nevertheless, written with a great degree of particularity, as will be evident from the extracts made, and carries with it internal evidence of truthfulness rarely met with in productions of a like character.

The Journal was published with an introduction from the pen of President Jefferson, whose private secretary Capt. Lewis had been. He says of Capt. Lewis, that he was a man "habituated to exact observation, honest, disinterested, liberal, of sound understanding, and a fidelity to truth so scrupulous that whatever he should report would be as certain as if seen by ourselves."

The justice of this flattering testimonial is confirmed by M. Nicolet, who alludes to the "truth, accuracy, and coincisness" of the descriptions contained in the Journal; descriptions which in his "judgment and experience will serve for comparisons useful to geography. They will even come, hereafter, to be useful for the physical history of the mighty Missouri, the effects of which in the valley it passes through, serve as a standard in investigating the regime of larger rivers and in perfecting the hydrographic theory of their flow.

The correctness of the elevation of the Missouri river at the head of the Falls, where it approaches near to the main summit, depends very materially upon the accuracy of the barometrical measurement of M. Nicolet at Fort Pierre. Such measurements, when made with suitable instruments by competent observers, can usually be relied upon as near approximations to the truth. The very high reputation of M. Nicolet is a guarantee of the greatest value in respect to the correctness of the measurement in question.

From Medicine river to Clarks river, including the passage of the main summit of the Rocky Mountains, the assumed elevations are not as reliable as on other parts of the route, particularly in respect to the elevation of the main summit, which is estimated to be 5000 feet above the level of the sea.* The evidence upon which this opinion is

*A communication from Gov. Stevens, received since the publication of the number containing the above estimate, dated Fort Benton, Sept. 17, 1853,

based, will permit of a lower estimate even than that, while the actual elevation may be greater, but it is believed that it cannot be so much greater as to impair materially the correctness of the conclusions arrived at, in regard to the general character of the Northern route as compared with others.

The actual elevation of this summit, whether it be a thousand feet more or less in height, is not of so much importance in the comparison as its feasibility at all seasons, particularly for the purpose of a railroad; a fact which must be considered as fully demonstrated, and which the explorations now being made will undoubtedly fully confirm.

The estimated elevation of this main summit is more than 3000 feet less than that of the highest or Bear Mountain summit on the emigrant route to Oregon by the South Pass, as measured by Col. Fremont; and is 2500 feet less than that of the South Pass, or of any other practicable summit probably north of the latitude of the Gila. This very moderate elevation of the main Rocky Mountain range at the sources of the Missouri is certainly remarkable, and would not be believed if the evidence in its favor was not very strong and conclusive.

In respect to the estimate of distances upon the several routes, the object has been to exhibit their relative, rather than their absolute lengths.

The mode adopted for doing this by ascertaining the direct distance upon each, and adding thereto such a percentage as seemed proper in each case, is believed to be the best that could

and published in the Washington Union of Nov. 23, has the following in relation to this summit:

"Lieut. Saxton reports Badots Pass to be some 2500 feet lower than the South Pass." The latter, by Col. Fremont's second measurement, which he deemed the most accurate, is 7490 feet above the level of the sea, making Badots, (Lewis Pass?) 4990 feet above the same level, differing very little indeed from the estimate as previously made from such data as could be obtained prior to the execution of the surveys.

It may be well to state here that the two communications received from Gov. Stevens from Fort Union and Fort Benton, fully confirm the statements made in previous numbers as to the favorable character of the country and the facilities it offers for the construction of the proposed railroad.

have been pursued. The amount of that percentage for the Northern route was intended to be more liberal than upon the others, considering its character. It is probably too small upon all of the routes, but as the results are greater upon the more southerly routes than has usually been given by their advocates, and as the main object is to know nearly their relative lengths, whether the percentage is too little or too great is not of so much consequence.

The distances obtained by the surveys now in progress, will exceed, probably, the actual distances when the latter come to be known. This follows from the mode of making the measurements with the odometer, and also from the indirectness of the lines measured. The same plan, however, being pursued upon all of the routes, their relative lengths will doubtless be obtained with a sufficient degree of accuracy.

The point which will be the most difficult of attainment, is an estimate which shall be satisfactory of the cost of constructing and operating the roads upon the several routes. Upon the Northern route, as already explained, the data for such an estimate are much more certain and reliable than upon either of the other routes.

Those who are at all conversant with such subjects will not consider the estimate \$100,000,000 for that route, including the branch to Lake Superior, as too high. The cost upon the other routes must greatly exceed this, and so much exceed it, if the estimates are justly and properly made, that when their inferiority in other respects is considered, although undertaken for that object, the most of them will be abandoned as through routes to the Pacific, until such time as the interests or necessities of the country shall justify the putting so large an amount of the capital of the country into more than one route.

In the practical execution of a work of so great magnitude there will necessarily be obstacles and difficulties of a serious nature to be overcome, even upon the route which is the most favorable. Upon the Northern route these will be much less formidable than upon either of the others, and if the spare capital of the country can be concentrated upon it, may be accomplished in a short time without injuriously affecting its financial condition.

It will be well if but one route is attempted at first, and that the best one; the others to be accomplished hereafter as occasion shall arise for their use. The country has no capital to waste upon unproductive schemes and none to bestow upon those which do not promise the most beneficial results. A project which requires so great an amount of human labor for its execution, and which must involve the fortunes of so many, should not be entered upon without a most thorough and careful investigation into its merits.

The Northern route can, with such aid as may with propriety be granted by the general government, besides costing less, be built in less time than any other route, owing to the superior facilities it possesses for the purpose.

From the west line of Wisconsin to the Pacific the distance as estimated is 1600 miles. This is not a greater number of miles of railroad than has been in progress in the single State of Illinois within the last three years. There is nothing therefore in the magnitude of the undertaking

which should be urged as a reason for not attempting it at the present time.

Owing to the unsettled condition of most of the country through which it will pass, and the difficulty of access, the progress of the work will necessarily be slow, and if commenced at once cannot be completed before the entire road will be absolutely needed to meet the wants of the government and of the people.

The aid which is anticipated from government, and which is necessary to accomplish the work, will consist probably in a grant of lands, similar to the grants already made in aid of the construction of railroads in Illinois and other States.

These grants, thus far, have been made to the States, and by them given to the companies building the roads. They embrace every alternate section for six miles in width along the line of the roads, and where the land is occupied or has been entered within that distance, the privilege is given of making up the given amount by taking land within a distance not exceeding fifteen miles from the lines of the roads.

In respect to the portion of the Northern route to the Pacific lying in Wisconsin, a grant of this description will enable the company holding the charter in that State to carry the line rapidly on to the western boundary of the State. West of Wisconsin through Minnesota and the country west to the Pacific a belt of land of greater width will be required.

Throughout all this portion, it is perhaps needless to say that a grant of lands to be adequate for the purpose must be very liberal in amount. However well adapted the country may be for settlement and improvement between the *Haut terres* of Minnesota and the mountains, it cannot be denied that the prevailing impressions in respect to it are not the most favorable. These must be removed. Much of the surface near the line of the road may be found of inferior character, and in the mountain portion particularly may be entirely unsuited for cultivation or improvement in any way. This being the case, the company to induce an early settlement must make liberal donations to actual settlers.

It is easy to perceive, therefore, that the grant from the government must be a liberal one, to enable the company or companies that may be the recipient of it, to accomplish the great object in view within the time required by the wants of the country in regard to it. With such a grant a railroad can be built on the Northern route to the Pacific and maintained until such time as the business upon it shall become sufficient for the purpose. It is a question worthy of the most serious consideration of all concerned, whether a like result can be attained on any of the more southerly routes.

This doubt is not expressed from any feelings of sectional jealousy or hostility to either of those routes, but from a firm conviction that there are physical difficulties and obstacles to be encountered upon them of a magnitude transcending greatly any estimate that has been hitherto put upon them by their respective friends and advocates.

As a preliminary step to the construction of the Northern railroad to the Pacific that route should, without delay, be opened for use by the government to emigrants going to Washington and Oregon. A comparatively small expenditure

will render this the very best inland route, not only to those territories but to California. A good wagon road should at once be formed from the Falls of the Missouri to Clarks river. Another from St. Ignatius on the latter river to the Chaudiere Falls on the Columbia. With these improvements, embracing perhaps three hundred miles in all, a way will be opened the entire distance from the Mississippi to the Dalles of the Columbia, on the most of which at the proper season there exists a very good navigation, forming the cheapest and very best route for emigrants to pursue.

This route once properly opened and protected by the government, would immediately be occupied for travel, settlements would be made upon it, the valleys of the Upper Missouri and Clarks river would soon be dotted with towns and villages, and the way would thus be paved for the easy and successful construction of the railroad.

On the subject of the revenue to be derived from the road no remarks have been made. The railway system has been in operation long enough to afford ample evidence of the productiveness of all lines connecting important business points. Those which are entitled to be ranked as main lines, connecting the great centers of population and business, are without exception, wherever they are under good management, yielding large profits to their owners and under the growing condition of the country must prove more profitable for the future than they have been for the past.

The proposed road to the Pacific will occupy no inferior or secondary place in the great system which is gradually spreading over all of the habitable portions of the continent. Occupying, as it will, the very best ground for an inland route between the two oceans, it must, if well and properly built and managed, transact an immense business, and under the aid contemplated from Government will, in time, yield large returns to its owners. Returns which will eventually abundantly repay those who may be induced to invest their means in its construction. However great a thoroughfare it may eventually prove, its friends must not be too sanguine or anticipate too soon that which it will require time to mature and accomplish. It is important to its security and success that there should be a population of certain amount collected in its vicinity. Some years must necessarily be occupied in its construction, and the commerce and travel of this continent and of the world must have time to adapt itself to this new channel of communication.

Notwithstanding the very favorable character of the Northern route, as exhibited in the preceding pages, it is perhaps not surprising that it has not hitherto received the attention which it deserves. The Journal of Lewis and Clark, with the exception of an abridged edition for the "Family Library," has never been republished. The lapse of 40 years has served to obliterate the impressions at first produced, and many without due discrimination may have risen from its perusal supposing that the trials encountered, by them in the snows were experienced if not in passing the main range of the Rocky mountains, at some other place which could not be avoided.

It is known to the writer that at least one author of note has fallen into this error.

These considerations combined with the recent events of the Mexican war, the discovery of gold

in California, and the inland trade which has for some time been carried on with New Mexico, has served to direct public attention to the practicability of reaching the Pacific by a more southern route, to the almost total neglect of the one which it is believed will eventually prove to be the best, and, (it may be said with truth) the only one which offers a reasonable prospect of success. The principal objection which can be raised against it is the character of the climate from its northern position and its nearness to the national boundary, objections which so far as they relate to the climate and obstructions from snows have been, it is believed satisfactorily removed; and so far as they relate to its nearness to the national boundary are entitled to no weight, so long as the road connects in the best manner the eastern and western portions of the Union, and is in the best position for accommodating the Asiatic trade.

This nearness to the British possessions when rightly viewed becomes a favorable feature rather than otherwise, and may be fraught with much mutual benefit to the two great nations whose territories, spanning the continent, are contiguous for so many hundreds of miles. North of the Great Lakes, and of the latitude of 49° to the Pacific, the country, although it may be practicable for a railway, can give but a limited support comparatively to such an improvement, and the road itself, should one be constructed, would be forced to occupy ground much less favorable for the cheap construction and efficient operation of such an improvement, than is found upon the proposed Northern route within the limits of the U. States.

A railway communication across the continent is necessary to Great Britain as a means of access to her Canadian possessions, and in reference also to the great interest she now has and must continue to have in the commerce of the Pacific, and, as if fully conscious of this necessity, she is now busily occupied in constructing lines of railway along the valley of the St. Lawrence, and from the borders of Canada and Maine through New Brunswick, to such point as will make the navigable distance across the Atlantic the least possible.

These improvements will serve to increase the tide of immigration, which is now very great, causing it to move westward with accumulated force, in the direction of the Great Lakes, and of the most favorable opening through the mountains to the Pacific.

The United States have probably a deeper interest in these changes and improvements than the people of England or those of any other country in the world. No other country is so well situated as the United States for drawing wealth from the two great Oceans which encircle the Globe, and for carrying on a profitable intercourse with the civilized and industrial nations that are seated on their shores, and none where the people as a mass are so intelligent, and where the encouragement to industry and enterprise, derived from just laws, is so great.

Holding this position, the command of the best route across the continent is of the utmost importance, and it is of equal importance that it should terminate at the most eligible point on the Pacific. Both of these conditions are answered by the Northern route. The distance by it from New York city to the Straits of De Fuca is 2,900 miles,

estimating by the shortest railroad route from New York to Chicago.—At the mean rate of 20 miles an hour, it will occupy four days continuous travelling, to pass from Ocean to Ocean.—At 50 miles and upwards per hour, which is not an unreasonable speed for a fast train on the broad gauge and allowing 14 hours for detentions, it will be only three days from Ocean to Ocean. Supposing 300 miles per day, for Ocean Steamers, a distance which vessels of that description are now capable of performing, and the time required to pass from New York city to China will not exceed 23 days and twenty days only to Jeddo, the capital of Japan.

A communication of this character must produce a very great change in the commercial relations of the countries that are thus brought so near to each other, and this change will be the greater for the reason that there now exists a very wide difference in the productions of each, and in the value of labor and of property. It will give a new and powerful impulse to commerce, the immigration from Europe will be increased, and Asia will contribute to swell the population on the Pacific; and the natives of that hitherto far-off land, may perhaps in a few years be found in no inconsiderable numbers cultivating the cotton and rice-fields of the tropical portions of America.

When the first census of the United States was taken in

	Ratio of increase per cent.
1790, the population was 3,924,544—	
1800, " " " 5,305,941—35.1	
1810 " " " 7,223,889—36.1	
1820 " " " 9,643,211—33.4	
1830 " " " 12,867,511—33.4	
1840 " " " 17,064,688—32.6	
1850 " " " 23,351,207—36.8	

Increase 34.57

By this statement it appears that the mean decennial increase in the population for 60 years is 34 57.100 per cent and that this increase has been very regular, the ratio at the several periods when the enumeration was made not differing at any any time from this more than $2\frac{1}{4}$ per cent., the greatest increase being 36 8.10 per cent from 1840 to 1850.

Assuming this mean rate of increase to continue for the next thirty years and the population will then be 57 millions, and for fifty years it will be over 100 millions.—It will not be proper perhaps to assume so great an increase for so long a period as the last. Immigration from Europe which has furnished a large portion of the decennial increment must diminish whenever labor shall receive the same reward there as here, and the political institutions of that portion of the world are made to conform theoretically and practically as near to the Christian standard as our own. This falling off in the immigration from the East, which must in time take place, will probably be compensated for by accessions from the West. So that for 30 years at least it may reasonably be supposed that the rate of increase hitherto maintained will continue, and that it will not be greatly diminished until some time after that period.

From what is known of the capabilities of the several portions of the territory now embraced within the limits of the United States to sustain a given population, combined with the attractions they offer for improvement and settlement, it is

not difficult to see where the larger portion of the 30 or 40 millions of increase in that period will be located.—West of the Rocky mountains the bulk of the population will be found north of the Bay of San Francisco, in Northern California, Oregon and Washington.

East of the mountains,—it will be found mostly in the northern and middle States, and in that vast and fertile region, stretching northward and westward from the mouth of the Ohio, the entire distance to the Lakes and the mountains, covering the whole extent of the Missouri valley.

In 1790 when the first census was taken, the centre of population of the United States, was not far from the head of Chesapeake Bay. The population East and West and North and South of that point, was at that time the same. The subsequent increase has caused this central point to move westward and northward, until it reached Pittsburg in Pennsylvania. From thence its path has inclined a little to the south and at the last census its location was not far from Steubenville in Ohio.

It is quite evident from an inspection of the map that its course hence forth will, for a time, be nearly due west, after which it will incline rather to the north, passing nearer to Chicago than to St. Louis, and may ultimately be found in the vicinity of the Mississippi, beyond which it is not probable it will ever pass.

The line thus described marks the westward movement of the population in respect to numbers solely. A similar line drawn so as to represent not only the population numerically, but the capacity of the several portions to produce exchangeable wealth would lie still farther to the North. The productiveness of the Eastern and Northern States is vastly increased relatively by the greater amount of steam and hydraulic power and greater number of labor saving machines in use in the arts, whether operating on the land or on the water. This condition of things gives to that portion of the Union an importance commercially, far beyond what is due to any numerical estimate of the population.

It will be seen from the above that whether we view the proposed Northern route for the Pacific railroad in respect to the region through which it passes near its two extremities or midway between the latter, throughout its entire length, it occupies the best position for accommodating the great mass of the population of the Union both at the present time and for an indefinite period after it shall be completed and in operation.

In a commercial view in tracing the path of the centre of population of the United States it would have been proper to have included that of the British Possessions adjacent. This would have carried it still farther to the North passing ultimately nearer the Southern extremity of Lake Michigan and making more evident the superiority in position of the Northern route.

The Canadas are now advancing rapidly in population and wealth. English capital is being freely expended in carrying out a system of internal improvements and extending the advantages of improved communications to all the settled portions of the country.

Owing to the great diversity in the productions of the two, the commercial relations between the Canadas and the States must be constantly growing stronger, until their interests shall be so identified

aided by a common language and the attractions of a free government, as not to be separated by any transatlantic influence. Great Britain profiting by past experience is disposed to yield to her Canadian Possessions a large measure of freedom. These concessions must continue, and to such an extent; that in time the Canadas will virtually if not nominally be rendered entirely independent of the mother country, and thus a more complete identity of interest and of feeling will exist between them and the free States of America, than can possibly be maintained with any European power.

While these events are ripening the Canadas will be acquiring population and wealth. Numerous flourishing towns and cities will spring up on the northern shores of the St. Lawrence and the Lakes, and they will contribute a vast amount of travel and business to the proposed Northern road to the Pacific; add to this the peculiar advantageous position of the proposed road affording the most direct, speedy and cheap communication between Europe, with its millions of inhabitants on the one side, and Asia still more populous on the other, and the project assumes an importance transcending any estimate which may have been put upon it as a national work. It becomes in fact the world's highway, over which will pass the travel and much of the trade of the most enlightened and civilized portions of the globe.

Statement of the Indianapolis and Cincinnati Railroad Co.

To the Stockholders of the Indianapolis and Cincinnati R. R. Co.

GENTLEMEN:—In my report of the 20th June last, it was stated that our road would be completed on the first day of October. In this we have been disappointed, but not to such an extent as has generally been common to other roads; and the contractors were enabled, by the use of great exertions, to deliver it to us in the early part of November. Considering the very great embarrassment caused by the advance in price of labor, and the difficulty in procuring it, great credit is due to the contractors for their energy and perseverance.

It was on the 14th day of November, that the first freight train passed over the whole length of the road. Passenger trains had been running for a few days previous.

Very convenient arrangements have been made for our connection with Cincinnati; two boats making regular trips on our line. Passengers are taken at Cincinnati at 6 a. m., breakfasting on board the boat, and arrive at Indianapolis at 12 m. Leaving Indianapolis at 12 m. they arrive at Cincinnati at 6 30 p. m., taking supper on board the boat.

Early in next month (January) the Ohio and Mississippi R. R. Co. expect their line to be so far completed as to furnish us, in connection with them an uninterrupted line to Cincinnati. We have assurances that they will afford us every facility and run a train between Lawrenceburg and Cincinnati to suit our business, and upon our time; by which connection, our time between Cincinnati and Indianapolis will be reduced to less than five hours.

The business done since the road was opened has been very satisfactory, amounting to

First week ending November 26,
Passengers and Freight..... Total, \$3,242 92
Second week ending December 3,
Passengers and Freight..... Total, 4,164 34

Increase on the first week..... \$921 42
Third week ending December 10,
Passengers and Freight..... Total, \$5,011 38

Increase on the second week..... \$847 04

The rolling stock of our road on hand consists of:

7 Passenger Cars,
145 eight wheel Freight Cars,
15 Engines.

Two additional Passenger Cars, and 50 additional Freight Cars will be received and in use in a few days.

Notwithstanding we had supposed that our supply of Engines and Cars would have been amply sufficient for the work of the season, there is great reason to fear that we cannot accommodate all the freight that will be pressing upon us.

Every effort has been made to bring in every expenditure, so that a statement of the cost of the road, and its condition and liabilities, might be made.

In a great degree this has been accomplished, and the statement here presented can vary but a few thousand dollars from what will be the result when the few remaining settlements are made.

Cost of construction..... \$1,643,864 00
Equipments..... 226,068 00

Total..... \$1,869,932 00

Seven per cent. Second Mortgage Bonds, unsold..... 65,000 00

Ten per cent. Income Mortgage Bonds, unsold..... 54,000 00

Real Estate unsold and not needed for use of road..... 344,982 00

Bills receivable for lands sold, &c. 85,571 00

Surplus iron after finishing the road..... 20,000 00

\$2,439,485 00

Capital stock paid in..... \$1,128,486 00

Seven per cent. First Mortgage Bonds.. 500,000 00

Seven per cent. Second Mortgage B's 400,000 00

Ten per cent. Income Bonds..... 100,000 00

Floating Debt..... 289,000 00

\$2,417,486 00

Means to meet present liabilities:

Seven per cent. second mortgage bonds unsold..... \$65,000 00

Ten per cent income bonds unsold... 54,000 00

Surplus real estate..... 344,982 00

Bills receivable..... 85,571 00

Iron on hand after finishing road..... 20,000 00

\$569,553 00

Floating debt or present liabilities.... 289,000 00

Excess of means over present liabilities..... \$280,553 00

The road has cost considerably more than was originally anticipated, but the work of last year was performed under very unfavorable circumstances, and at greatly advanced prices; but after all it is yet among the cheapest roads in the west, and will be found amply to remunerate its owners for their outlays. It will be seen from the preceding statement that the company have ample means in their surplus real estate, bills receivable, etc., to discharge all their liabilities, except the two mortgages of \$500,000 and \$400,000, leaving an encumbrance of only \$900,000, on a road completed and in good operation, costing \$1,869,932 00.

But this sum by no means represents the true value of the road, its materials, and equipments. The iron rails were bought at \$38 and \$40 per ton, and are now worth \$70. Nearly all our machinery also was contracted for at the low prices. The advance on these items together with that on our real estate, will add to the value of the road \$300,000, making a total of \$2,169,932 00; affording a most ample security for the debts for which it is charged, and making the second mortgage bonds fully equal in security and value with the first.

By an order of our board the name of the com-

pany was changed on the third of this month to that of the Indianapolis and Cincinnati Railroad Company. Certificates of stock in the new name will be issued on the first day of January, adding all arrearages of interest, on the surrender of the old certificates at the Secretary's office.

Having completed our enterprise, I feel it appropriate and justifiable to congratulate its friends on our success, and the encouraging prospect of a speedy fulfillment of all our expectations, of having an unrivalled road between points assuring a business equal to our utmost capacity. By the early completion of the part of the Ohio and Mississippi Railroad between Cincinnati and Lawrenceburg, (and the interest of our roads, being identical, we have assurances of convenient co-operation between us,) we have at the end of that connection, a city, (Cincinnati,) of a population of 160,000, including its business vicinity, and which being the business metropolis of the west, draws to it also much of the eastern trade; and at our western end, Indianapolis with its eight railroads in operation, concentrating there, and bringing trade and travel from all west and north of us, the natural tendencies of which are manifestly towards Cincinnati. The current of business assured to our line from its favorable position, will be much increased by the arrangements which are provided for, in connection with the roads which are finished and in operation north of us, of a through line from and between Chicago and Cincinnati in one day, which can only be accomplished over our line, our road being thirty miles shorter than any other road between Cincinnati and Indianapolis.

The large travel by this connection, which is natural and direct, can be judged of by the numbers who have thronged the circuitous and more expensive routes which have been used.

We are also arranging for a through freight business from and beyond Indianapolis, by connection with the lines of steamers on the Ohio at Lawrenceburg, to Baltimore, Philadelphia, New York, Boston and Charleston. Lawrenceburg is a favorable point of shipment from and to which, steamers will as readily, and at the same prices, receive and deliver freights as at Cincinnati—and for which, as our road terminates on the bank of the river, the most convenient arrangement of transferring between the cars and the steamers have been provided, without any charge to the forwarder for drayage, commission, or storage. That our Ohio River terminus will thus be found an attractive point for receiving freight from all the interior, from Pittsburgh, Wheeling, and the east, as we anticipated, is manifest from the constantly increasing receipts of goods delivered here for our road.

It is particularly gratifying to find the local business along our line promising to be largely above our expectations.

An engagement has been made with the General Post Office Department for the transfer of the great through mail between Cincinnati and Indianapolis, and its transportation on our road.

Thus in every respect I have the satisfaction of assuring the friends of our road, that their confidence and just expectations in the success of our enterprise are to be fully realized.

At the annual election last fall, the former Directors of the road were re-elected. Our present Board therefore is composed as follows:

George H. Dunn,	} Lawrenceburg.
Levin B. Lewis,	
David Nevitt,	
Hervey Bates,	} Indianapolis.
James M. Ray,	
William Robson,	
James B. Foley,	} Decatur County.
Jos. G. Monfort,	
E. Hamilton.	

GEORGE H. DUNN,
President.

Office of Indianapolis and Cincinnati Railroad,
Lawrenceburg, Dec. 12th, 1853.

Survey of Motive Power of the New York and New Haven R. R. Co.

By ZEPHAN COLBURN.

The motive power of the above road, for its extent, possesses more uniformity of character than that of any other road in the vicinity of New York. The work done by the engines, considering the

characteristics of the line, and the extent of the business, is very large. The mileage of these engines, published in the Journal of Dec. 3d, shows a performance of the average rate of 25,200 miles per engine per year. This includes a considerable freight and local passenger business, besides a very large and growing express traffic. The condition

of the engines is extremely good, owing to the original excellence of their construction, and the efficiency with which necessary repairs are conducted. The following tables show the general proportions of these engines, and the calculated results of heating surface, expenditure of steam, &c.

Number.	Builder.	Date of Reception.	Diam. of Cylinder.	Stroke.	Length of Ports.	Width of Ports.	Width of Exhaust.	Diam. of Drivers.	No. of Drivers.	No. of Trucks.	Length of Tubes.	Diam. of Boiler.	Diam. of Tubes.	Number of Tubes.	Diam. of Blast.	Length of Grate.	Width of Grate.	Depth of Furnace.	Weight of Engine in running order.	Weight on Drivers.	Area of Tubes.	Area of Firebox.	Area of Grate.	
			in.	in.	in.	in.	in.	ft. in.			ft. in.	in.	in.		in.	in.	in.	in.	p'ls.	p'ls.	sqr.ft.	sqr.ft.	sqr.ft.	
1	Rogers, Ketchum & Grosvenor, Paterson, N. J.	Oct. 1852.	15	20	14	1 1/2	2 1/2	5 6	4	4	11 0	13 1/4	150	2 1-8	47 1/2	37	46 1-2	48,500	30,500	756	64	12 1-4		
2		" "	15	20	14	1 1/2	2 1/2	5 6	4	4	11 0	13 1/4	150	2 1-4	47 1/2	37	46 1-2	48,500	30,500	756	64	12 1-4		
3		Dec. 1848.	13	20	10	1	1 1/2	5 1 1/2	4	4	10 3	38	13 1/4	121	1 3-4	41	35	39 1-2	44,000	27,200	568	42 1/2	9	
4		" "	13	20	10	1	1 1/2	5 1 1/2	4	4	10 3	38	13 1/4	112	1 11-16	40 1/2	35	38	44,000	27,200	526	41	9	
7		" "	13	20	10	1	1 1/2	5 1 1/2	4	4	10 2	38	13 1/4	123		41	35	46 1-2	44,000	27,200	573	36	9	
8		" "	13	20	10	1	1 1/2	5 1 1/2	4	4	10 5	38	13 1/4	127	1 7-8	40	34 3/4	40 1-2	44,000	27,200	606	42 1/2	8 7-8	
9		" "	13	20	10	1	1 1/2	5 1 1/2	4	4	10 5	38	13 1/4	127	1 7-8	40	34 3/4	39 1-2	44,000	27,200	606	41 3/4	8 7-8	
10		May, 1849.	13	20	10	1	1 1/2	5 1 1/2	4	4	10 4	38	13 1/4	127	2	40 1/2	35	39 1-2	45,000	28,000	601	42 1/4	9	
11		Aug. "	13	20	10	1	1 1/2	6 0	4	4	10 4	38	13 1/4	121	1 7-8	40 1/2	35 1/2	48	46,740	30,000	573	50 1/2	9	
12		Feb'y, 1850.	14	20				5 6	4	4	10 9	41	13 1/4	180		46	37	49	47,600	30,000	610	57 1/2	10 2-3	
13		" "	14	20				5 6	4	4	10 9	41	13 1/4	128	2	46	37	49	47,600	30,000	630	57 1/2	10 2-3	
14		" 1851.	13	20	10	1	1 1/2	6 0	4	4	10 7	38	13 1/4	124	2	45	35 3/8	48 3-4	46,740	30,000	601	55 1/2	10 1-8	
15		June, 1850.	13	20	10	1	1 1/2	6 0	4	4	10 6	38	13 1/4	124	2	45	35 1/2	48 1-2	46,740	30,000	596 1/2	55 1/2	10 1-8	
16		July, "	13	20	10	1	1 1/2	6 0	4	4	10 6	38	13 1/4	124	2	45	35 1/2	48 1-2	46,740	30,000	596 1/2	55 1/2	10 1-8	
17		" "	13	20	10	1	1 1/2	6 0	4	4	10 6	38	13 1/4	124	2 1-16	46	35	48 1-2	46,740	30,000	596 1/2	55 1/2	10 1-8	
18		Aug. "	13	20	10	1	1 1/2	6 0	4	4	10 6	38	13 1/4	124	1 13-16	46	35	48 1-2	46,740	30,000	596 1/2	55 1/2	10 1-8	
19		Sept. "	13	20	10	1	1 1/2	6 0	4	4	10 6	38	13 1/4	124	2	45 1/2	35 1/4	49	46,740	30,000	596 1/2	55 1/2	10 1-8	
20		Feb'y, 1851.	13	20	10	1	1 1/2	6 0	4	4	10 6	38	13 1/4	124	1 15-16	45	35	49	46,740	30,000	596 1/2	55 1/2	10 1-8	
21		May, 1853.	16	22	14	1 1/2	2 1/2	6 0	4	4	11 6	46	17 1/8	169		54	38 1/2	54 1-2	.....	.....	954	80 1/2	14 4-10
22		June, "	16	22	14	1 1/2	2 1/2	6 0	4	4	11 6	46	17 1/8	169	2 1-4	54	38 1/2	54 1-2	.....	.....	954	80 1/2	14 4-10
23		Nov. "	16	22	14	1 1/2	2 1/2	6 0	4	4	11 6	46	17 1/8	169	2 1-4	53 1/2	38 1/2	55 1-2	.....	.....	954	81	14 8-10
24		" "	16	22	14	1 1/2	2 1/2	6 0	4	4	11 6	46	17 1/8	169	2 5-8	53 1/2	38 1/2	55 1-2	.....	.....	954	81	14 8-10
Farmington				10	20	9 1/2	1	1 1/2	5 1 1/2	4	4	9 0	34	13 1/4	96	1 3-8	36 1/2	35 1/2	34 1-2	396	35 1/4	8
Cheshire				10	20	9 1/2	1	1 1/2	5 2	4	4	9 0	34	13 1/4	96		36 1/2	35 1/2	34 1-2	396	35 1/4	8

* Hackworth's double exhaust ports.

The entire equipment of engines was constructed by Messrs. Rogers, Ketchum and Grosvenor of Paterson, N. J.

Steam used and Power exerted.

Numb. of Engine.	Steam used at one Revo.	Revo. per mile.	Steam used per mile.	Relative Quantity of Steam used.	Traction in Tons load.	Adhesion in Tons load.
	cubic ft.		cubic ft.			
1	8,181	306	2503	8732	426	545
2	8,181	306	2503	8732	426	545
3	6,145	328	2015	7034	343 1-2	486
4	6,145	328	2015	7034	343 1-2	486
7	6,145	328	2015	7034	343 1-2	486
8	6,145	328	2015	7034	343 1-2	486
9	6,145	328	2015	7034	343 1-2	486
10	6,145	328	2015	7034	343 1-2	500
11	6,145	280	1721	6001	293	536
12	7,127	306	2181	7607	371	536
13	7,127	306	2181	7607	371	536
14	6,145	280	1721	6001	293	536
15	6,145	280	1721	6001	293	536
16	6,145	280	1721	6001	293	536
17	6,145	280	1721	6001	293	536
18	6,145	280	1721	6001	293	536
19	6,145	280	1721	6001	293	536
20	6,145	280	1721	6001	293	536
21	10,239	280	2867	10000	489	
22	10,239	280	2867	10000	489	
23	10,239	280	2867	10000	489	
24	10,239	280	2867	10000	489	
F.	3,636	325	1182	4122	202	
C.	3,636	328	1193	4160	203	

The engines 21, 22, 23 and 24 represent the standard express engine of the present day, being of large dimensions, liberal proportions of steam room and passages, and having generally the most modern and effective arrangement of machinery. In their details, however, there is

room for considerable improvement. The furnaces are of but moderate width while the length is very great; the escape of heated air being from one end it necessarily encounters greater resistance than if the length and breadth were differently proportioned to each other. The furnaces, by a proper arrangement of the frames and driving spring could be 5 inches wider. The tubes, considering their length, and the extent of radiating or absorbent surface compared with the sectional area of thimble-openings, are of too small diameter, by which the resistance both of the thimble-openings and the friction-surface of the tubes retards the draught, rendering a disproportionate contraction of blast necessary. And even then these engines do not always make sufficient steam. The smoke boxes are too large, and too much encumbered by pipes; whereby the forward circulation of the draught is broken and retarded. The elevation of the blast orifices is generally too great, whereby the vacuum in the smoke box depends more upon the suction than on the pressure of the exhaust steam. The pressure is generally from 12 to 20 times greater than the force of the vacuum, or suction, derived from the pressure. The chimnies, in consequence of a low height of bridges, often of an unnecessary height of boiler, and especially of the use of a form of pipe requiring two feet of space above the cone for clearance, are quite low; and with the great elevation of the blast pipes, whereby the steam fills the chimney at a proportionally higher point, are too short for good draught. The large size of the outer casing produces a vacuum behind, whereby the insuffi-

ciency of the draught is aggravated, the smoke is trailed, and the view of the engine-man obstructed and the train covered with sparks and dirt. These particulars are alluded to for no other reason than to exhibit the influence of mal-arrangement of the general apparatus for draught. I am of opinion, and, so far as observation affords illustration of these effects, I am convinced, that width of furnace is more influential than length in the promotion of combustion; that the depth should be such as to contain sufficient fuel without interfering with the thimble openings. That the best diameter of tube, with the present kind of thimbles, is 2 1/4 inches; and that, if any difference is to be made in the diameters of tubes in the same boiler, the outermost tubes require to be the largest, instead of the smallest, as they are sometimes made, to occupy spare room. The increase of absorbent surface (tube surface) cannot be beneficial if the combustion be retarded from any cause, as the heat must not be absorbed below the temperature of the necessary pressure of steam, waste heat being necessary. The form of the smoke box requires material alteration, as its office is to connect the circulation of the tubes and chimney, which it should do by a passage of the easiest and most direct section, unencumbered by pipes or other obstructions. The upper portion of the smoke box, above tubes, requires to be separated, the crown of the smoke box being a level sheet, reducing, by so much, the elevations of blast and chimney openings, and substituting blast pressure for blast suction. The upper portion of the smoke box might contain sparks and

years \$185,872,095 78 has been added to the gold and silver coin of the country, besides what has been brought by immigrants.

The Branch Mint at San Francisco will be in working order by the 1st of February; and will be capable of turning out \$30,000,000. An Assay Office has been leased in New York for two years, with the privilege of purchase.

REPORT OF THE DEPARTMENT OF THE INTERIOR.

During the year the survey of the public lands has been steadily prosecuted, large bodies of new lands brought into market, the wants of the emigrant fully met, and choice selections offered to the pioneer.

The land system is nearly correct in principle. Its details need but little modification. During the year 9,819,411 acres have been surveyed, 10,363,891 acres brought into market, and 1,083,495 acres sold. The number of land warrants issued up to the 30th September last was 266,042, of which there were then outstanding 66,947.

The entire area of the public domain is estimated at 1,584,000,000 of acres. Its purchase was effected at the rate of 14 1/2 cent per acre, amounting to \$67,999,700. Add the Indian reservation, valued at \$4,250,906, and adding the cost of selling lands sold previous to June last, the entire cost, excluding surveying, amounts to \$88,994,016. The whole amount accruing from sales up to June 30, 1853, was \$142,283,478, being \$53,299,465 more than the cost of the whole. It is estimated that the net amount which will have been realized for them, is the sum of \$331,181,369.

The policy of bringing the lands into market at the earliest possible day is urged.

Early attention is called to the disposition of the mineral lands of California, the unsettled business of the pension office, and the frauds upon the same. The clerical force of the bureau of patents needs to be increased. The Indians have been unusually peaceful through the year. Their present number in the United States is estimated at 400,000—18,000 east of the Mississippi.

POSTMASTER GENERAL'S REPORT.

The whole number of Post Offices in the United States at the close of the last official year, ending June 30th, 1853, was 23,320. Of this number 255 are of the highest class, the Postmasters of which are appointed by the President.

At the present date, December 1, 1853, the total number of Post Offices is 22,688. During the past year, commencing July 1, 1852, 1,898 Post Offices were established; 479 were discontinued; and there were appointed to office during the said year, besides the 1,898 Postmasters to the newly established offices aforesaid, 3,000; 850 upon resignation, 225 on death, 182 by change of site, 91 where the Postmaster had moved away, and 2,321 on the removal of prior incumbent, being 8,567 Postmasters appointed during the year ending June 30, 1853.

At the close of the fiscal year, ending on the 30th June last, there were in operation within the United States, 6,692 mail routes. The aggregated length was 217,743 miles, 5,583 contractors employed thereon. The annual transportation of the mails on those routes was 61,892,542 miles, and the annual cost thereof \$4,495,968; being about seven cents two mills per mile. Of these 61,892,542 miles of annual transportation, 12,986,705 miles are required to be performed on railroads, at a cost of \$1,601,321, being about twelve cents three mills per mile; 6,685,965 miles in steamboats, at a cost of \$632,868, being about nine cents four mills per mile; 21,330,326 miles in coaches, at a cost of \$1,206,958, being about five cents six mills per mile, and 20,890,446 miles in modes not specified, at a cost of \$1,055,813, being about five cents per mile.

The expenditures of the Department during the last fiscal year were \$7,982,753. The gross revenue from all sources was \$5,840,724.

It appears from the foregoing statement that the gross revenues of the year, ending June 30, 1853, fall short of the expenditures by the sum of \$2,142,029.

\$1,571,000 of this deficiency is supplied by the

balance on the Auditor's books on July 1, 1852, and by the appropriations to supply deficiencies, amounting to upward of \$1,000,000, leaving \$516,000 to be provided by Congress for the service of the year ending 30th June, 1853.

The following is a summary statement of the fiscal operations of the Post Office Department for the year ending 30th June, 1853:

Balance to credit of Department, 1st July, 1852.....	\$843,394 32
Total receipts in fiscal year, including the sum of \$2,255,000 from the Treasury under acts of Congress in aid of the Post Office Revenues.....	7,495,724 70

Total apparent revenue for the year.....	\$8,339,119 02
Expenditures for the year.....	7,983,089 37

Leaving apparent balances to credit of Department, 1st July, 1853.....	\$356,029 65
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From this should be deducted the unavailable balance from late postmasters, brought forward from report of 1851 and 1852..... \$113,242 63

Deduct also amount paid British government on account of postages of previous year, properly chargeable to expenditures for the last fiscal year..... 118,061 56

Leaving as the ultimately available balance.....	251,303 19
Excess of expenditures of all kinds over the revenues of the year, exclusive of the balance on hand July 1, 1851, and the amount drawn from the Treasury to supply deficiency of revenue.....	\$2,742,364 67

Thus we find the cheap postage system creating an actual deficit in the revenue of the department, of nearly \$3,000,000. The last cheap postage act gives postmasters, in certain cases, an extra commission of 20 per cent., which costs about half a million per year. The European mail service has cost immensely more than the receipts amount to, and the California mail service costs two-thirds more than it pays. Postages on newspapers under last reduction, have fallen off \$400,000.

REPORT OF THE SECRETARY OF WAR.

The authorized strength of the Army is stated to be 13,821—officers and men; but its actual strength is only 10,147. Of these 8,378 are employed on the frontiers. The concentration of force on the Rio Grande frontier was required for the protection of our citizens against the incursions of Indians from Mexico, and for the enforcement of our treaty stipulations with Mexico, to prevent Indian invasion from our own borders. This movement has restrained present depredations, but a much larger force is considered necessary to secure a permanent peace. It is estimated that 1,600 recruits will be required for the service of the ensuing year, to maintain the full complement of rank and file. The strength of the regular army is generally reduced in the proportion of nearly one-fifth, by desertion, debility, death, etc., but chiefly by desertion; and this may be expected to continue so long as the disparity exists between the pay of the soldier and that of the laborer in civil life, and length of service is encouraged by no reward.

The average annual loss to the army, including discharges by expiration of service, to be supplied by the enlistment of new men, is 3,592, more than one-third the whole force. To obviate the embarrassment resulting from this state of things, the Secretary recommends an increase of pay, with an additional increase for every successive period of five years the soldier shall remain in the Army, and provision for promotion to the lowest grade of officers.

Virginia Central Railroad.—Passage of the Blue Ridge.

The Eastern and Western divisions of the Virginia Central Railroad, now separated by the intervention of the Blue Ridge through which a tunnel is making for their ultimate connection, will be connected after January 1854, and until the completion of the tunnel, by a temporary track across the Rockfish Gap. The characteristics of the temporary track have been sent us by Charles Ellet, Jr., Esq., the engineer in chief of the Va. Central Railroad, and are as follows:

The ruling grade of the road, on straight lines, is 5 3-10 feet in 100, or 279 84-100 feet per mile.

The maximum grade, on straight lines, is 5 6-10 feet in 100, or 295 68-100 feet per mile.

The minimum radius of curvature is 300 feet, and this limit is adopted very frequently. The maximum grade on such curves is 4 5-10 feet in 100, or 237 6-10 feet per mile.

The total length of the track, from the point where it leaves the State road on the eastern side, to the summit of the mountain, is 12,500 feet, or 2,37 miles; and in this distance an elevation of 610 feet is overcome.

The total length of the track from the summit of the Blue Ridge to the intersection of the temporary track with the State road, on the western side, is 10,650 feet, or 2,02 miles; and the track descends in this distance 450 feet.

The elevation of the summit of the mountain, in Rockfish gap, where it is crossed by the temporary track, is 415 feet above the grade of the State road at the western portal, and 471 1-3 feet above the grade of that road at the eastern portal of the long tunnel.

The tunnel descends at the rate of 70 feet per mile, or 56 1-3 feet in its entire length of 4,248 feet.

The total length of the temporary track, from its intersection with the State road on the western side of the Blue Ridge, to its intersection therewith on the eastern side, is 23,150 feet, or 4,38 miles.

The distance along the State road, passing through the tunnel, measured between the same extreme points, is 18,608 feet, or 3,52 miles. The loss of distance in crossing the mountain on the temporary track, compared with the distance through the tunnel, is, consequently, 86-100ths of a mile, or 4,542 feet.

The cost of this work I estimated at \$50,000, over and above the value of the materials that may be used again when the completion of the State road will enable us to abandon the temporary track. But, in consequence of an unexpected delay in completing certain cuts and embankments on the State road east of our intersection therewith, it will be necessary for us to run round these impediments likewise, by which the length of the temporary track will be increased and the cost of the work somewhat enhanced.

The total length of the temporary track, including the portion around Robinson's hollow and the rock cut east thereof, and that around the second or middle tunnel, is 5,47 miles.

Mr. Ellet estimates the saving in transportation over this track above the expense of maintaining a portage, as \$123,332 per annum; and allowing the completion of the tunnel to be delayed for three years, the whole saving will be \$370,000. It is presumed, however, that the completion of a direct route between Richmond and Millboro, will increase the amount of travel and freight to an extent of at least \$165,000 for three years, making the whole value of the temporary track \$535,000.

We learn from Mr. Ellet that the work is nearly completed and will be opened for use in January next. The working of such a road will be a

novelty in engineering, while we have no doubt of its successful operation.

American Railroad Journal.

Saturday, December 24, 1853.

Stock and Money Market.

The share market continues without material change. There is but little activity in fancies. Nothing will be done in these till after New Years. Premium securities are pretty firmly held, without much movement. Bonds of new works sell slowly and only in small lots. The public mind is too much in abeyance, waiting for the weekly news from Europe to allow much activity of any kind. For speculative purposes money is tight, though sufficiently abundant in the ordinary channels of business.

The Michigan Southern and Northern Indiana railroad companies have made a semi-annual dividend of ten per cent payable on the 3d. of January. We give a statement of their business for the six months ending the 31st inst:

Earnings six months (Dec. being estimated).....\$956,876 66
Expenses and interest, six months (Dec. being estimated.)..... 552,716 10
Net profit, six months.....\$404,160 56
Add surplus July 1, 1853..... 103,307 15

Total.....\$507,467 71
Off dividend 10 per cent..... 280,000 00

Leaving a surplus of.....\$226,767 71

Equal to 8 per cent on the capital stock. The July dividend was 7 per cent, making 17 per cent for the year, leaving a surplus of 8 per cent.

The receipts of the Xenia and Columbus Railroad for the twelve months ending 1st December, are.....\$317,067 16
Expenses estimated at 40 per cent.. 126,826 86

Interest on bonds.....\$190,240 30
73,385 27

Taxes and July dividend, (5 per cent.).....\$116,855 03
Surplus Income, etc., 1852..... 17,617 58

December dividends, 5 per cent....\$134,472 61
64,567 50

Surplus.....\$69,905 11

The Bank statement for the week ending Dec. 17, was as follows:

	Dec. 17	Dec. 10.
Loans.....	87,864,072	85,708,020
Specie.....	12,166,020	12,493,709
Circulation.....	8,939,830	9,075,704
Deposits.....	58,312,470	57,830,010

Indianapolis and Cincinnati Railroad.

We give in another column the recent exhibit of this company. The affairs of the company are shown to be in a very satisfactory condition. The earnings for the first month of its operation were nearly \$19,000, and increased at the rate of nearly \$1,000 per week. In a few weeks more the Ohio and Mississippi railroad will be completed to its point of junction with the above, which will add very largely to its receipts, which are rapidly accumulating from local sources. The road has made one of the most successful openings of any road in the west.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	80
Androscooggin and Kennebec.. "	55	809,878	1,016,500	2,064,458	140,561	80,053	none	30
Kennebec and Portland..... "	72	952,621	29,80	2,514,067	168,114	100,552	none	41
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	97
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,256	none	24
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord..... "	35	1,485,000	none.	1,485,000	305,805	141,836	8	104
Cheshire..... "	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern..... "	82	3,016,634	.....	.....	328,782	163,075	5	51
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6	89
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	109
Portsmouth and Concord..... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan..... "	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	33
Rutland..... "	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	20
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	14
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	cent.	100
Western Vermont..... "	51	392,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley..... "	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7	97
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	102
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	88
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	1024
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2	45
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern..... "	75	2,850,000	500,000	3,120,391	488,793	241,017	7	91
Fall River..... "	42	1,050,000	none.	1,050,000	229,445	99,589	8	106
Fitchburg..... "	66	3,540,000	112,305	3,623,073	574,574	232,787	6	96
New Bedford and Taunton.. "	20	500,000	none.	520,475	164,230	43,950	7	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony..... "	45	1,964,070	282,300	2,293,554	322,213	101,510	none	904
Taunton Branch..... "	12	250,000	none.	307,186	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	134
Worcester and Nashua..... "	45	1,134,000	171,210	1,321,945	162,109	66,900	4	61
Western..... "	155	5,150,000	5,319,520	9,953,759	1,339,873	638,194	6	96
Stonington..... R. I.	50	.....	467,700	.....	240,572	110,892	.....	66
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	100
Canal..... Conn.	45	922,500	500,000	1,400,000	.....	.....	4	65
Hartford and New Haven.... "	72	2,350,000	800,000	3,150,000	639,529	294,269	10	1184
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	39
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	102
Naugatuck..... "	62	926,000	440,000	.....	.....	.....	8	.....
New London and New Haven.. "	55	750,500	650,000	1,380,610	Recently opened.	.....	none	52
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4	584
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently opened.	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna..... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	10,000,000	24,003,865	33,070,863	3,537,766	1,601,623	7	784
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	67
Harlem..... "	130	4,725,250	977,463	6,102,935	681,445	324,494	5	55
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	30
New York Central..... "	504	23,085,600	10,773,823	33,859,423	.....	.....	.....	114
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,187	195,847	none	29
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently opened.	.....	none	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington..... "	60	850,000	400,000	1,250,000	Recently opened.	.....	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	80
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently opened.	.....	.....	33
Troy and Boston..... "	39	490,936	700,000	1,043,357	Recently opened.	.....	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	92
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,490	1,388,385	478,413	10	145
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	7	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	8	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently opened.	.....	.....	125
Harrieburgh and Lancaster... "	36	830,100	713,227	1,702,523	265,827	106,320	8	52
Philadelphia and Reading.... "	95	6,656,832	10,427,800	17,141,987	2,480,626	1,251,987	7	81
Philad., Wilmington and Balt. "	93	3,250,000	2,408,376	6,812,336	667,786	383,501	5	80

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	94
Philadelphia and Trenton....	"	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	"	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio.....	Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	102 1/2
Washington branch.....	"	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna....	"	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange.....	Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	"	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	"	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville.....	"	73	1,372,324	200,000	In prog.	.....	.....	.....	70
Richmond and Petersburg.....	"	22	685,000	.....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac.....	"	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side.....	"	62	1,357,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central.....	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	61
Virginia and Tennessee.....	"	60	3,000,000	1,500,000	In prog.	.....	.....	.....	98
Winchester and Potomac.....	"	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N. C.	161	1,338,878	1,134,698	2,965,574	610,038	153,898	6	.....
Charlotte and South Carolina..	S. C.	110	.....	.....	In prog.	.....	.....	.....	.....
Greenville and Columbia.....	"	140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina.....	"	242	3,358,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester..	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	"	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western.....	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	100
Muscogee.....	"	71	.....	.....	In prog.	.....	.....	.....	.....
South Western.....	"	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River..	Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	"	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	"	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point....	"	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern.....	Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia....	Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga....	"	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky.	38	1,430,150	900,000	In prog.	.....	.....	.....	62
Frankfort and Lexington.....	"	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	"	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Cleveland and Pittsburgh.....	Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland, and Erie.....	"	95	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.....	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	124
Columbus, Piqua and Indiana..	"	46	.....	.....	2,000,000	.....	.....	.....	80
Columbus and Lake Erie.....	"	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton..	"	60	2,100,000	500,000	2,659,653	321,793	200,967	.....	106
Cincinnati and Marietta.....	"	.....	.....	.....	In prog.	.....	.....	.....	72
Dayton and Western.....	"	40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Dayton and Michigan.....	"	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton.....	"	36	.....	.....	.....	.....	.....	.....	60
Greenville and Miami.....	"	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro.....	"	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami.....	"	84	2,370,784	.....	2,634,157	526,746	314,670	10	113
Mansfield and Sandusky.....	"	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.....	"	167	2,387,200	1,767,000	4,110,148	640,518	113,401	.....	95
Ohio Central.....	"	57	.....	.....	In prog.	.....	.....	.....	90
Ohio and Mississippi.....	"	.....	.....	.....	.....	.....	.....	.....	87
Ohio and Pennsylvania.....	"	187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	.....
Ohio and Indiana.....	"	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley....	"	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Norwalk and Cleve'd....	"	147	552,000	800,000	1,317,140	Recently opened.	.....	.....	92
Xenia and Columbus.....	"	54	1,092,137	119,500	1,267,714	237,506	135,363	15	116
Evansville and Illinois.....	Ind.	31	.....	.....	In prog.	.....	.....	.....	.....
Indiana Central.....	"	.....	.....	.....	.....	.....	.....	.....	90
Indiana Northern.....	"	131	.....	.....	.....	Recently opened.	.....	.....	115
Indianapolis and Bellefontaine	"	83	.....	.....	.....	.....	.....	.....	166
Lawrenceburg and Ind.....	"	90	.....	.....	.....	.....	.....	.....	77
Lafayette and Indianapolis....	"	62	.....	.....	.....	Recently opened.	.....	.....	82
Madison and Indianapolis.....	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	70
Peru and Indianapolis.....	"	40	.....	.....	In prog.	.....	.....	.....	65
Terre Haute and Indianapolis..	"	72	632,387	663,100	1,333,019	105,944	71,446	4	108
Rock Island and Chicago.....	Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi.....	"	135	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central.....	"	92	1,982,361	500,000	In prog.	473,548	286,152	.....	126
Galena and Chicago.....	"	915	2,800,000	2,829,000	6,430,246	592,187	293,046	.....	122
Michigan Southern.....	Mich.	82	4,000,000	4,067,398	8,614,198	.....	.....	.....	126
Michigan Central.....	"	282	.....	.....	.....	.....	.....	8	108
Pacific.....	Mo.	88	1,000,000	none.	In progress	Recently opened.	.....	.....	100

Buffalo and Brantford Railroad.

This road connecting Buffalo with the Southern peninsula of Canada and by which the trade of that most fertile portion of the Province will be opened to that city, was put in operation on the 20th instant. At a point near Brantford, Canada West, this road will intersect the Great Western Railway, which is now nearly finished to Detroit River, thus giving Buffalo a very direct land communication with Detroit and Central Michigan. The Buffalo and Brantford road however will be extended from Brantford Northwest to Goderich, on the Eastern shore of Lake Huron, by a route varying but slightly from a direct line. It is understood that the work on this portion of the line is now to be pressed forward with all practicable speed and when completed this line will shorten the travelled distance to Lake Superior about one hundred and sixty miles, and the time about twenty hours. This will be of much importance to the great tide of travel which will set in, toward the iron and copper regions, upon the completion of the Ship Canal around the Falls at the Sault, Ste. Marie, and which will be about the same period with the completion of the Goderich Extension of the above road.

We are glad to see, as we do by the Buffalo Commercial Advertiser, that the Company have spared no expense in obtaining the right kind of a Ferry Boat to connect the road with the City of Buffalo across the Niagara River. A new boat, equal in every respect to the New York ferry boats, has been constructed in Buffalo expressly for this purpose. One novel feature in the *International*, as she is named, is that of her being propelled by a screw wheel; an enormous one of seventeen feet diameter; which is worked by a locomotive engine of 450 horse power, 33 1/4 inch cylinder and capable of making 55 revolutions per minute. Although a screw does not strike us as being exactly the best mode of propelling ferry boats, especially where the trips are short; unless they can be so arranged as to propel the boat across the stream and return without turning round; we hope this will succeed according to the expectations of the Company. This is, however, an important matter as a question of time, of which it takes considerable to wind a boat—very frequently as long as to ride ten miles on a railway.—The *International* is 167 feet long on deck, has 30 feet beam and 10 feet hold. The Niagara, at Black Rock, is seldom closed by ice of sufficient strength to impede the passage of a powerful boat, owing to the strength and rapidity of its current, and yet it is so far above the Falls—20 miles—as to preclude the possibility of danger from them in case of accidents. The fact that the *International* has been constructed and furnished throughout,—hull, machinery, furniture, and decorations,—by Buffalo mechanics, speaks highly of that point as a place of manufactures.

Locomotive Engines for Sale.

TWO first class engines, adapted to a 5 foot gauge, 22 tons weight, 16 + 20 inch cylinders, and 5 1/2 and 6 feet drivers, built by one of the best makers in the country. New, and offered for sale because not required by those ordering them. Enquire at the office of American Railroad Journal, 9 Spruce-st., up stairs.

Dec. 24

Erie Railroad.

We have been spoken to, complainingly, by a friend in reference to one or two matters in our notice of the late report of this company, in our last number. The ground taken was, that the report being, in some important particulars, full and satisfactory, it should be received as an *amnesty* for past offences, and that having in the main accomplished the objects of our recent criticism upon the management of this company, we are now bound to speak *well* of the management of this great work in which the public are so deeply interested.

We intended no offence, nor do we think we exposed ourselves to just censure. In publishing the *present* construction account of the company, contrasted with that of *last year*, we unintentionally omitted to give, as we should have done, the explanation for the *decreased* amount set down as paid out on account of interest paid on *stock*, which was as follows:

"In the report made to the Legislature, for the year ending September 30, 1851, this amount was erroneously stated as \$24,028,858 20, whereas it should have been \$23,949,385 26, being a difference of \$979,472 94. The error, or omission arose from charging the interest paid during the year 1851 on the stock and debt of the company, direct to "Interest Account" instead of charging it to "Transportation" or "Net Revenue" Account; and reporting the gross amount of interest paid, instead of the balance of interest. The above amount, \$979,472 94 being the balance of "transportation," or net revenue, for the year ending Sept. 30, 1851, and should have been carried to the credit of "Interest Account," before the books were closed, but was not done until after the report for 1852 was made, thus carrying the same error into the next report. The amount reported for 1852 was \$27,551,205 71, but should have been \$26,571,732 77.

"The total amount of interest paid for the year ending 30th Sept. 1851, was \$1,265,675 67, from which should be deducted the net revenue, \$979,472 94, leaving a balance of \$286,102 73, chargeable to construction for interest on stock, as per terms of subscription, the road not having been opened to Dunkirk till May, 1851; and interest at the rate of six per cent per annum was paid on the stock up to July 1, 1851: from which time the dividends commence."

In the table published by way of contrast to the *present* statement of the company, the item of \$1,048,199 53, for passenger and freight stations, buildings and fixtures, was accidentally omitted. The above corrections will be readily made, by reference to the tables. We published them together as a vindication, furnished by the company, that we were correct in refusing to receive the statement made last spring, as showing the true state of the company's affairs. We are glad they have discovered an error, which, but for our attack, as it is called, upon the company, might have remained uncorrected to this day.

But the great ground of complaint is the *slur*, as it is termed at the habits of the company of making *incorrect* statements. A *slur* is no argument, we admit, and reflects no credit upon the person making it. We think, however, that a more particular statement of facts alluded to, will show that the remark, though made without reflection, was not out of place.

We commenced the paragraph by saying, that the report does not show what has become of the *net* earnings of the company, stated by Mr. Loder, in March last to have been \$3,963,795 47, up to Sept. 30, 1852. Now so long as a road is in *progress*, and a portion of the interest upon its cost is paid from *capital*, and when a portion of its earnings goes into *construction*, or what is the same thing into *capital*, we claim that the directors should *charge* themselves with such monies as well as monies received from *stock* or *bonds*. We presume no one will deny this proposition. We take it too, that an interest account should be kept and published while a road is in progress, if for no other purpose than to show the *rates* that have been paid. *Exorbitant* rates may impeach the integrity or capacity of the managing parties. We suggested no improper use of the money received from earnings, only the propriety of showing the uses to which it had been applied.

By turning to the last report of the company for the years ending Sept. 30, 1852, we find the following statement of *earnings, expenses and interest, viz:*

1850—Gross receipts.....	\$1,064,134	
Transportation expenses.....	\$518,412	
Interest.....	421,751	
Surplus.....		940,163
1851—Gross receipts.....	\$2,271,673	
Transportation expenses.....	1,121,649	
Interest.....	918,716	
Surplus.....		2,040,365
1852—Gross receipts.....	\$3,537,766	
Transportation expenses.....	1,871,163	
Interest.....	1,114,939	
Dividends.....	416,334	
Surplus.....		3,402,441

Total net earnings for three years ending Sept. 30, 1852.....\$490,603

From this sum should be deducted \$117,161 30 balance of transportation account for the year, which, by reference to page 64 of the report, it will be seen the company charged themselves with it, at the commencement of the fiscal year just closed. Why was not the balance reported at the close of the previous year, credited? Or rather why was not the *accumulated* balance of three years, amounting to \$490,603, credited? We are not raising the question as to the proper or improper use of this money; only that its application to some object should be shown; a matter we apprehend, very few persons will dispute.—"Transportation Accounts" for 1850 and 1851, similar to that prepared by Mr. McAlpine for 1852, would have told the whole story,—would have substituted facts, where we are now only left to conjecture.

Again we charged that the *actual* earnings of 1852 fell short of the *reported* earnings for the same period, leaving an inference that the *deficit* or a portion of the interest and dividends was made up from *capital*. This charge, often repeated by us, has never been denied. If incorrect entries, touching one point, are made upon the books of the company, or to the public, the inference is, that *others* of a similar character may be made, touching other points. We are satisfied that the Erie road did not earn \$3,537,776 in 1852; and

as evidence, we give the following table showing the *receipts* or *earnings* as reported by the company from month to month, for 1853, and the *actual* receipts or earnings as stated in McAlpine's report:

	Reported Earnings.	Earnings as stated by Mr. McAlpine.	Deficit.	Excess.
1852—Oct.	\$376,838	\$374,232	\$2,606	
Nov.	848,562	340,983	7,579	
Dec.	352,138	346,174	5,953	
1853—Jan.	304,164	263,398	40,752	
Feb.	308,588	287,011	21,576	
March	371,479	363,837	7,642	
April.	423,076	412,288	10,787	
May.	389,412	350,142	39,269	
June.	362,748	336,018	26,730	
July.	332,069	318,182	13,886	
Aug.	403,683	410,671	....	6,988
Sep.	512,639	516,019	....	3,379
Total	4,488,389	4,318,962	176,784	10,367

The above result gives us one of the habits of the Erie company, and a very bad habit too! A habit which was practised in 1851-2, and never fully corrected. The road has still the reputation of earning a much larger sum that year than was earned. This habit Mr. McAlpine has exposed, though it does not appear to have been corrected, not from his fault, however. From his report it appears the excess of earnings reported by the Co. from month to month, to the daily press, exceeded the actual earnings by \$176,784 39! That up to August every month shows an excess! That in January this excess is fully equal to twenty per cent of the *whole* earnings; in May to about 12 per cent; in June to 8 per cent. That this excess is not so uniform in its character as to indicate the operation of some general loan by which the whole can be explained. We do not see how the over-statement in January could have been other than *designed*. January is the poorest business month, and the ordinary draw backs in it were undoubtedly smaller than in any for the year. The inference is that \$40,000 was added as a *stock jobbing-operation*; that it was a regular piece of *cooking*. So too with the excess for May. We think that an examination would show that a grand "rally" was made in Erie about that time. Should the truth ever come to light will it not be seen that the earnings for August and September are vastly over-stated? The excesses for January and April were \$80,000, and why should not those for August and September be \$150,000? The precedent is good for this sum. The necessities of "operating" parties are undoubtedly equally great. With uniform experience, and a most powerful *interest* against the supposition, is the inference not irresistible, that the reports for August and September are not correct, as well as those for October and November? Were the company disposed to state correctly the earnings for October and November, they have not had time to determine the amount actually earned. To pretend to give earnings under these circumstances, is only a continued attempt to impose upon the public.

We trust we have shown we have not dealt harshly with the Erie company, and said nothing that is not justified by the *facts*. The great cause for regret is that *facts* should justify our censures. But while we have no desire to rake up the past, are willing to let the secret history of this company remain a sealed book, and to accept the present report as an atonement for past errors, as

far as they have been corrected, we shall by no means accept it as an excuse for abuses that are still tolerated, one of which is the *monthly* statement of earnings reported by the company to daily papers. They are not, and never have been, correct, as the company well know. In the first place, it is almost impossible to make up the accounts so as to show the amount actually earned for one month until two or three have elapsed after its close. Were not the exaggerated reports for January, April, and June made for the purpose of bolstering the stock? If such were the object, how easy would it be to exceed the fact a little. This is the reason why we have objected to having the more important places in the company filled with parties engaged in stock speculations. This has been the evil star of this noble enterprise; the great obstacle in the way of its success, and the great stain upon its reputation. A portion of this incubus that weighed it down, was thrown off last summer. It apparently wants further *lightning*. Let the directors, most of whom are gentlemen of the highest respectability, and are as we know, sincerely desirous of having the work conducted in the best possible manner, clear the concern of all parties who have other objects than the good of the road, and they will take the last step necessary to the full success of their road. So long as they fail to do this, they will find their management watched, as it will need watching. The road is doing well. Its actual earnings appear to be sufficient to provide for all the demands upon the company, and pay a reasonable income to the stockholders. They certainly exceed public expectations, and bid fair very rapidly to increase.

In the mean time we are happy to bear testimony to the general excellence of Mr. McAlpine's report. Its appearance is an era in the history of the company. He has rendered the public an invaluable source. He has brought order out of chaos. The details of the working economy of the road are excellent and such as only could be prepared by a master of his art. His financial statements will serve as a model for future reports. But there is still work for him to do. So far as he has gone, he has done admirably. It is his habit, to do well whatever he undertakes. We hope it will be long before the Company will part with his services.

We hope too that we have done the Company and the public some service, though in a different way. Our reward has been a plentiful share of abuse, offset in part, by the consciousness that we have been in the line of our duty. A man who tells *unwelcome* truths must not expect the gratitude of those to whom they are told, however much they may be benefitted. The smoother path and more profitable course, for us, would have been, to have followed the example of other papers, to have puffed the Company, and tickled the ears of the public; and when the catastrophe happened, to have preserved a solemn gravity, till the memory of our previous fooleries had been forgotten, and then to have claimed, that the result "*was exactly what we had expected*".

Having got through with our articles upon the Pacific Railroad we shall commence next week the publication of the more important portions of the Erie Report, with the tabular statements annexed.

Way and Through Earnings Compared.

The tables annexed to the late report of the Erie railroad company furnish some interesting and valuable evidence as to the amount of *through*, compared with *way*, business on railroads. This road is eminently regarded as a *through* passenger route, yet although we find the number of miles travelled by *through* passengers equalled just *one-half* the miles travelled by *way* passengers; the gross receipts from the former were only about *one-third* the receipts from the latter, and the net receipts only about *one-eighth* as great. The following statement will show the proportion that *through* mileage, receipts and expenses, bear to the *way* travel.

Total number of miles travelled by passengers were as follows:

Through mileage	36,202,000
Way	62,230,361

Total	98,432,361
Number of through passengers	78,700
" way	1,075,737

Total	1,154,437
Total receipts from through passengers	\$467,438 37
Total receipts from way passengers	1,163,465 89

Total	\$1,630,904 26
Cost per passenger per mile	1.128 cents.
Average distance travelled by through passengers	460 miles.
Amount received from each through passenger	\$5 94
Cost per through passenger	5 19

Net amt received from each thro' pass.	\$0 75
Amount received per mile from through passengers	1.29 cents.
Net receipts from through passengers per mile .....	.167 cents.
Expenses of through passenger transportation	\$408,433 37
Net amount of receipts from through passengers	59,025 00

Total	\$467,457 37
Average amount of receipts from each way passenger	\$1 08
Average distance travelled by each way passenger	58 miles.
Average amount received from each way passenger	\$1 08
Cost of each way passenger	0 65

Net amount received from each way passenger	\$0 48
Amount received per mile from each way passenger	1.86 cents.
Net amount received per mile per passenger .....	.741 cts.
Expenses of way transportation	\$700,899 89
Net receipts	462,566 00

	\$1,163,465 89
Gross amount of way earnings	\$1,163,465 89
" through	467,457 37
Proportions of way to through earnings	2½ to 1
Proportions of net way to net through earnings	8 to 1 nearly.

We presume that it costs as much for this road to move a *through*, as it does a *way* passenger. Assuming that the company run four trains each way daily, which, we believe, is the fact, and one on Sunday, this would give 2548 *through* trains; and thirty *through* passengers each train; or 78,700 in the whole.

But the above statement does not fairly present the point at issue. The *way* business comes to the company without expense or effort. It costs nothing to secure it. Not so with the *through* business; this is competed for by numerous other routes, and so sharp is this competition, that the Erie, as all others doing a *through* business, are compelled to have runners scouring the country in every direction, and agents permanently stationed at important points, from which the road can hope to derive any business, and at so great a cost, that we have no doubt that the *through* passenger business of the Erie road for the past year, has cost more than the whole has come to.

We also venture the opinion that since the opening of the road the entire *through* business of the Erie road has cost the company more than the *through* receipts. Yet there is no road in the United States of a similar character that is supposed to be doing so large a *through* business.

We give the above result of the operations of the Erie road more for the purpose of enabling parties who are in various parts of the country, so eager to build new roads to connect points already sufficiently well accommodated in this particular, to save a few miles or minutes to the *through* traveller. If the roads already built accommodate the *local* business, an expected *through* traffic can never justify a rival work. It may be laid down as one of the fundamental principles of railroad economy, that a road dependent upon *through* business *never* pays, a principle well sustained by the experience of the Erie railroad.

Direct Parallel Connecting-Rod for Locomotives.

In some recent engines by Wm. Swinburne, of Paterson, N. J., we have noticed a form of main connecting rod wherein the strap is extended at the forward end and connected by a joint directly to the parallel rod. This description of rod, applicable only to outside connected engines, possesses several advantages over the ordinary method of prolonging the crank pin and attaching the coupling rod outside.

The line of pressure is brought directly from the piston rod to the most remote crank pin, without producing strain upon the intermediate boxes. A pair of brass boxes and the fitting and attendance required for keys is saved. The *weights* of crank pins and of the parallel connecting rod is very much reduced, and their disturbing action consequently diminished; it being well known that the internal disturbances in locomotives are proportional to the weights of the reciprocating and revolving parts; and that these disturbances are aggravated by a removal of the forces from the planes of motion of the wheels.

The strains on the crank pins are also reduced in proportion as they are applied nearer the face of the wheel, and in reversing suddenly there is, therefore, less danger of breaking the pins.

The slip of the wheels, coupled by this connection, due to the obliquity of the main connecting rod at half stroke, is practically nothing. With a connecting rod 7 feet long between centers, and having the joint 6 inches from forward crank pin, the slip of the back crank pin, with a 11 inch crank, is 1-20 inch, producing a slip at the periphery of a six feet wheel of about 1-6 inch, which occurs four times at each revolution. This may

be prevented by a little allowance in the inner half of the box of the parallel rod.

The joint and direct rod have been often used for coupling three or more pairs of drivers, but not until recently for connecting all the drivers with the piston rod. We see by the *Scientific American*, that J. B. Martin, of Corning, N. Y., has applied for a patent for the latter application, one which we had all along supposed was first made by Mr. Swinburne. z. c.

Rival Roads.

In many portions of the country, parties are busily occupied in getting up works which, to a greater or less extent, must share a business already enjoyed, and sufficiently accommodated by roads, already built or in progress; *rival* works, which must come in conflict with established lines and established interests. As the construction of railroads in this country can only be regulated by appeals to *self* interests, and to the sound sense of parties engaged in their prosecution, it may be well call attention to the difficulties that *rival* works will be certain to encounter, which may require sacrifices much greater than any good to be obtained, and may even involve in ruin the parties connected with them.

No road of any considerable magnitude has been constructed in any part of the country, which has not taxed the means of those building it to their utmost extent, as every Railroad-man will testify. With the general sentiment, and the united efforts of the community in their favor, with the co-operation and good will of capitalists, and with estimates of income, and which no one attempts to controvert, it has required the greatest exertions to construct our *best* paying lines. In many cases of success, one straw more, would have broken the *camels* back.

If such be a correct statement of the difficulties encountered where *all* the circumstances conspire to a favorable result, how are projects to realize success, which can command only a *portion* of the means of the communities in which they are located, whose construction is regarded as of doubtful expediency even at home, and which, instead of receiving the co-operation and support of capitalists, are sure to meet with discouragement and opposition. Such are the adverse circumstances with which many projects now presented upon the public will have to contend, and which must be fatal to their success. All new projects are hereafter to be much more carefully scrutinized, than formerly. Because railroads have been constructed with apparent ease in certain parts of the country, is no reason why this should continue to be the case. The investments that have been made will create a feeling of caution, wherever a road has the look of being a *rival* work, it will have to make out the strongest case to secure foreign aid. The feeling is general that their construction is being overdone in many parts of the country. This fact should by steadily kept in sight by all parties undertaking new projects, and who may in any contingency, be compelled to rely upon aid from abroad. Such aid will *not* be given unless a most satisfactory case be made out. Capitalists cannot fail to have seen that in many parts of the country, such as New York, Ohio and Indiana, that the Railroad fever has reached a pitch, that should *all* the schemes proposed be carried out, the inevitable ruin of many of our best paying

lines will be the consequence. Monied men, if they have been previously chargeable with buying with too little care, will for the future, err on the side of *caution*, if they err at all; and will wait to see how their previous ventures are to turn out before going into new ones.

This is not only the wisest course for capitalists, but is as useful to our own people as to them. The true test by which to determine the expediency of a road is, will it pay upon its cost? Unless this can be answered in the affirmative, the project should be abandoned just as certainly as should any other *non-paying* enterprise. The moment this rule is overlooked, we are afloat without chart or compass. A road which threatens seriously to divide a traffic *accommodated* by other roads, should be discouraged, on the ground that its construction involves twice the amount of capital needed for a given business. A road that reduces the earnings of railway property, (its own included,) in particular districts, below the *ordinary* rates of interest is *not needed*, and should not be constructed. The very fact that a new work will so reduce the earnings of other roads, proves it not to be required, and that the business upon which it must depend, is already sufficiently accommodated by existing lines. We apprehend that capitalists entertain the same views that we have expressed, and will act upon them. This is *one* great reason why new projects find so much more difficulty in borrowing money, now, than formerly. It is the result of a caution growing out of previous investments, which is exercising a most wholesome influence in checking a propensity which is everywhere manifesting itself to rushing headlong into new and uncalled for projects.

We had not intended to have made any direct application of the above remarks, and should not, but for the fact, that since they were written, we have received from Ellwood Morris, Esq., a copy of his report of the final location and probable cost of the "Cincinnati, Hillsboro and Parkersburgh Railroad," made by him, of the line of the above Railroad, from Hillsboro, the present eastern terminus of that line, to the Ohio River. In view of the difficulties encountered, and from the fact, that *one* road through southern Ohio would accomplish, substantially, all the advantages of the *two* that have been proposed, Mr. Morris recommends a consolidation of the Hillsboro with the Marietta, and the construction of *one* road for all that portion of the route common to both lines.

The public, we presume, are well aware that two lines of railroad, known by the above titles, have been proposed, and are in progress, from Cincinnati to the Ohio, both having very nearly the same course and termini, and both, to a considerable extent, rivals for the local business of the districts they traverse. The impropriety of the two lines has been felt from the first, and strong efforts have been made to combine them, but which, up to a recent period, from causes to which it is now useless to refer, have been unsuccessful. We are now happy to learn that these obstacles have been removed, that the consolidation of the lines is favored by the stockholders and directors of both roads, and that steps are in progress that will soon accomplish the proposed measure. Fortunately, there has been but little work done that

will not be available by the *consolidated* line, so that nothing has yet been lost but *time*, in this most important project, a railroad traversing southern Ohio from east to west, and cutting off the great bend made by the Ohio River, from the mouth of the Muskingum to Cincinnati.

We have not been able heretofore to speak so well of either of the above projects as we wished, as the divisions which prevailed threatened seriously to injure, what otherwise would have been, a *first* class project. We know of no road in Ohio more called for than *one* through southern Ohio, in the direction of the above. It would have no competing routes between the Central Railroad on the one hand, and the Ohio River on the other, neither of which can be regarded as such. Provided only *one* road should be built, we know of none in Ohio possessing more substantial merits, or better calculated to enlist the confidence and secure the co-operation of capital. In addition to an excellent and highly cultivated soil, southern Ohio is the great coal and iron region of the State, and must soon become the seat of a more dense and rich population than any other part of it, from the numerous industrial interests which her various resources will call into life. Southern Ohio already numbers some of the most enterprising and thriving towns in the State, capable of supplying a large traffic to a railroad. In addition to the local traffic, it would become one of the most convenient routes to Cincinnati for the great eastern cities of Baltimore, Philadelphia and New York.

We have for some time past foreseen that the consolidation of the above roads must sooner or later take place, but we feared it would not be done until after a considerable amount had been expended upon work that would have to be abandoned. Both routes are somewhat expensive for Western roads: the Hillsboro' route vastly the most so. Mr. Morris estimated the cost of the extension of the Hillsboro, from its present terminus to Parkersburg, 119 miles, to be \$5,365,138, or over \$43,000 per mile. Between Hillsboro and the Ohio *nine* tunnels, of an aggregate length of nearly 8000 feet would be required! It is easy to see that the local means of the section traversed could never furnish a sufficient basis for a work of the cost of the above, especially for a work immediately in the vicinity of another which has monopolized the local means of the country, which has a stock subscription of \$3,500,000, \$2,000,000 of which are expended in construction, which occupies by far the best route in a business point of view, which is receiving efficient aid from powerful interests outside the state, and a work which the *public* believe is to be speedily constructed whatever may be the state of the money market. Under such circumstances, the present construction of the Hillsboro railroad upon an independent basis, is impracticable. Aid from abroad is out of the question. The city of Baltimore which has previously favored the route will do nothing. The hands of her citizens are already so full that the necessary aid to the Baltimore and Ohio road has had to be given in their *corporate* capacity. If this great work, the pride and the hope of that city, cannot enlist the *private* means of its citizens in its support, what can be expected by a road *out* of the state, and whose value is remote and contingent. The Marietta is a shorter line and will equally accommodate Baltimore as the Hillsboro,

and that city is not going to aid a road which would neither add new, nor furnish additional accommodations to a business already enjoyed. We regard the proposed consolidation of the above roads as most fortunate. It is a result that necessity would have soon forced upon the Hillsboro line. The consolidated line will give to Southern Ohio all the railroad facilities required, and will at the same time form an attractive investment for capital. It will constitute *one, first class*, instead of two *second class* roads. We are happy to be able to announce the probable speedy consummation of the proposed union, an example which we hope always to see followed, under similar circumstances.

Hollow Axles.

We would call the attention of our readers to the highly interesting paper published in our number of the 26th Nov., from the Civil Engineer's and Architects Journal for Oct., 1853.

The experiments with solid and hollow axles are of the most interesting nature to the travelling community. We hope manufacturers and railroad companies will look into this matter.

A specimen of the hollow axles are now on exhibition at the Merchant's Exchange.

Population of Cleveland.

The census of Cleveland has just been taken, which shows the following result:

	Pop. 1850.	Pop. 1853.
1st Ward.....	7,837	6,896
2d ".....	5,390	10,277
3d ".....	3,603	4,339
4th ".....		10,203
Colored Pop.....	211	406
	17,041	31,219
Ohio City.....	6,865	9,992
	23,406	41,206
		23,406

Increase in three years..... 17,800

Ohio and Pennsylvania Railroad.

The exhibit of the Ohio and Pennsylvania Railroad, which we give to-day, says the Pittsburgh Gazette, presents the gratifying fact, that the receipts for eleven months of the present year exceed the estimate of the Chief Engineer and Superintendent for the whole year. The estimate was \$600,000. It will be about \$670,000. It was estimated that \$600,000, after deducting expenses, would pay a dividend of 7 per cent. on the finished portions of the work. The estimates are made good, and a surplus of \$70,000 left. The result is highly honorable to the discernment and financial skill of the chief officers of the road, and is calculated to inspire public confidence in the future of this great work.

Judging from the past, we may safely calculate that the earnings of the road for the ensuing year will be \$900,000. We base this calculation on the fact, that the company have had the use of the whole road only about seven months of this year—that they have no adequate western connections, and that they have had to labor under the disability of inadequate machinery, etc. If under such circumstances the road has earned \$670,000 it is too much to expect it to earn \$900,000 when it shall have the advantage of a choice of routes to Cincinnati, more favorable connections with both

the north-west and south-west, and when the Pennsylvania railroad, having tunnelled the Alleghenies, and done away with the inclined planes, shall be able to accommodate in a triple degree the trade of the west? All these advantages will accrue to the Ohio and Pennsylvania Railroad in the month of January. The most timid financier will not say, in these circumstances, that our estimate of \$900,000 is too high.

The road has cost, including its stock, buildings, etc., nearly \$5,000,000—some \$150,000 less, which will be absorbed in the improvements the company is now making. About \$2,000,000 of this is in stock, and \$3,000,000 in bonds, bearing 7 per cent. interest. Allowing \$400,000 for the expenses of working the road, which is about 45 per cent., a very liberal calculation on a road so well built and favorably situated, we have net earnings to the amount of \$500,000—or ten per cent. on the cost of the whole improvement. The bonds, however, only have 7 per cent. interest, and will absorb \$210,900, leaving \$290,000 for the stockholders, or 14½ per cent. This is truly a flattering prospect, and it is as sound and safe as flattering.

Office of the Ohio and Penn. R. R. Co.,
Pittsburgh, Dec. 8, 1853.

Receipts in November, 1853..... \$93,427 17
" " 1852..... 40,275 93

Increase..... \$33,151 24
Receipts in 1853 to Nov. 30th..... \$604,128 86
" 1852 to same date..... 281,263 92

Increase..... \$322,864 94
The receipts in eleven months of 1853, exceed the estimate made by the Superintendent for the whole year, which was \$600,000.

S. W. ROBERTS,
Chief Edg'r and Suplt.

Journal of Railroad Law. TAXATION OF RAILROADS.

The Supreme Court of Rhode Island has, in the case of the *Providence and Worcester Railroad vs. Wright*, lately declared that the casement of the said company in the town of Smithfield, with its right of way and accompanying privileges in said town, together with its sleepers, rails, etc., are to be considered as real estate, and that the same are taxable as real estate, by virtue of the authority of said town.

In accordance with this doctrine is the subjoined decision of the late Court of Chancery, of our own State.

Railroad Companies are not taxed upon their capital as personal estate, for that part thereof which is invested in lands over which the road runs, and in the railways and other fixtures connected therewith; but that part of the corporate property is to be taxed in the several towns and wards in which the same is situated, as real estate and at its actual value at the time of the assessment thereof. *Mohawk and Hudson Railroad Company vs. Clute and others*, 4 Paige, 384.

The capital stock of a railway company, which is not invested in its railways or other real estate, is to be taxed as personal property in the town or ward where the principal place or office for transacting the financial business of the company is situated.

Where the President of a railroad corporation furnishes the statement required by the statute to

be delivered to the assessors of the town in which the corporation was liable to be taxed upon its capital, but by mistake of law, omitted to deduct as a part of the real estate of the corporation that portion of the capital which was invested in the railways and other fixtures, and the corporation was assessed and taxed in that town in conformity to such statement, the Court of Chancery refused to restrain the collection of the tax, leaving the parties aggrieved to prosecute at law for the amount which they had erroneously been compelled to pay.

GRANTS OF LANDS BORDERING ON HIGHWAYS, ETC.

The following has been declared to be law by the Supreme Court of Rhode Island, in the case of *Hughes vs. the Providence and Worcester Railroad Company*.

When a grant of land in fee describes the premises conveyed as extending to or bounded on the highway or river, the land would be conveyed to the middle of the highway or river, unless some portion of the deed or of the monuments of the land should clearly manifest that the intention and understanding of the parties in regard to the boundaries of the premises conveyed was different from what might be inferred from a strict construction of the language employed by the grantor.

THE CONSTRUCTION OF RAILROAD CHARTERS.

Where the charter of a railroad company empowers them to pass over or under a road and gives the town Council the power to regulate the mode in which such company shall effect the passage in question, they are not justified, so far at least as private individuals are concerned, in adopting a different method of traversing the road, even although they procure the consent of the town Council for that purpose. If in consequence of this deviating from their charter private individuals suffer, the company are liable for damages. In the case of the *Providence and Worcester Railroad*, on a portion of the route the level of the railroad was 8 feet below the level of a highway. The company left an open space over the highway, with the assent of the City Council, who changed the course of the highway in order to admit of the company's adopting that method of passing the highway.

Hughes vs. the Providence and Worcester Railroad Company. Supreme Court of Rhode Island.

RAILROAD INJUNCTIONS.

The United States Circuit Court for the Western District of Pennsylvania, on the 17th instant, granted an injunction against the City of Erie and others, to restrain them from injuring the Erie and North East Railroad, and from interfering to prevent restoring those parts heretofore destroyed.

The United States Circuit Court, Judge Irwin, refused the injunction of the *Cleveland, Painesville and Ashtabula Railroad Co., vs. the City of Erie and others*.

We have not been able to procure copies of Judge Irwin's decisions in those cases, but learn from the Pittsburgh Inquirer that in the case last mentioned the grounds of the Judge's decision were, in substance, the following.

1st. Whatever rights can be claimed in this case by the *Cleveland, Painesville and A. R. R.* are derived from their agreement with the *Franklin Canal Company*, whose representatives in this

case they claim to be, and by the agreement in question they must stand or fall.

By the original Charter of the Franklin Canal Company they were authorized to construct a canal from Franklin in Western Pennsylvania north-westerly to the aqueduct below Meadville. By the act of 1849 the said Canal Company was authorized to make a railroad and to use its *towing path* as the bed of said road. It was also authorized to extend its road from its Northern end to Lake Erie, and from its Southern end to Pittsburgh. Thus definitive starting-points and terminations were prescribed by the Legislature and no authority whatever was given to the Company to commence a road at Lake Erie and to continue it to Ohio. Hence the Franklin Canal Company have if regarded as principals, constructed a road, not chartered by any Act of the Legislature of Pennsylvania, and the alleged rights of the Cleveland, P. and A. R. R. Co., claimed to be derived from the said Franklin Canal Company, are wholly imaginary. The contract between these two Companies was a nullity, and wholly failed to confer any privileges, for the reason that the Franklin Canal Co. acted without legal authority in regard to the construction of the road, and had no privileges to confer, in respect to it.

Such was the decision of Chief Justice Black of the Supreme Court of Pennsylvania, when this matter was submitted to his judgment. And in regard to the construction of State Statutes, the Federal Courts are to a certain extent guided by the Courts of the States by which those Statutes have been enacted.—10th *Wheaton*, 14.

2nd. The contract from which the supposed rights of the Cleveland, Painsville and A. R. R. Co. are derived is void because the Franklin Canal Company had no authority to transfer its chartered privileges to a foreign corporation.

The road having been abandoned to a corporation chartered by the State of Ohio, if such abandonment be operative, the Franklin Company have freed themselves from all responsibility in respect to their road. Whereas the charter of the Franklin Company has subjected them to certain duties which they should not be allowed to evade, by substituting another Company for themselves.

The Franklin Company is bound to make annual returns under oath, concerning its financial condition. How can this be done when their privileges have been abandoned to another company?

3d. Again, the road which the Franklin Company were authorized to construct was according to the Charter granted by the Pennsylvania Legislature, to be used as *public highway* by those who should place suitable cars thereon. No such use can be made of the road when controlled by a foreign corporation.

4th. The Charter of the Franklin Company gave them no right whatever to bring their contemplated road into connection with that of another State.

Hence the Cleveland, P. & A. R. R. Co. now applying for an injunction against the City of Erie, in order to prevent them from removing the rails &c. in appertaining to the railroad in question, must be considered as mere strangers here, having no legal claim to the subject matter in controversy; not having satisfactorily shown that there is any legal foundation for their alleged rights by

virtue of a contract with the Franklin Canal Company.

In the case of the Erie and North-east R. R. vs. the City of Erie we trust that a far more thorough and more satisfactory examination of the merits of the question will be had.

Taxable Value of Albany.

The assessed value of Albany for 1853, is returned as follows:

City Real.....	\$16,307,666
" Personal.....	4,569,889
	\$20,877,555
Albany County Towns Real.....	10,554,580
" " " Personal.....	1,573,562
	12,128,142
Total County of Albany.....	\$33,005,697
Total tax paid by the city of Albany in 1853.....	\$240,712
Do. County towns.....	79,822
Total.....	\$320,534

P. J. Tournadre,

Chief Engineer Vicksburg, Shreveport and Texas R.R.,
Vicksburg, Miss.

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The terminus and depot of the New Orleans, Opelousas and Great Western Railroad is situated about 300 yards from the above property, which could be availed of to great advantage for the manufacture of Locomotives and Railroad work, generally as well as Steam Engines, Sugar Mills, and other descriptions of Machinery.

There are no Shops in New Orleans for the manufacture of Railroad Machinery, and as the Railroad Companies now organized in that city contemplate the construction of over 1000 miles of road,—a large part of which is already under contract,—the property now offered for lease offers a most eligible opportunity for parties desiring to contract to furnish the Engines and Machinery,—for those roads. Responsible contractors with their works on the spot would have an advantage over Northern Workshops in contracting for the Work of the Railroads terminating in New Orleans. The Establishment and prospect of remunerative work to be secured immediately are worthy the attention of manufacturers and Engineers generally.

Applications from responsible parties will be promptly attended to, and to satisfactory parties the proprietors of the Works can offer favorable terms and arrangements.

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NOTICE OF SUMMER ARRANGEMENTS,

Commencing Monday, May 9, 1853.

TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commutation from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, Stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commutation for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Sup't.
New Haven, May, 1853.

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Nov. 12, 1866

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. IX., No. 53.]

SATURDAY, DECEMBER 31, 1853.

[Whole No. 924, Vol. XXVI.]

The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLEBURN.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, December 31, 1853.

Railroad to the Pacific.

We concluded, last week, the publication of Mr. Johnson's articles upon the subject of the Pacific railroad, with the exception, perhaps, of one or two more, which may be added at some future time, by way of *Appendix*.

There can be no doubt that Mr. Johnson has rendered this great project a most valuable service. His is the first attempt to treat the subject in a logical and analytical manner; to collate and compare all the testimony which existed, and to present the results of such evidence to the public. So far as such evidence exists, he may be said to have exhausted the subject. His articles must take the place of the absurd and extravagant notions which have prevailed, and must silence the nonsensical gabble, which those who know the least, have been most accustomed to indulge in.—Just in proportion to the magnitude and difficulty of the work, have politicians and interested parties been free to express their own opinions, and to speak as authoritatively as if they were *experts* in the art of railroading, or that the work were the pastime of a day. To ask the opinion of such men upon the subject of a railroad of a hundred miles in extent in the *States*, would be to strike them dumb, or if they attempted an answer, to cover them with ridicule. Upon the subject of a railroad

to the *Pacific*, they are most eloquent, simply because a knowledge of the difficulties of the work places no restraint upon their imagination.

Mr. Johnson's articles will have another good effect in calling to the subject the attention of the *engineering* profession, in which, in critical and patient research, in scientific skill, in sound judgment, and in a thorough training in his profession, he occupies the very front rank among his brethren. The very fact that he has put his reputation at stake in the discussion, is good evidence that he has thoroughly considered the subject. His articles therefore, are not only the first attempt to discuss the subject in a proper manner, but must be considered as going far to settle the question of route, unless some important additional evidence be thrown upon the subject. Assuming that no such evidence exists, his conclusions appear to be uncontrovertible.

We believe Mr. Johnson has shown the construction of the above road to be much less difficult than it has been supposed to be by the *engineering* profession. Certainly there is no difficulty in constructing speedily, and at moderate cost, a railroad for the western shores of Lakes Michigan, and Superior, to the base of the Rocky Mountains, a distance of some 1200 miles. Within the *States* a first class double track, railroad, with no greater physical difficulties than would probably be found on the proposed line, could be built and equipped at a cost not exceeding \$40,000 per mile. The route is of the most favorable character. The great obstacles would be the distance of the scene, from the base, of operations, and the expense of transporting and maintaining large bodies of men upon various parts of the line. But this difficulty is by no means so great as would appear at first sight. Gov. Stevens demonstrates the fact, that the Missouri River is navigable to the Grand Falls on the 33d parallel west from Washington, and as the road would follow the Valley of the River for nearly one-half of the distance from Lake Superior to the Mountains, the River would serve as a convenient medium of maintaining the communication with so much of the line, and allow not only the graduation of the road, but the laying of the superstructure to be going on, at numerous points, at the same time.

From the great bend of the Missouri, to Lake

Superior, and Lake Michigan, the work could be pushed east and west at the same time, which would reduce the transportation of material to about 200 miles from the starting points; not so far as many of our roads now in operation have been compelled to transport. There are no physical obstacles to prevent the construction of this portion of the road within 4 years, or 5 at least, after the commencement of the work. There would be no difficulty in concentrating and maintaining a sufficient force upon the various parts of the line for this purpose. It is well known that the *prairies* may be converted into cultivated fields by the use of the plough only, in the course of a few weeks and be made to produce abundant harvest the first year. The whole route is very healthy, and sufficiently supplied with wood, coal and water. The only problem involved in the construction of the Eastern Division of the road, is that of means. These provided at the rate of \$40,000 per mile, the cars could be made to run to the base of the Rocky Mountains within four years after striking the first blow. Should the Western Division be found equally favorable, the mighty work of a railroad, connecting the Atlantic with the Pacific, could be completed in the period of five years!

The importance of such a work, and its value to this country; transcends all description. It would become the route of commerce, and commercial intelligence, for both hemispheres, and could not fail to make New York, in time the centre of the monied operation and commerce of the world. Only a few years would elapse before it would change places with London. The influence of such a work upon all the operations of business, and in changing the relations that England now bears to the commercial world cannot be painted by the most sanguine imagination.

Its general influence could be hardly more marked, than that upon our own continent. Its Eastern Division, extending from the shores of the great lakes, would for nearly 1200 miles traverse a region, the greater part of which, is probably not excelled in this country, in its adaptedness to become the attractive abodes both for our own people, or emigrants; a region almost equalling in extent the habited portion of the country. Towards this region is the next tide of emigration to flow, and with the assurances that it is soon to become

the route of a railroad to the Pacific, every portion of it will soon be swarming with an active and enterprising population. What a grand mission is here before us, if it be only to reclaim a wilderness, and make it the abode of civilized man. Hence is sufficient motive for the immediate construction of the *Eastern* portion of the road. But a railroad crossing the continent, and uniting the two oceans, is a still grander scheme; the great Epic in the history of the physical progress of this country; the greatest achievement of human science and skill, to be followed by the grandest results.

Report of the Directors of the New York and Erie Railroad Company to the Stockholders.

The operation of the working of the New York and Erie railroad for two years after the completion of a single track between the Hudson and Lake Erie, was necessary to place so extensive an enterprise, in that degree of order, which was necessary to develop its resources, and to establish its business connections.

The termination of this second year's operations is deemed a fitting occasion for reviewing somewhat more at length than has been customary, the origin, progress, and prospects of the work.

From a combination of causes, the New York and Erie railroad is regarded with more general interest than any other private enterprise in the United States.

Its great length, large expenditure, heavy debt, and its immense and rapidly increasing receipts have attracted the attention of the Statesmen, the financiers, and the merchants, not of this country alone, but of Europe, and it is almost universally conceded that upon its ultimate success, the future prosecution of other great lines, and, to some extent, the American system of railroads, will materially depend.

The large receipts from the business done during the past year, as well as the continued increase of that business year by year since the road was opened, in successive sections until its final extension to Lake Erie, surprised the friends of the work nearly as much as it did those who regarded it with no personal interest, or who had formed unfavorable opinions respecting it.

The general prosperity of the country during the last three years, has undoubtedly been one of the primary causes of the large revenues of nearly all of the completed lines of railroad; but there is a combination of circumstances connected with this road, which does not exist in reference to any of the other great lines, although some of the benefits arising therefrom are shared by one or more of those lines.

*The following table of the comparative receipts on some of the principal lines of railroad for the month of September, 1852 and 1853, will serve to show the general increase of the business of the country:

The New York Central in 1852, about.....	\$420,000	in 1853, \$560,000
The Hudson River.....	99,454	" 134,079
The New York and Erie, (increase 37 per cent.).....	375,178	" 512,634
The Pennsylvania Central.....	169,441	" 260,036
The Baltimore and Ohio.....	192,625	" 271,029
Increase, 38 per cent.....	1,256,696	1,737,778
The Michigan Central.....	139,634	" 182,599
The Michigan Southern.....	115,289	" 198,401
Increase, 49 per cent.....	\$251,923	\$381,000

It has no competitors, and especially no competing water lines, for the greater portion of its business; its resources are largely increased by the contributions of many tributary roads, which, like the country it penetrates, have had no other direct outlet to market; and it lies in the direct line of the greatest trade and travel which exist on the continent, with its terminus at the focus of that trade.

The stock and bond holders of this company have at this time so large a pecuniary interest invested in the enterprise, that it is deemed important to lay before them and the public a brief retrospect of the past history, the present condition, and future prospects of the work.

For convenience of reference, these subjects will be examined under the following general heads:

- I. The history of the undertaking.
- II. A topographical description of the route and the obstacles which prevent the construction of competing lines.
- III. Its tributary roads and water lines within and beyond this State.
- IV. The resources for business; the trade of the west, and the portion of it due to the New York and Erie Railroad, from its location and facilities.
- V. The character of the road as now constructed, and its cost.
- VI. An analysis of its present business.
- VII. A comparison of its business, revenue, and expenses, with that of former years, and of other roads.
- VIII. The organization and management of the road.
- IX. Its financial condition.
- X. The probable future revenues and expenses.

I.—THE HISTORY OF THE UNDERTAKING.

The citizens of the Southern Tier of counties in this State co-operated heartily with those of the central counties in the construction of the Erie Canal. When that work was completed, (in 1824,) their attention was directed to the opening, from Lake Erie to New York, of some better thoroughfare than the common roads of the country afforded to the southern portions of the State.

The rugged nature of the country rendered the construction of a canal leading directly to New York impracticable; but the State, soon after the completion of the Erie Canal, commenced the construction of the lateral canals, connecting with the interior lakes, which stretch from the Central to the Southern counties, and subsequently the Chenango and Genesee Valley Canals; the former of which extends from the Mohawk to the Susquehanna, and the latter nearly from Lake Ontario to the Alleghany River.

In 1825, the Legislature directed a survey for a State Road from Lake Erie to the Hudson River, through the southern counties. Several conventions were held between 1826 and 1830, for the discussion of the question—first, of a State Road, and subsequently of a railroad, through this district.

Application was made to the Legislature of 1832 for a charter for a railroad, which was granted, and the Act incorporating the New York and Erie Railroad Company was passed on the twenty-fourth of April of that year, with a capital of ten millions of dollars, with power to construct a single, double, or treble track from New York, or some eligible point in its vicinity, to Lake Erie.

During the year 1832, De Witt Clinton, Jr., an Engineer in the employ of the General Government, made a survey of the proposed line of the railroad, and copies of his maps, etc., were furnished to the company. The Legislature, at its next session, amended the Act of 1832, by requiring a preliminary subscription of one million of dollars only, before commencing the work. In July, 1833, this amount of stock was subscribed, and in August the Company was organized, Eleazer Lord being elected the first President.

The Legislature of 1834 appropriated fifteen thousand dollars for a survey of this railroad, and under this Act, the Governor appointed Benjamin Wright as engineer, who made the necessary sur-

veys, and submitted his map, estimates and report to the Legislature in 1835.

The company was re-organized in that year, and James G. King elected President.

The books of subscription were again opened, and an amount subscribed, which, together with that previously made, amounted to \$2,362,100.

New surveys were made during the year 1835, and in November contracts were made for constructing forty miles of the road along the Delaware River.

The great fire in the city of New York in December 1835, rendered many of the subscribers, (who were chiefly from that city,) unable to make further payments on their subscriptions of stock, and compelled the company to suspend its operations.

The Legislature of 1836 granted to the company a loan of the credit of the State for three millions of dollars, but by the terms of the Act, it was unavailable during the financial embarrassments of that and the following year.

This act was amended by the Legislature of 1836, and under its requirement, portions of the work were placed under contract, at each extremity of the road.

During the years 1838 and 1839, the work was prosecuted in Rockland and Orange counties, by the aid of local subscriptions.

In 1840, Mr. Lord was again elected President, and in February of that year, the Susquehanna Division was put under contract, and subsequently the western Division. The same year, the Legislature again amended the Loan Act, and in June of that year, the company purchased the iron required for the eastern Division, on favorable terms.

In 1841, James Bowen was elected President; in 1842, William Maxwell; and in 1843, Horatio Allen.

In April 1842, the company was compelled to place its affairs in the hands of Assignees; but this assignment was subsequently pronounced invalid by the Supreme Court, and the Assignees re-conveyed the property to the Company.

The Legislature of 1843 passed an Act, which was intended to release the State lien on the road, but the object was not attained by this bill.

In 1844, Mr. Lord was again chosen President, but soon afterwards resigned. The Board was subsequently re-organized, and Benjamin Loder was chosen President, and continued in that office until June, 1853, when he resigned, and Homer Ramsdell, the present incumbent, was elected.

In 1845, the Legislature passed an Act releasing the State lien and authorizing the original subscribers to surrender two shares of the old stock, and receive a certificate of one share of the new.

A new subscription of three millions of dollars to the Capital Stock of the company was obtained, and its affairs were placed in such a condition, as to give assurance to the friends of the enterprise that a brighter day had dawned upon it. But whilst this period may be regarded as an epoch in its history—a starting point from which the work moved forward without cessation until its final accomplishment—its progress for the first year was slow, and the financial difficulties which were encountered, were such, as at times to tax the skill and energy of its managers to their utmost capacity.

Up to this time, (1845) but little practically seems to have been accomplished; that portion of the road extending from Piermont to Middletown, a distance of fifty three miles only, having been brought into actual use, and seven miles of this distance, (from Goshen to Middletown,) having been built by an Association to whom the Company was still indebted for its construction. The character of the work which was completed, was such as still to require a very heavy expenditure, to render it safe for the transaction of business.

The question of location, West of the Shawangunk Summit, was undetermined—Commissioners having been appointed by the State to determine the route to be adopted. The Company was there-

fore prevented from prosecuting the work beyond that point, until their decision was received.

In October, 1840, the road was opened to Otisville, a distance of sixty-one and a half miles from Piermont, and soon afterwards, (the Commissioners, having in the mean time, decided against the feasibility of the route through the interior of Sullivan county,) the Company located their road along the Delaware Valley, and placed that portion of it, extending from Otisville to Binghamton, a distance of one hundred and thirty-nine miles, under contract. From this time forward, the work was prosecuted with great vigor, and notwithstanding its very formidable character, being by far the heaviest and most expensive section on the whole road, it was completed and opened to Delaware, during the season of 1846, and to Binghamton, on the twenty-seventh of December, 1848.

In March, 1849, the Directors made their Report to the Stockholders, in which they state that there had been expended up to that time on account of the work, \$9,802,433, assuming the amount on the fourteenth of May, 1845, (after the release of the State line, and the consolidation of the Stock,) at \$1,458,000.

Prior to the date of this Report, a contract had been made for an extension of the Road to Elmira, upon which payments had been made in the securities of the Company. These payments are not included in the above statement.

The road was opened from Binghamton to Owego, twenty-two miles, in June, 1849; from Owego to Elmira, thirty-six and a half miles, in October, 1849; and from Elmira to Corning, eighteen miles, on the first of January, 1850. The Newburg Branch (nineteen miles in length) was also opened in January 1850.

An address was presented, by the Directors, to the Stockholders, on the first of February, 1850, from which it appears that there had been expended, up to that time, the sum of \$14,428,891, in the completion of so much of the road as is above described.

The road was opened to Hornellsville on the twenty-third of September, 1850, and to Dunkirk, on the fourteenth of May, 1851.

But a short period had elapsed after the completion of the first track to Dunkirk, before it was ascertained that the rapid accumulation of business on the eastern end, required the facilities of a second track. The Directors accordingly placed the work of the second track under contract, on that part of the Eastern Division, extending from its junction with the Jersey Road at Sufferns, to Delaware, a distance of fifty-six miles, and also that part of the Delaware and Susquehanna Divisions, from Deposit to the junction with the Elmira and Canandaigua Railroad: All which has since been completed and brought into use, except thirteen miles between Otisville and Delaware, and fifteen miles between Deposit and Susquehanna, both of which will be completed in January next.

The saving of time which would be effected by sending the passenger trains over the Ramapo, Paterson and Jersey City railroads, induced the Company to enter into an arrangement with those Railroad Companies, to relay their tracks to the same width of gauge as that of the New York and Erie. This was done on the Road from Sufferns to Paterson, and the wide cars commenced running thereon in October, 1852.

The line between Paterson and Jersey City, was completed in the present month, and the trains now run without change of cars between Jersey City and Dunkirk.

In this connection it is due, that proper homage should be rendered to those, whose sagacity originated the work, and who persevered through so many difficulties, in establishing this iron highway, between the Atlantic metropolis and the Valleys of the Lakes—a work greater in its extent and cost, than any other enterprise, which has been accomplished by any private Corporation, or by any Government in America—exceeding as it does, in these respects, even the Erie Canal, of which the Empire State is so justly proud.

At the present period, marked as it is by the boldest projects, and the immense expenditures for railroads, we can scarcely realise the difficulties, which were encountered during the progress of this work, from the hesitation which capitalists felt at making the large advances of money which were required to carry it forward. Experience has now demonstrated, that no more safe or profitable investment can be made in this country, than in a well located and well managed railroad.

This Company struggled through periods that many other similar works sank under. Even the rich and powerful State of New York, faltered in the completion of the enlargement of her great Canal, when two-thirds of the expense had been incurred and remained unproductive, although having before her a well tried experiment, of the original work producing an annual return of over twenty-five per cent on its cost.

Our own State, which should have extended her aid to a work, which has, next to the Erie Canal, done more than any other, towards developing her resources and enriching her citizens, has, during its progress, embarrassed the operations of this Company, by unnecessary legislation and interference with questions of locality and terminus, to an extent which has rendered valueless her stinted gratuity.

A neighbouring State, whose citizens have in like manner been enriched by the construction of this road, has exacted from the Company, onerous conditions and tribute.

II.—TOPOGRAPHICAL DESCRIPTION OF THE ROUTE, AND THE OBSTACLES WHICH PREVENT THE CONSTRUCTION OF COMPETING LINES.

The New York and Erie Railroad extends from the Hudson River to Lake Erie.

Upon the former it has three termini: First, at Jersey City, opposite the city of New York; second, at Piermont, where it is also connected by a ferry of twenty-four miles with New York; and third, at Newburg, where it is connected by another ferry of sixty miles, with New York.

The western terminus of the main trunk line is at Dunkirk, on Lake Erie, forty miles west of the city of Buffalo.

Three tributary Roads had been built by independent companies, northward from the main trunk, giving it a terminus by two of them at Buffalo, and by the third at Tonawanda, Niagara Falls, and the head of Lake Ontario.

Two tributary Roads have been commenced, running from the western part of the Road southward,—one extending to Pittsburg, the head of navigation on the Ohio, with lines of roads leading to Cincinnati, Cleveland, etc., and the other leading to Erie, on Lake Erie, ninety miles west of Buffalo.

Other tributary Roads intermediate, running both northward and southward, are constructed or in progress, which will be alluded to in another place.

The New York and Erie Railroad passes from the valley of the Hudson River, over the dividing ridge between it and the Delaware at Otisville, and descends to the latter, very near the corners of the three States of New York, New Jersey and Pennsylvania. It follows the valley of the Delaware River to Deposit, and crosses the dividing range between it and the Susquehanna, and descends to the latter at Lanesboro', and continues in the valley of the Susquehanna and its tributaries, (the Chemung, Tioga and Canisteo,) to Hornellsville; thence it crosses to, and follows the valley of the Genesee as far as Belvidere.

From Belvidere, on the Genesee, it crosses to the Valley of the Alleghany, and follows it, and one of its branches, the Little Valley, to Little Valley Station, whence it crosses to Lake Erie.

The summit of the road at the Shawangunk, is seventy-six miles from New York, and is 896 feet above the level of the tide.

The road enters the valley of the Delaware, at eighty-eight miles from New York, and continues in it for ninety miles. Where it first strikes the

Delaware, it is 486 feet above tide, and at Deposit it is 997 feet. At the summit, between Deposit and Lanesboro', the road is 1,366 feet above tide, and where it strikes the Susquehanna it is 907 feet; where it strikes the Chemung it is 806 feet, and at Hornellsville, (one hundred and forty miles from Susquehanna,) it is 1,139 feet above tide. The summit between the Canisteo and Genesee is 1,760 feet; at Phillipsville it is 1,369 feet; and at Belvidere, thirty-eight miles from Hornellsville, the road is 1,331 feet above tide.

The summit, between the Genesee and Alleghany Rivers, is 1,677 feet, and at the latter, the road is 1,418 feet above tide. The distance from Belvidere to the Alleghany is twenty-nine miles. The road follows in the Alleghany and the Little Valley, for sixteen miles, to Bucktooth, which is forty-five miles from Dunkirk on Lake Erie. The summit, between Little Valley and the Lake, is 1,596 feet, and at the Lake, the road is 580 feet above tide.

From the Hudson to the summit of the Shawangunk, the land, though broken, is very fertile, and sustains a dense population. Along the Delaware River, it is mountainous and sparsely settled, but the lateral valleys are productive, and extend to the fine dairy districts of Delaware and Sullivan, which already supply the road with a large and rapidly increasing trade and travel.

Along the Susquehanna and its tributaries, the valleys are broad, and of such extraordinary fertility, that this section of the State, had attracted the earliest settlers of Western New York. In the Valley of the Alleghany, and thence to the Lake, the country is rapidly being filled up with an energetic and thriving population.

The railroad occupies so much of the valleys of the Delaware, Susquehanna, Genesee, and Alleghany, as run eastward and westward, and crosses the dividing ridges at their lowest depressions. Both to the North and South, insurmountable difficulties would have been encountered.

On the North, the County of Orange is traversed North and South, by the Shawangunk mountains, the Western slopes of which descend abruptly to the deep valley, occupied by the Delaware and Hudson Canal. From these streams the land rises suddenly, to the elevated portions of Sullivan and Ulster, which, as well as Delaware and Otsego Counties are also broken by both branches of the Delaware River, and by the Susquehanna, the Unadilla, and the Chenango. All of these streams run North and South, while the general direction of the Erie Road is East and West.

West of these obstructions, the Cayuga, the Seneca, and several smaller lakes, also lie directly North and South, and stretch nearly to the Central line.

On the South of this road lie the high mountain ranges, in New Jersey and Pennsylvania, along the sides of the Delaware, between it and the Susquehanna, and West and South of the latter.

No practicable route for a main trunk railroad exists between the New York Central and the New York and Erie; and all of the railroads, which have been either built or projected, have been parallel to, and between the obstructions spoken of, and have thus necessarily become tributaries of these two roads.

No practicable route, South of the New York and Erie, can be found sufficiently near it, to divert any of its business.

III.—THE LATERAL TRIBUTARY ROADS WITHIN THIS STATE, AND THE CONNECTING ROADS AND WATER LINES BEYOND THE WESTERN TERMINUS.

The annexed table (A.) shows the lateral tributary roads, sixteen in number, of which seven are completed, making five hundred and thirty-four and a-half miles, at a cost of \$15,870,786, and which are estimated to receive an annual revenue of \$1,673,123, equal to \$3,130 per mile. Five others, making four hundred and fifty miles, have been contracted for and commenced, at an estimated cost of fourteen millions of dollars, and an annual revenue, when completed, of seventeen hundred thousand dollars.

In addition to these, five roads are projected,

and will without doubt soon be commenced, making four hundred and seventeen miles, at an estimated cost of fourteen millions, with an annual revenue of nearly two millions of dollars.

All of these roads, when completed will make an aggregate length, of what may be strictly termed roads tributary to the Erie, of over one thousand miles, costing nearly forty millions of dollars, and estimated to receive an annual revenue of over four millions of dollars. These tributary roads, have each, one of their termini on the New York and Erie Railroad, and do not extend across it; and they are, with two exceptions, of the same gauge as the Erie, which is the only broad gauge leading to New York.

From an inspection of the accompanying map, it will be observed that all of these roads, except the three most easterly ones, converge from the North or South towards the Erie, and have no other outlet except it, and hence there can be no diversion of the aggregated business, which they will throw upon it, except by the construction of a road contiguous and parallel to it. This however is, as before stated, nearly or quite impracticable, from the nature of the ground on which it is laid, which occupies the whole of that portion of the valleys of the Ramapo, Delaware, Susquehanna, Canisteo, Genesee, and Allegany, which run towards the City of New York, the adjacent country being broken ground, with a constant succession of very high summits, deep valleys, or extensive lakes.

These tributary roads penetrate both the anthracite and bituminous coal and iron regions of Pennsylvania, and by means of the main trunk and its branches northward, form the shortest and cheapest lines for distributing these minerals to the interior and western portions of the State, and to Lakes Erie and Ontario.

Other Branches, as well as the Maine Line, penetrate the valuable pine regions, of the tributaries of the Susquehanna, Genesee and Allegany, and form, either by the main trunk, or by the State Canals, which are intersected in four places, the only outlet for this lumber to the New York market.

The Branches northward, open into the richest agricultural lands of Western New York, as those southward do, into the fine agricultural and mineral lands of Northern Pennsylvania.

The districts of country thus penetrated, afford a variety of product, which is not found on any other road in the Union; and this variety tends to equalize the freights in all seasons of the year, thereby reducing the expenses of transportation in this branch of the business, very considerably below that which is incurred upon other roads, where a considerable portion of the freights are offered only at particular seasons of the year.

These tributary roads have been constructed, by large contributions from those living along them, who are the most competent to form correct opinions of their value.

That they will generally prove remunerative, none will seriously question. The Erie Road must receive the aggregated business of all these roads which it can perform without fear of diversion or competition. In this item alone, its Stockholders have a guaranty that they will receive an early and ample remuneration for their investment.

The Company has leased the Union Railroad in this State, extending from Sufferns to the road running through New Jersey to Jersey City. The Union Railroad Company, had previously leased the road from Ramapo to Paterson, and thence to Jersey City, on favorable terms, which was also transferred.

The tracks of these roads have been relaid, to correspond with the gauge of the Erie, many of the structures have been rebuilt in a substantial manner, and the whole line has been placed in complete repair, so that the trains are now run direct to Jersey City opposite New York.

The freight trains are run to Piermont, which saves about fourteen miles of railroad transportation, and increases the ferry transportation to twenty-four miles. Other freight trains are run to

Newburg, which point on the Hudson River is sixty miles from New York, and reduces railroad carriage thirty-five miles.

The advantages of the route by the way of Piermont, for the conveyance of all, except express freight, have been frequently set forth in previous reports, and are evident to all who carefully investigate the question. The terminus at Jersey City is indispensable for the convenient and rapid transit of passengers, to meet the corresponding speed and conveniences afforded by other lines; and in like manner the water communication between New York and Piermont, (and also Newburg,) places this Company in a like advantageous position, in respect to freight.

This extensive wharfing facilities at the Piermont terminus, are indispensable for the transaction of the bulky business of freight, sufficient room for which, could not be obtained at Jersey City, without a very large outlay.

The present arrangement for freight, affords every desirable convenience to the New York shippers, as the barges lie at a convenient wharf, central to the business portion of the city, where goods can be received from, and produce delivered to the New York merchants, almost at their own doors.

Arrangements have been made for the construction of a railroad of the broad gauge from Corning, in nearly a direct line to Olean. This road when completed, will be run in connection with the New York and Erie.

At Ceres, on the line of this road, (ten miles east of Olean,) a connection will be formed with the Allegany Valley Railroad, now rapidly progressing, which will save about twenty-five miles of distance, to all places west and southwest of Corning, with more favorable grades and alignment than those of the present road between Corning and Oilhan.

These roads, together with the Erie, will make the shortest and best line, from the head of navigation on the Ohio to New York, and will soon open the trade of the Valleys of the Allegany and Upper Ohio, (so rich in agricultural and mineral products,) and also complete the communication to the Ohio, from which they will receive large contributions, in consequence of the extraordinary cheapness of transportation on that river.

A broad gauge line of railroad has also been placed under contract, which will extend from the Allegany Valley railroad, near Ridgeway, through Western Pennsylvania, and the rich western reserves of Ohio, and thence, through the center of that State to Cincinnati, where it will unite with the Cincinnati and St. Louis broad gauge railroad, one-half of which is nearly completed, on which trains will soon commence running for one hundred miles.

Another broad gauge line has also been placed under contract, extending from the Allegany Valley Railroad through Northern Ohio, and will be continued through Indiana to Chicago, from which city a road of the same gauge is now being built through the interior of Northern Illinois, and of Wisconsin, to Fond du Lac, with a branch to the Mississippi.

Within three years, two lines of an unbroken gauge, of the same width as the Erie, will extend to the Mississippi, each of which, by including the Erie, will be over twelve hundred miles in length, besides the numerous branching lines already built, under way, or projected.

This unbroken gauge will facilitate the conveyance of passengers and baggage, and cheapen the transportation of freight and will lead to a unity of interest that will prove very beneficial to the New York and Erie Railroad, the main trunk of this part of the system.

It may be added, that the gauge of the Ohio railroads, with the exception of the lines above described, and one other, are regulated by law, and are different from the other New York roads; so that, except the Erie, none of them can derive the same advantage from these western connections.

From the western terminus at Dunkirk, on Lake

Erie, a line of completed railroads extends to Cleveland, and thence to Cincinnati, Toledo, and Chicago, from each of which points, other lines of completed railroads radiate in every direction, and cover the States of Ohio, Indiana and considerable portions of Michigan and Illinois, with a complete network.

The same States are also connected directly with the Erie terminus, by the chain of lakes which surround their northern borders—by the Ohio and Mississippi Rivers, which extend around their southern and western limits—and by the four great lines of canals, which pass through the interior, and connect those lakes and rivers by uninterrupted lines of navigation.

To be continued.

Application of Steele Tires.

BY ZERAH COLBURN.

The most direct and severe wear produced by the use of locomotives is experienced by the rails and by the tires of the engine driving wheels. As an illustration of the relative wear experienced by the tires and rails, a case may be assumed of an engine running each way, over a road of 75 miles in length, and for a whole distance of 39,000 miles in a year. This will amount to 520 trips per year, and the two driving wheels on each side of the engine will therefore touch each and every point in the line of rails 1,040 times during that period. As the depreciation of rails is allowed by engineers to be one chargeable to locomotives and tenders, and as there can be no doubt that one-half of this reduced amount is caused by the driving wheels, the total annual depreciation of iron rails may be taken as equal to that produced by 4,160 blows of the driving wheels, and of the load borne upon them. If the drivers are six feet in diameter, making 280 turns per mile, each point in their circumference is brought in contact with the rails 10,920,000 times, and as there are two tires on each side of the engine, the whole number of blows borne are 21,840,000; or 5,250 blows to one upon the rails. For every blow borne by the tires there is the same weight and friction as upon the rails. If 25 engines are run upon such a road, the depreciation, (by abrasion,) of tires of each engine is 210 times greater than the whole depreciation of the rails, allowing both to be of equally hard material, affording equal resistance to wear.

To reduce the relative wear of tires is a matter of much importance on account of economy. A surface harder than that of the rails, affording greater resistance to wear, must therefore be provided. The cast iron chilled slip tire, first cost and expense of application considered, answers all the ends required. With the use of wrought iron, many efforts have been made to protect the surface by hardening, and in England, at the present time, two varieties of hard-surface wrought iron tires are in extensive use. One, the Russia-iron tread tire; the other, Gooch's steel-tread tire. Both of these are represented by agencies in New York, and as American Companies will probably be induced to test either or both, it is well to explain such details of application as are essential to secure a satisfactory result.

The advantage in the use of Steele tires comes from the possibility of tempering them and rendering them exceedingly hard. It is therefore necessary that much attention should be bestowed to this end; as both the extent and uniformity of hardening are dependent upon the treatment of the tire after it is finished ready for the wheel.

In boring the tire, the English manufacturers recommend no more allowance for shrinkage than 1-100 inch for each foot in diameter of the tire. The rivet holes must be drilled before the tire is hardened. The wheel rim must be turned perfectly true, both on the face and edges, after which it is to be laid on a cast-iron face-plate, or ring, at least 2 inches thick and of 18 inches annular width. Lugs or ears must be cast upon three or four points of the outer circumference, to facilitate handling with a crane.

The wheel is laid with the outer edge flat upon the face-plate, if the tire is to be put on flush; or removed by thickness pieces of equal thickness, for any required projection of the outer edge of tire beyond the edge of the wheel rim. The wheel is then prepared for the tire, which must be heated to a light red heat, and with the greatest regularity, and immediately laid upon the face-plate, around the wheel; great care being taken to place it true and flat upon the plate.

The whole is then lifted by a crane, having chains attached to the lugs upon the face-plate, and is immediately plunged into a tank of cold water, or salt and water, the latter being preferable. The whole are moved about in the water until the tire is cold. The tank should be ten or twelve feet in diameter and five or six feet deep.

When the tire is shrunk upon the wheel the holes must be drilled through, corresponding with those in the tire, and rivets applied in the usual manner; or a better method is to secure the tire by side bolts, after the manner generally practiced for securing the chilled slip tire.

The advantages claimed for steel tires over those made from soft iron, are, that they will wear a much longer time, the relative hardness of steel and iron being as 8 or 10 to 1; and that they will preserve for a much longer time the true form of the tread. By the first advantage named the expense of maintenance is largely reduced, while by the second, the wear of the rails and machinery, due to irregular tread, is much diminished.

PITTSBURGH, Pa., Dec. 14, 1853.

To the Editor of the Am. R. R. Journal.

SIR:—We beg leave to say, through the medium of your Journal, to our numerous friends who have expressed a lively interest in the success of "Copley's Compound Car Axle," that we are pursuing the enterprise with as much speed as the extreme importance of having these axles well made, warrants. Their peculiar construction renders a good deal of new machinery necessary in their fabrication, and to have this prepared, requires time.

It must be obvious to every one at all conversant with railroad machinery, that if this axle is destined to succeed, it can only be by bringing it at once to the highest practicable perfection, both in material and workmanship. To this end we are sparing no pains to find and avail ourselves of the best mechanical skill of the country, so that when we shall offer it to the railroad public, we can do so with the full assurance that we offer an article in which the fullest confidence may be placed. With the requisite machinery its construction will be neither difficult nor expensive.

Very respectfully, your ob't serv'ts,
J. COPLEY & Co.

Cost of Repairs of Locomotives.

By ZERAH COLBURN.

The question is often asked by railroad men if an engine cannot be repaired and renewed so as not to become depreciated through constant and continued service. Undoubtedly it may, but which is cheapest; to renew all the parts of an engine when nearly all are worn out, or to purchase a new engine? A little consideration will give some force to this inquiry.

In the first place, master mechanics will admit, that, in the manner in which repairs are generally conducted on roads where from 6 to 8 cents per mile is allowed, an engine after 12 years use is sensibly depreciated in value, say one-half. The average run of passenger engines being say 25,000 miles per year, the repairs, at 8 cents per mile, amount in 12 years to \$24,000, while the engine is \$4,500 less valuable than when new. Thus, an engine costing \$9,000, requires \$28,500 to keep it good for twelve years, a sum more than three times its original cost; while its boiler shell, outer firebox, cylinders and frames, have not been renewed nor materially repaired. It cannot be said that the engine has been renewed three times as its most essential parts are left remaining. It is, however, proper to say that the tires have been renewed four or five times, and the trucks twelve times. The cost of these is perhaps \$5,000 for the given period. There are very few of the remaining heavy parts which are renewed over three times in twelve years; while several of the most important parts are not renewed at all. The plain inference is that repairs and renewals, by the manner in which they are conducted, cost much more than the original construction of the same portions of the work; perhaps twice as much, a proportion which, upon consideration, will be generally admitted as correct.

If the machine is so run that its entire construction decays at about the same time;—if it wears out twelve sets of trucks; four sets of tires; four sets of packing; and two sets of tubes and tube sheets, in twelve years, and if, which is probable, the boiler, frame and cylinders be worn out also at that time, what is left of the engine? If it can be again made good is it not rebuilt, and essentially a new machine? If rebuilt at the repair shop, and some of the older parts are worked in, does the engine when completed, cost less than a new one from an established builder; and considering the entire reliability of the latter, in every part, is any thing saved even in rebuilding? The question of keeping an engine good, assumes there will be no essential improvements, affecting the general construction of the engine, and this matter is not therefore considered. It is well worth considering however.

The necessary repairs are increased with the age of the engine, as successive parts are attacked, each year, which were not embraced in the renewals of the previous year. This is evident in reason, although there are several circumstances which, although they do not affect the principle, serve to conceal it. In the first place the repairs of the light engines built from eight to twenty years ago could not consistently require the same outlay, per mile run, as the heavy engines of more recent construction. Such engines are generally considered, where they are owned, as not so well worth repairing as newer and larger engines, and

hence are not the objects of as much expenditure for preservation. Again, such engines are but little used, being for the most part kept in ordinary, or for shifting out trains, ballasting, &c.

The example of the Baltimore and Ohio railroad, having the largest and the oldest equipment of engines of any road in America, may be useful in considering the cost of repairs. This road has, by its report of September 30th, 1853, 167 locomotives; 157 of which are running between Baltimore and Wheeling. Some of these locomotives are 19 years old, although the majority are of recent construction.

The following table shows the cost of repairs per mile, for each class, of each year's construction of engines in use on the "Main stem" of the Baltimore and Ohio railroad, during the years ending Sept. 30th of 1852 and of 1853. The repairs for 1852 did not reach a high figure, but the figures serve to show the gradual increase of cost of preservation as we go back to the older engines. The repairs for 1853 show this in a stronger light.

Year of Reception.	No. of Engines received during year.	CLASS.				Average cost of Repairs per mile for year ending Sept. 30th 1852.	Do. Do. for year ending Sept. 30th 1853.
		No. 1.	No. 2.	No. 3.	No. 4.	cts.	cts.
1834	2	..	..	..	2	1.88	6.64
1835	5	..	..	..	3	6.35	6.35
1836	5	..	..	..	5	4.01	6.15
1837	2	..	..	..	2	4.82	6.96
1838	2	..	..	3	2	3.65	6.38
1839	6	..	..	2	4	4.24	11.31
1840	12	..	1	1	..	21.62	6.00
1842	12	..	..	2	..	8.74	6.02
1844	4	4	..	..	..	5.82	22.02
1845	3	2	..	1	..	8.41	7.70
1846	8	6	1	1	..	11.92	10.18
1847	3	1	1	1	..	5.86	9.44
1848	11	8	2	1	..	6.40	18.90
1849	2	2	..	..	..	9.88	17.32
1850	6	6	..	..	..	4.51	13.22
1851	15	15	..	..	..	4.64	13.00
*1852	23	19	..	4	..	3.29	....
1852	35	32	..	4	..	....	8.55
1853	45	37	..	6	..	....	17.82

This table I have prepared with much care from the company's reports, and considering the extent of motive power to which it applies, and the time over which it extends, it is believed to be of considerable value as an illustration of the influence of age on repairs. Some facts may serve to place its deductions in a better light. The first class engine of 1853 is very much larger than the first class engine of 1848, and sustains much greater wear. Again, in 1853, the formidable passage of the 116 feet grades had begun to exert a new and marked influence on repairs. And, still further, the old repair shops had been destroyed by fire, and not only had new ones been built to replace them, but others had been built at other points, by which the repair force was divided, the facilities not so well developed, and the expense of repairs increased. The high price of iron and the "labor strikes" at Baltimore, last spring, have both influenced the cost of repairs. The repairs of passenger engines have been in-

* Up to Sept. 30th 1852.

† Not including alterations of three new engines.

fluenced by the necessity of higher speeds, and by a general adaptation for burning coke, which has cost much money for arranging the engines, and in repairing for the increased destruction of the furnaces and tubes by reason of a more concentrated heat. A great many of the causes stated have operated especially against the engines delivered in 1852 and 1853.

It may then be stated, as a general principle, that the repairs of each year must not only embrace the renewals of previous years, but of parts not before renewed at all, so that the cost of repairs increases by an annual arithmetical progression up to the time of the decay of the most enduring parts; when, with the usual mode of conducting repairs, a new engine becomes cheaper than rebuilding.

It is therefore an object in making repairs to bear in mind the probable duration of the most enduring parts, so that a large quantity of new work may not embarrass the final disposition of a worn-out engine. "No man putteth a piece of new cloth unto an old garment," &c.

The question which I have raised is not that of the propriety of rebuilding under any circumstances, but of rebuilding as a recovery from the effects of gradual and total decay. With some patterns of engines they well deserve rebuilding before they leave the maker's hands; while again, the adaptation of engines, or the results of a collision or explosion, may properly warrant a general rebuilding.

The cost of repairs of locomotives is influenced by many considerations. The physical features of the road, nature of traffic, character of wood, water and attendance, character of original materials of construction, mechanical arrangement of engine, &c., are all influential in the necessity for repairs. A track kept in good line and good grade; a business not beyond the proper capacity of the engines, either in weight or length of run; seasoned wood, clean water, skillful and careful engineers; the best quality of materials, especially in the boilers and furnaces, where renewal is attended with the greatest expense; the outside connected arrangement of locomotive, properly constructed; and, above all, a safe system of despatching trains, and safe roadway structures, are the most favorable points for economical repairs.

The cost of engine repairs on several roads are exhibited in the following list.

Name of Road.	Miles run.	Cost of Repairs.	Repairs per mile run, cts.
New York and Erie, 1852...	2,389,271	\$203,312 48	8½
New York and Erie, 1853..			
Union R. R....	114,825	15,795 86	13½
Eastern Div....	746,627	73,657 04	9¾
Delaware	569,448	72,669 11	12¾
Susquehanna...	703,384	74,055 21	10½
Western	656,225	52,467 09	8
Totals..	2,790,509	\$288,644 31	10¼
Baltimore and Ohio, 1852.			
Main Stem	1,515,784	\$73,078 45	4.8
Wash. Br..	102,133	8,259 21	8.1
1853.			
Main Stem	2,009,446	194,036 18	9.6
Wash. Br..	191,882	15,876 18	8.0

Reading R. R.			
1852.....	1,517,931	99,027 40	6.5
Penna. R. R.			
1852.....	668,991	32,630 07	4 11-12
Western & Atlantic R. R.			
1853.....	264,485	12,387 79	4.7
Little Miami R. R. (Ohio)			
1852.....	407,731	46,917 94	11.5
1851.....	301,640	23,143 90	7.7
1850.....	274,303	26,181 06	9.5
1848.....	189,606	15,959 66	8.4

The repairs of engines of the Boston and Maine and Fitchburg Railroads, for the year 1852, were about 5 cents per mile run, each. Those of the Boston and Worcester road were about 8.4 cts. per mile run. On the latter road the engines had been previously suffered to "run down", and a greater expense than usual was incurred to restore them to a good condition.

In drawing any inference from the preceding table, some particulars of the age and extent of the respective equipments may be proper to be given.

The engines of the Philadelphia and Reading Railroad were delivered as follows.

4 3d class in 1838	8 1st class } in 1847
2 2d " " 1840	1 4th " }
2 3d " " 1841	1 1st " }
2 1st " " 1842	3 2d " }
5 2d " " 1843	3 1st " " 1849
10 2d " " 1844	10 1st " " 1850
8 1st " " 1845	4 1st " " 1851
7 1st " " 1846	1 4th " " 1852
18 1st " " 1846	13 1st " " 1852

Total 103 engines.

Pennsylvania Central Railroad.

9 engines in 1849	3 engines in 1851
14 " " 1850	17 " " 1852

Total 43 engines.

New York and Erie Railroad.

9 engines previous to 1848	31 engines in 1850
9 " " 1848	53 " " 1851
29 " " 1849	11 " " 1852

Total 142 engines on broad gauge, besides 8 engines on the Union Railroad.

The date of the reception of the Baltimore and Ohio Railroad engines has been previously given, the number of their engines being 167.

The transportation effected by the equipments of the different roads being different, has a separate influence on repairs in each case. Of the roads named, the Erie has the largest passenger traffic, which involves the heaviest repairs of engines. The Baltimore and Ohio road has the most severe physical features, and although from this fact and the preponderance of the freight business, the average run of each engine is less in miles per year, there is no doubt but that each engine is subjected to as great influence of wear as upon the Erie road; the passenger business of the latter being excepted. The time during which the engines are daily under steam is as great on the Baltimore and Ohio road as on the Erie. A fair comparison of the expense of engine repairs would then be as follows; the average expense of repairs for each engine for the year ending Sept. 30th 1853 was, for the Erie road, \$1924; for the Baltimore and Ohio \$1254; for the Reading road (for the year 1852) \$961 43.

The Baltimore engines are subject to heavier repairs on furnaces and tubes, owing to the use

of coal fuel; but to much less expense in consequence of using the outside connected arrangement of engine, the cast iron slip tire (which saves the company \$30,000 per year) to the equal distribution of weight in the engines, and to a greater degree of plainness and simplicity of construction.

The Reading road, although doing an enormous business and subject to the expenses attending the use of anthracite coal, has adopted very nearly the same system of motive power; has its repair force concentrated at one point; and has the advantage of favorable grades, by all of which, its repairs, considering the age and service of its equipment, are very cheaply made. Both the Baltimore and Ohio and the Reading roads are of the narrow gauge, and the economy of its operation, taken with that of the outside connection, the cast iron wheel and tire, and the equal distribution of weight, are in accordance with the general conclusions which have before been made for this system of application of motive power.

Black River and Utica Railroad

Below will be found a detailed and interesting statement of the condition and progress of the work upon the line of the above road, copied from the Utica Herald.

Progress of the Work.—There has been an interval of something over three months since the contracts for constructing the Black River and Utica Railroad were let, and a very general interest is manifested by this community and the friends of the enterprise generally, as to the progress of the work and the prospect of a prompt fulfillment of contracts. To satisfy the anxiety of stockholders, as well as to gratify the natural curiosity of that large class of people who manifest strong interest in the road only by asking questions about it, we have taken some pains to obtain reliable information in regard to the amount of work done, the relative proportion it bears to a completion, and the intentions of the Company and Contractors for the coming season.

The early date at which contracts were let and work commenced, threw upon the Company and the Engineers a vast amount of labor in making surveys, locating routes, preparing maps, plans and profiles, and in procuring the right of way. This labor was of a character that admitted no delay, and it has received at the hands of the President, Mr. Faxon, Mr. Spencer Kellogg, one of the Directors, and of Mr. Jenne, the Chief Engineer, and his assistants, attention that has known no rest.—The amount of work they have done, pressed for time and consequently subjected to vexatious obstacles, no one can estimate, unless he has been a personal observer of their movements. The forwardness of the enterprise is evidence of their industry.

Meanwhile the contractors have not been idle. Since the last of August, Messrs. Farwell, Case, Lund & Co. the principal contractors, have sub-let all the sections between this city and a short distance beyond Trenton, embracing 16 sections, averaging one mile each in length, and sections 50, 51, 52 and 53, or about four miles in the neighborhood of Lowville and Martinsburg, Lewis Co., where the difficult and heavy nature of the work demanded early commencement. On these 20 sections, the work has been pushed with great energy by the competent sub-contractors, Messrs. Richardson & Co. on sections 1, 2, 3, Ure, Mirick & Co. on 4, 5, 6, G. S. Smith, & Co. on 7, 8, 9, 10, Barber & Clark on 11, 12, H. A. Smith on 13, Bird-sall & Farwell on 14, 15, 16, and Phelps, Ray & Buell on 50, 51, 52, 53. There are about 500 men and from 50 to 100 teams constantly at work on the first 16 miles, and 75 to 100 men near Martinsburg. Several points of the road furnish indications of the excellent character of the work. We

may instance as most convenient for observation, the very fine masonry done on section 1 for the foundation of the bridge over the Mohawk.

It would be difficult at this stage of the work to calculate exactly the amount of progress made, but the following statements of the condition of the road on the 1st day of December, to which time the last estimate was brought, are as reliable as can be obtained.

On the sections named on the 1st December there had been 143,000 cubic yards of excavation, 1,300 yards of masonry laid, 725 cubic yards of stone delivered, 77,000 feet of beech and hemlock timber and plank put in work or delivered. There are about eight miles of road graded for the laying of the track, with the exception of ballasting between Utica and Trenton. The balance is in actual progress and ground has been broken on more than half of the same. The grading for the entire distance to Trenton will be ready for the superstructure by the first of April next; and the masonry and bridging by the first of May, and the track will be laid by the first of June.

Sections 30 and 31 near Boonville, have been let and work has either been commenced on them already or will be in a day or two. This work includes the bridge across the Black River Canal.—Those in charge of the road are of opinion that it will be ready for running as far as Boonville by October, 1854, and to Lowville during the year 1854.

It is the intention of the contractors to let sections 17 and 18 between Trenton and Remsen, sections 35 and 36, near Talcottville in Lewis Co., the bridge across the Black River at Carthage, and the several smaller bridges, together with the heavy trestle work across Cincinnati valley at Trenton, on the 3d of January, as will be seen by the advertisement in our paper to-day. All this work will be commenced early in January and vigorously pushed. Some of the heaviest work on the line, on the sections already let in Lewis Co., is actively progressing.

Contracts have been made with responsible parties to furnish nearly 250,000 ties, and the northern woods along the entire length of the road are already resounding with the ring of the axe. An army of woodmen, sparing no trees that will cut into ties, is at work, and have already made considerable progress in the execution of their contracts.

The fences along the lines have been let to responsible parties, who are making preparations to drive the business with rapidity in the spring.

The right of way, the procuring of which has taxed severely the time, patience and shrewdness of the President, Mr. Faxon, and Mr. Kellogg, together with a number of valuable assistants, has been obtained for about nineteen-twentieths of the entire line.

A portion of the iron for the 1st division to Trenton, has already been purchased and delivered, and the remainder will be bought at once, so as to be here in time for track-laying in the spring.

Contracts have been made for the delivery by the first of June next, of three locomotives, with passenger, baggage and freight cars sufficient for running the road to Boonville.

Immediately on opening of spring, the northern divisions in Lewis and Jefferson counties will be commenced and energetically worked, and there is every reason to believe that the engagements of the contractors as to the dates for the completion of the several divisions will be strictly adhered to.

The most attractive point on the work now in progress, is on section 16, near the village of Trenton, where a steam excavator is employed in addition to a large force of men, to do some heavy cutting. It is on the north section let to Messrs. Birdsell & Farwell. This improved Irishman, or Steam Paddy, is attracting crowds of people to witness its operation; and the careless air with which it penetrates a bank, is worth a ride out there to observe. It will do the labor of sixty or seventy men, and makes about as much noise, but at vastly less expense. A good laborer, in ordinary excavation, will dig perhaps ten to

twelve yards in a day. This iron "Irishman with variations," will shovel, when under good headway, nearly two yards per minute. This rate can not be reckoned on through the day, for more or less time is taken up with oiling, screwing up, moving the temporary track on which it stands, and other necessary jobs. The shoveling apparatus consists of a large bucket, capable of holding a yard of earth, suspended from the extremity of a projecting arm or bone, which can be turned at the pleasure of the engineer either towards the bank to be penetrated or the car to be filled. The shovel is suspended by chains running over pulleys. It is armed at the forward end where it enters a bank, with strong iron teeth, which serve as entering wedges for the scoop of the shovel. The whole machine is moved up to the face of a bank, the shovel is lowered and its teeth pointed into the earth. There is a quick succession of puffs and some wheezing, and the shovel is steadily propelled up through the bank, taking into its capacious mouth whatever it meets, till it rises to its level, filled to the brim. No matter if its teeth encounter gravel, or hard clay, or gool sized stones; they are inserted for the purpose of going through and they do it, though it costs some extra puffs. Occasionally they encounter considerable rocks and then they are obliged to pause, wheeze in a sulky way and back down. But the vindictiveness with which the small stones are attended to immediately after, is evidence that the Steam Paddy can endure opposition only at the expense of temper. The shovel being filled, the boom is swung round so as to bring the load directly over a dirt car placed nearly by on a temporary track. As soon as it is over the car, the engineer withdraws a pin which supports the bottom of the shovel and the load falls. A steam shovel will keep a number of horses briskly employed in hauling off loaded cars and bringing them back empty. The contractors have constructed an iron track on which they run off their loads, and in the course of next week, or as soon as sleighing is good, it will well repay the trouble of riding out to see the operation of the "merchandise." Politicians are especially dissuaded from going, for this Steam Paddy is the description of Hibernian that drew from the jealous flesh and blood paddy the exclamation, "Och, ye could devil, but ye can't vote."

The rapidity and strength with which the shovel works, render it almost indispensable now in the execution of heavy work on railroads. The banks on which it is engaged at Trenton are heavy, but it will make daylight shine through them at an astonishing rate.

We have said enough in the above somewhat lengthy article to show our readers that work has been commenced in earnest on the Black River and Utica Railroad, and it is with great satisfaction that we are enabled to mark its progress towards completion. The Directors are pushing the enterprise with the energy it demands, and as rapidly as prudence dictates. In the spring, nearly the entire line will be under progress at various points, and in the time designated, we doubt not we shall be able to reach the St. Lawrence by railway over the whole route. The Directors and Engineers deserve the thanks of the stockholders for their faithful fulfillment of promises thus far. We have every reason to expect a continuance of the same.

The feelings of northern capitalists are materially changed in regard to our road. They see and acknowledge that it is to be built. They cannot see why two roads should be built on the same line, running side by side through the same farms, with essentially the same termini, and to do the same business, under circumstances of rivalry ruinous to the interests of both. They hesitate about embarking their capital in a second road, which will be built, if built at all, not to meet the demands of trade and travel, not to open to market a country that needs only an outlet to develop its wealth, not to enrich either the farms it mutilates, or the stockholders who build it, but to gratify the jealous ambition of an aspiring village.

The Rome road, in spite of a few small gangs of laborers, who are tickling the soil at various conspicuous places on the line, is not needed and its friends feel it. The citizens of Rome would like to build it, but the subscribers at the North feel that "they are not worth the candle." The following paragraph expresses the exact position of this matter in the eyes of judicious men. "Double tracks and not double parallel lines is now the received theory, and it is likely to be a very long time before money can be found anywhere to duplicate railroads already equal to the wants of the country."

Our road will be built, and is competent to do all the business of the line. With this business it will handsomely repay its stockholders. When the business increases beyond the capacity of one track, let us have a double track in the same interest but not two distinct and competing roads, wrangling with the same farmers for their business, and ruining each other for the benefit of no one.

We are greatly mistaken if neighbors in Lewis, Jefferson and St. Lawrence counties are so anxious to participate in petty rivalry between Utica and Rome, as by building two parallel roads, to doom the investments in both to certain detriment, if not ruin. They would as soon marry two wives each to ensure peace in their families.

Chicago and Milwaukee Railroad.

The Board of Directors of the Illinois Division of the Milwaukee Railroad have just closed a contract with Messrs. Stone and Witt, of Cleveland, Ohio, for the entire construction of the road, with all the necessary locomotives, cars and stations—the whole work to be finished and put in operation by the close of navigation next year. The Company have also made arrangements with the Illinois and Wisconsin Railroad Company, for the right of way into Chicago on the grounds of the latter, and also for the joint occupancy of the depot property on the west side of the north branch, immediately north of Kinzie street. The contractors on the Wisconsin division of the road, Messrs. Stewart & Bishop are to have their work finished from Milwaukee to the State line as soon as the Illinois division is completed.

Scioto and Hocking Valley Railroad.

This road was completed from Portsmouth on the Ohio River to Jackson a distance of 46 miles, in August last, at a cost of about \$750,000. The receipts are about \$7,000 per month, with only two locomotives of small power, equal to 7 per cent. on the cost of this part of the road. The receipts for the month of December will be about \$10,000. The Company have contracted for several new locomotives and necessary cars. This road when completed will extend from Portsmouth to Newark, 118 miles long, there it connects with the railroads to Sandusky City, Cleveland, Pittsburgh and Wheeling. That part of the line lying north of Jackson to the line of the Marietta and Cincinnati Railroad will be completed early next year. The residue of the line to Newark is under contract for graduation and masonry, and much of it ready for the rails, and is expected to be in operation early in June next. This road traverses one of the best mineral regions in the United States, and is of great importance to that part of Ohio.

Buffalo and Pittsburgh Railroad.

The recent action of Cattaraugus County in relation to this road, is a striking contrast to the course being pursued by the citizens of Erie toward the Erie and North-East Company.

The right of way through the County Farm of Cattaraugus has been granted to the Buffalo and Pittsburgh Railroad Company free of charge. The vote on the question was carried by a large majority. The Cattaraugus Whig says: "We regard this vote, as being highly creditable to the county. By its results, the Company, for whose benefit the concession was made, and all other

railroad companies will perceive that Cattaraugus bids 'God speed' to every work of utility contemplated within her borders."

American Railroad Journal.

Saturday, December 31, 1883.

Railroad Troubles at Erie.

We have forborne any allusion to the recent disgraceful riots at Erie, in the hope that law and order would soon resume their sway, proving the excesses to be one of those accidents, which occasionally happen in the best ordered communities, and which in the main reflect no lasting stain either on our laws, or upon the moral sentiment of society. In this hope we have been most grievously mistaken. The outrages upon private property at Erie, continue, with scenes of violence and brutality that would disgrace savages. The courts have at last interfered, but the rioters conscious it would seem, of being sustained by the public sentiment of the State, to shield them from punishment, continue their reckless destruction and violence.

The facts of the case are simply these:—The owners of the Erie and North East Railroad, extending from Erie to the State line of New York, determined to change the gauge of the road, (which is six feet,) so as to conform to the two connecting roads, extending to Buffalo, and Cleveland, which were of four feet ten inches gauge.—The necessity of breaking bulk both at Erie and the State line, proved a serious inconvenience to all concerned, without the least compensating advantage. The legal right to make the proposed change was not questioned. The people of Erie opposed it on the ground that the delay caused at that city would be advantageous to them—that if a traveller was detained there for half an hour, he would probably spend a few pennies in refreshments and that the transfer of freight from car to car would give employment to a large number of laborers. The Erie people therefore determined to prevent the change of gauge at all hazards, and failing to do so, to destroy the road. The commencement of the change was the signal for hostilities, and the Erie mob, headed by the Mayor fell upon the road, destroying everything within their reach. Not content with wreaking vengeance upon the Erie and North East Company, they have also destroyed portions of the Erie and Cleveland road, which is no party to the grievances complained of, and which has a gauge exactly in conformity with their interests and wishes. Could any palliation be offered for the atrocities committed upon the Erie and North East Company, there are certainly none for those committed against the Cleveland and Erie, which are the result of the sheerest malice, without a shadow of provocation.

Were the sentiments displayed at Erie confined to that town, the affair might be treated as of small consequence. There is no doubt, however, that the excesses committed at that city had their real cause in the supposed sympathy and countenance of the greater part of the State. The Governor has sent a letter of sympathy to the rioters, offering them his presence, in case it should be thought necessary to the preservation of their rights. The public press of the State, almost without exception as far as we have seen,

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,978,700	5,150,278	254,748	118,520	none	80
Androscoggin and Kennebec.. "	55	809,378	1,016,500	2,064,458	140,561	80,058	none	80
Kennebec and Portland..... "	72	952,621	297,800	2,514,067	168,114	100,552	none	41
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	6	6	97
York and Cumberland..... "	20	285,747	341,100	718,605	23,946	11,256	none	24
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	85
Concord	35	1,485,000	none.	1,485,000	305,805	141,836	8	104
Cheshire	54	2,078,625	720,900	3,002,094	287,768	55,266	5	48
Northern	82	3,016,634	.....	.....	328,782	163,075	5	51 1/2
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6	89
Nashua and Lowell..... "	15	600,000	none.	651,214	182,545	51,513	8	109
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	83
Rutland	120	2,486,000	2,429,100	5,577,467	495,397	266,589	none	20
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	14
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	Leased to the Vt. C.	.....	ent.	100
Western Vermont..... "	51	892,000	700,000	.....	Recently opened.	.....	none	.....
Vermont Valley	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7	97
Boston and Maine..... "	83	4,076,974	150,000	4,092,927	659,001	338,215	7	102
Boston and Providence..... "	53	3,160,390	390,000	3,546,214	469,656	227,434	6	88
Boston and Worcester..... "	69	4,500,000	425,000	4,845,967	758,819	331,296	7	102 1/2
Cape Cod branch..... "	28	421,295	171,800	633,906	60,743	30,056	2	45
Connecticut River..... "	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	75	2,850,000	500,000	3,120,391	488,793	241,017	7	91
Fall River	42	1,050,000	none.	1,050,000	229,445	99,589	8	106
Fitchburg	66	3,540,000	112,305	3,623,073	574,574	232,787	6	96
New Bedford and Taunton... "	20	500,000	none.	520,475	164,230	48,950	7	117
Norfolk County..... "	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony..... "	45	1,964,070	282,300	2,293,534	322,213	101,510	none	90 1/2
Taunton Branch..... "	12	250,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts.. "	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	13 1/2
Worcester and Nashua..... "	45	1,184,000	171,210	1,321,945	162,109	66,900	4	61
Western	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6	96
Stonington..... R. I.	50	.....	467,700	.....	240,572	110,892	.....	66
Providence and Worcester... "	40	1,457,500	300,000	1,731,498	253,690	139,514	6	100
Canal..... Conn.	45	922,500	500,000	1,400,000	.....	.....	4	65
Hartford and New Haven.... "	72	2,350,000	500,000	3,150,000	639,529	294,289	10	118 1/2
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	39
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	102
Naugatuck	62	926,000	440,000	.....	.....	.....	8	.....
New London and New Haven.. "	55	750,500	650,000	1,380,610	.....	.....	none	52
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4	58 1/2
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	.....	.....	none	85
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	.....	.....	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna..... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	10,000,000	24,003,865	33,070,863	3,537,766	1,691,623	7	79 1/2
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	68
Harlem	130	4,725,250	977,463	6,102,935	681,445	324,494	5	66
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	30
New York Central..... "	504	23,085,600	10,773,823	33,859,423	.....	.....	.....	114
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	29
Oswego and Syracuse..... "	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal..... "	23	174,042	181,000	349,775	.....	.....	.....	.....
Rensselaer and Saratoga.... "	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington..... "	60	850,000	400,000	1,250,000	.....	.....	.....	.....
Saratoga and Washington..... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	237,690	100,000	329,577	.....	.....	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	.....	.....	.....	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	92
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	145
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	7	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	181
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	8	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	6	.....
Erie and North East..... "	20	600,000	.....	750,000	.....	.....	.....	125
Harrisburgh and Lancaster.. "	36	880,100	713,227	1,702,523	265,327	106,320	8	52
Philadelphia and Reading.... "	95	6,656,832	10,427,800	17,141,987	2,480,623	1,251,987	7	79
Philad., Wilmington and Balt. "	98	8,850,000	2,408,276	6,813,889	667,785	388,501	8	80

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Total cost of road and equipment.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central.....	Penn. 250	9,768,155	5,000,000	18,600,000	1,943,827	617,625	....	94
Philadelphia and Trenton.....	" 80	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.....	" 47	.....	.....	.....	.....	.....	.....	102 1/2
Baltimore and Ohio.....	Md. 381	9,188,300	9,827,123	19,542,307	1,825,563	616,384	7	57 1/2
Washington branch.....	" 38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna.....	" 57	.....	.....	.....	413,673	162,536	.....	.....
Alexandria and Orange.....	Va. 65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap.....	" 27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh.....	" 64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville.....	" 73	1,372,324	200,000	In prog.	.....	.....	.....	70
Richmond and Petersburg.....	" 22	685,000	.....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac.....	" 76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side.....	" 62	1,357,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central.....	" 107	1,400,100	446,036	In prog.	176,485	74,902	none	61
Virginia and Tennessee.....	" 60	3,000,000	1,500,000	In prog.	.....	.....	none	98
Winchester and Potomac.....	" 32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N. C. 161	1,338,878	1,134,698	2,965,574	610,038	153,898	6	.....
Charlotte and South Carolina.....	S. C. 110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.....	" 140	1,004,231	300,000	In prog.	.....	.....	.....	.....
South Carolina.....	" 242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester.....	" 100	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central.....	Ga. 191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	" 211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western.....	" 101	1,214,283	168,000	1,596,283	296,584	153,697	9	100
Muscogee.....	" 71	.....	.....	In prog.	.....	.....	.....	.....
South Western.....	" 50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River.....	Ala. 55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.....	" 93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio.....	" 33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point.....	" 88	688,611	.....	1,380,960	173,542	76,079	8	.....
Southern.....	Miss. 60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia.....	Tenn. 80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.....	" 125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky. 38	1,430,150	900,000	In prog.	.....	.....	.....	70
Frankfort and Lexington.....	" 29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.....	" 65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.....	" 100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	98
Cleveland and Pittsburgh.....	Ohio. 95	.....	.....	.....	.....	.....	.....	.....
Cleveland, and Erie.....	" 135	3,027,000	408,200	3,655,000	777,793	483,454	12	124
Cleveland and Columbus.....	" 46	.....	.....	2,000,000	.....	.....	.....	80
Columbus, Piqua and Indiana.....	" 61	.....	.....	.....	.....	.....	.....	.....
Columbus and Lake Erie.....	" 60	2,100,000	500,000	2,659,653	321,793	200,967	.....	106
Cincinnati, Ham. and Dayton.....	" 40	310,000	550,000	925,000	Recently opened.	.....	.....	80
Cincinnati and Marietta.....	" 20	.....	.....	In prog.	.....	.....	.....	.....
Dayton and Western.....	" 36	.....	.....	.....	.....	.....	.....	60
Dayton and Michigan.....	" 31	.....	.....	.....	.....	.....	.....	.....
Eaton and Hamilton.....	" 37	.....	.....	In prog.	.....	.....	.....	.....
Greenville and Miami.....	" 84	2,370,784	.....	2,634,157	526,746	314,670	10	113
Hillsboro.....	" 167	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Little Miami.....	" 167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Mansfield and Sandusky.....	" 57	.....	.....	In prog.	.....	.....	.....	90
Mad River and Lake Erie.....	" 187	1,750,700	2,450,000	.....	Recently opened.	.....	.....	87
Ohio Central.....	" 187	.....	.....	In prog.	.....	.....	.....	.....
Ohio and Mississippi.....	" 187	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania.....	" 187	.....	.....	.....	.....	.....	.....	.....
Ohio and Indiana.....	" 187	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley.....	" 147	552,000	800,000	1,317,140	Recently opened.	.....	.....	92
Toledo, Norwalk and Cleve'd.....	" 54	1,092,187	119,500	1,257,714	237,506	185,363	15	116
Xenia and Columbus.....	Ind. 31	.....	.....	In prog.	.....	.....	.....	.....
Evansville and Illinois.....	" 131	.....	.....	.....	.....	.....	.....	90
Indiana Central.....	" 83	.....	.....	.....	.....	.....	.....	115
Indiana Northern.....	" 90	.....	.....	In prog.	.....	.....	.....	166
Indianapolis and Bellefontaine.....	" 62	.....	.....	.....	.....	.....	.....	77
Lawrenceburg and Ind.....	" 88	1,650,000	750,000	2,400,000	516,414	268,075	10	82
Lafayette and Indianapolis.....	" 40	.....	.....	In prog.	.....	.....	.....	65
Madison and Indianapolis.....	" 72	682,887	663,100	1,358,019	106,944	71,446	4	108
Pern and Indianapolis.....	" 185	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Terre Haute and Indianapolis.....	" 92	1,932,361	500,000	In prog.	473,548	286,152	.....	136
Rock Island and Chicago.....	Ill. 315	2,800,000	2,629,000	6,430,246	592,187	293,046	.....	122
Chicago and Mississippi.....	" 282	4,000,000	4,067,896	8,614,198	.....	.....	8	126
Illinois Central.....	" 88	1,000,000	none	In prog.	Recently opened.	.....	.....	108
Galena and Chicago.....	" 315	2,800,000	2,629,000	6,430,246	592,187	293,046	.....	.....
Michigan Southern.....	Mich. 315	2,800,000	2,629,000	6,430,246	592,187	293,046	.....	.....
Michigan Central.....	" 282	4,000,000	4,067,896	8,614,198	.....	.....	8	108
Pacific.....	Mo. 88	1,000,000	none	In prog.	Recently opened.	.....	.....	.....

give aid and comfort to the rioters. As a state of feeling which prevails would render the conviction of the offenders impossible, a direct license and encouragement is thus held out to rapine and violence.

The cause that lies behind all others is the jealousy and envy felt, particularly by Philadelphia at the rapid growth, and the prosperity of the City of New York, which is regarded as the great rival of the former. As a means of holding this City in check, the public press of Philadelphia have always contended, that as the State of Pennsylvania extended from Lake Erie to Tide water, she should interpose her position as a barrier between New York and the West, and annex such conditions to a right of way over her territory, and would discriminate in favor of the interests of the State, and of the City of Philadelphia, and against those of New York. It was in pursuance of this policy that a tax of \$10,000 per year is exacted of the Erie Railroad Company for the privilege of passing through a small corner of that State. The jealousy referred so colored the vision of our neighbours, that in nearly every Railroad movement in northwestern Pennsylvania and throughout the West, was seen some far reaching scheme, for the aggrandizement of this City at the expense of Philadelphia. Of this character was the recent attempt to change the gauge at Erie, against which measure, the only effect of which would be to cheapen the cost of transportation, the sentiment referred to has at last broken out in the form of an organized mob!

The people of Erie are not only acting in defiance of all law, but those of the State generally, have themselves fabricated the very grounds of their complaints. New York neither entertains, nor ever has entertained, any scheme for her own aggrandizement at the expense of other cities. Her citizens feel too conscious of the strength of her position to be sensible to any such appeals, and regard no project with any favor but for the money that can be made out of it. So far from having any schemes hostile to Philadelphia, she has, most generously, furnished the means for constructing all the roads entering Pennsylvania from the west, without which, Philadelphia would be as isolated from the trade of that great region, as far as railroads are concerned, as is the eastern shore of Virginia. Left to herself, Philadelphia enterprise would have terminated at *Pittsburg*. All beyond would have remained a "*terra incognita*," but for New York. New York furnished nearly all the means for the construction of the Ohio and Pennsylvania Railroad, which in a commercial point of view, is a part of the Pennsylvania Central Railroad. While that work was in progress, its able President, Gen. Robinson, told us, that had he been compelled to rely upon Philadelphia for the paltry sum of \$200,000 he must have abandoned the road. If New York has such fearful designs upon Philadelphia as she is accused of having, why did she construct the road of all others, the best calculated to build up that city, at her own expense; a work which the sluggishness of the former city would have left untouched to the present moment? Why does she furnish means for the construction of the Cleveland and Pittsburgh, Pittsburgh and Steubenville, Steubenville and Indiana, Ohio Central, and Marietta and

Cincinnati, all Philadelphia roads, and which will bring that city in connection with every portion of the west, and from which, but for what New York has done, she would have been entirely cut off?

New York has no favorite projects. She regards all roads as New York roads. She looks upon the Pennsylvania Central as much a New York's work, as is the Hudson River road. It may be great folly for her to entertain such exalted ideas, but such is the fact. Her citizens believe that no road in the United States can be built without benefitting them. So strong is this conviction that the effect of a proposed road upon the trade of his city, is a question never raised, even by the Press. The Philadelphia roads receive just as favorable notices as do our own. The great bugbear with which the people of that city are constantly frightening themselves, have an existence only in their imagination, though it seems constantly to haunt them, and supply no small portion of the material which the Press of that city serve daily to their readers.

No measures to which the Pennsylvanians may resort can prevent such western people as choose to trade in New York, from going there. They may throw annoyances in their way, but they cannot stop them. Such being the fact, the disgraceful proceedings at these can only recoil upon the authors of them. We think they have already inflicted a serious injury upon the credits of the Companies of that State. It must be remembered that capitalists throughout the world are interested in the pending controversy, and are watching the result. What will be the conclusions as to the safety of investments in Pennsylvania, if, for every petty grievance, a mob turns out, and by unanimous consent, and destroys their property? Why may not the same thing happen to the Sunbury and Erie road, which is charged with fomenting the Erie troubles. This Company may be lighting a torch which may consume themselves.—Pennsylvania has already suffered severely for her previous default. Let her not add a still deeper stain, by destroying the property of distant creditors.

The N. O. Picayune says in regard to the Tehuantepec route to the Pacific:

"We have great satisfaction in announcing that the Sloo Tehuantepec company have now completed their final arrangements for the opening of this important route to the Pacific. Mr. M. Abrams, the secretary of the company, has just returned from the north, and brings with him the final contracts signed and sealed, by which the house of Sykes, DeBergne & Co., of England, obligate themselves within one year to construct a plank road across the Isthmus, and to put the same in complete running order, with stage and coach accommodations, &c., and also to place three river steamers on the route. A contract has likewise been entered into with the same parties, for the construction of a railway to be commenced within four months after the completion of the plank road, and to be thoroughly opened and finished within three years thereafter, the road to have a double track, and a six foot gauge, with all the necessary cars, equipments, machinery, &c."

"The house that has assumed these responsible engagements is of high standing and great wealth. They have not only assumed the payment of the \$600,000 due as a bonus to the Mexican Government, and which had been advanced by certain parties for account of Mr. Sloo, but they have also agreed to take the bonds of the company in

payment of the contracts entered into for the opening of the Tehuantepec route. The company have accordingly issued Sterling bonds in sums of £125 and £250, bearing seven per cent interest, the former inconvertible and the latter convertible into stock on the completion of the road. The subscription books to the stock will, as we understand, not be reopened here, but according to the original agreement with the Mexican Government, twenty thousand shares of stock were reserved for Mexican citizens, and in due time books will be opened in the city of Mexico for supplying shares to that amount. The favorable negotiations which the company has succeeded in effecting abroad, will induce parties in Mexico to absorb this stock very rapidly. A small amount of bonds may subsequently be offered in this market for the benefit of those who may desire to have some interest in this magnificent undertaking.

"Engineers have already arrived here, and will proceed forthwith to the Isthmus, in order to commence the necessary works, and to ensure the completion of the road within the time prescribed.

When talking about constructing Railroads in the Tropics, within a limited time, and for a given sum, parties only deceive themselves and the public. Certainly in either of the above particulars is out of the question. In the State of New York for instance, certain results may be productive of a given amount of money, or number of laborers. Upon the Isthmus, this certainty becomes the wildest conjecture, as the experience of the Panama Company has fully proved. The public, when they hear about contracts being made to build any work, either railroad or canal, in their part of the country at low cost, and within a short time may pay just as much attention to them as they do to the whistling of the wind—no more.

Kentucky.

Covington and Lexington Railroad.—We learn from the Cincinnati Commercial that the track layers on this road are now at work eleven miles beyond Falmouth, about fifty miles from Covington, and are progressing at the rate of half a mile per day. Should the winter prove a mild one, of which there is every indication, it is confidently hoped to complete the whole route to Lexington by next April. Thus far, the work has given great satisfaction, and the profits are much larger than the company anticipated. When it shall have reached Lexington, which is perhaps one of the greatest inland agricultural depots in the west, we may reasonably look for a vast increase in the earnings of the road, and a new and very profitable trade opened with Cincinnati.

Montgomery and Pensacola Road.

The Pensacola Gazette of the 3d inst., says that the President of this road has just finished a reconnaissance of that portion of the road lying in Florida. He reports favorably of the route, the only obstacle of any moment, a 20 mile descent from the ridge on which the road begins, has been overcome, the grade being 24 feet to the mile.—The Florida portion of the road is 42 miles in length. The Gazette adds:

The survey through Alabama has been completed and the report of the Chief Engineer is looked for in a very short time, when immediate steps will be taken to put the whole road under contract. The entire route to Montgomery is very favorable, the heaviest grade being forty feet to the mile; and the whole length only 7 miles greater than an air line. Mr. Gray, of Georgia, between

whom and the President a correspondence has been going on, is expected here in a few days. Mr. Gray is an eminent Railroad contractor, has been engaged for many years in the railroads in Georgia and is desirous of taking the contract on this road for the grading and superstructure; information has been received from Montgomery that the Directors there are resolved to put their end of the road under contract as soon as the estimates are completed.

Population of Cleveland.

The census of Cleveland has just been taken, which shows the following result:

	Pop. 1850.	Pop. 1853.
1st Ward.....	7,837	8,395
2d ".....	5,390	10,277
3d ".....	3,608	4,339
4th ".....		10,203
Colored Pop.....	211	405
	17,041	31,219
Ohio City.....	6,365	9,992
	23,405	41,206
		28,406

Increase in three years 17,800

Cincinnati and Cleveland Straight Line.

We notice by the Ohio papers that a new line of railroad, a straight line, between Cincinnati and Cleveland is seriously proposed. At the head of the enterprise is the Hon. Thos. Corwin, late Secretary of the Treasury, who, we see, has been "speaking" at various points on the proposed route, in favor of the project.

Of course, there is no objection to a straight line between the above cities, except so far as the public would be the losers thereby. There are already two lines of railroad between Cincinnati and Cleveland, either of which furnish all the accommodations required. At least we never heard any complaint from any quarter. They are not air lines, but it does not hold that they are not the shortest lines, notwithstanding. The Erie Road is some 75 miles longer than a straight line between this city and Buffalo, but is the shortest practicable line, and those who would attempt to improve it, by making a shorter one, would increase the distance as measured by time and expense of transportation as much as they would diminish the actual length of line. So too with the Baltimore and Ohio Railroad. It takes the short cut to the Ohio, though by a much longer route than a straight line. The shortest is an equated one, the elements in the calculation being lineal distance, grades and curves. We see no reason to doubt that the line made up of the Little Miami and Cleveland and Columbus is not the short line between Cincinnati and Cleveland; the straight line, if you please, especially if Columbus be a necessary point in the route. If not, then the bend made to accommodate that city will be cut off by the Springfield and Delaware Road, which, with the above, will make a much shorter line between the above cities than can be constructed upon any route. This new line is about being opened, and will supply every needful accommodation between the above cities, and with the roads already in operation, to the country traversed.

In face of all these roads, to attempt to construct a new through route is utterly preposterous. To propose it seriously is to impeach one's own

sanity. There is not a man in or out of Ohio, that would, upon reflection, lend one cent to the scheme. All money spent upon will be wasted, and unless its projectors desist, they will do something worse than lose their money.

There may be points on the proposed route, where short branches, connecting such with the great routes in operation, may be advisable, but these can be constructed without the necessity of raising the question of a new through route.

Inclined Planes for Canals.

In a recent number of the Journal a description was given of the Newark Incline of the Morris Canal. The success with which the engineer, W. H. Talcott, Esq., adapted this direct mode of overcoming the rise and fall of artificial navigation attracted, at once, the attention of those engaged on other works, in need of similar expedients. The Monkland Canal, at Blackhill, near Glasgow, Scotland, overcomes an elevation of ninety-six feet within less than one-fourth of a mile. To overcome the ascent in the usual manner would require twelve locks, the cost of which could not be much less than £50,000, or about \$250,000;—while the time of passage, averaging from two to three hours for each boat, would be a serious obstacle in the operation of a canal passing, in some seasons, over fifty boats in a day. The supply of water necessary for locks was a matter involving great difficulty, and towards the close of the year 1849, two years after the successful completion and operation of Mr. Talcott's planes in our own country, Mr. James Leslie, engineer, of the Monkland canal, commenced building an inclined plane. In July, 1850, the work was completed and in action. A paper was read by the Engineer, April, 28th, 1851, before the Royal Scottish Society of Arts, giving a description of the construction of the work, and from a reprint of which we gather the following general facts.

There are two lines of rails on the incline, a caisson running on each, acting as counterpoises to each other, and thus reducing the amount of tractive power required.

The two caissons are constructed of boiler plate, $\frac{3}{8}$ and 5-16 inch thick, riveted together. They are each strengthened by thirty ribs of T iron, and are set on a wrought iron carriage, strongly framed and braced, and raised up at the lower end, so as to keep the caisson level.

The caissons are seventy feet long, or just the extreme length of the boats including the rudder: 13 feet 4 inches wide, and 2 feet 9 inches deep, exclusive of wash-boards to keep the water from splashing over.

The water is only meant, however, to be 2 feet deep, that being sufficient to float the deepest empty boat. The cross section of the caisson is, as nearly as may be, taken from the mould of the boats, with a hollow space for the keel, so as to contain as little superfluous water as possible.—Each caisson has ten pairs of wrought iron flanged wheels, similar to those of an ordinary railway carriage, whereof eight pairs are of three feet diameter, one pair 2 feet 3 inches diameter; and, in order to keep the caisson as low as possible above the rails, the uppermost pair is only eighteen inches diameter.

There are upright timber fenders at the sides of the caissons for guiding the boats, and for fixing the sluice-gearing, framed and bound across the

top, so as to give greater strength. The sluices are counterbalanced, and are worked each by two racks and pinions. The weight of the carriage, caisson and water, or water and boat, varies from 70 to 80 tons.

The gauge of the railway is seven feet, and the distance between the centers of the two lines of rails is 18 feet 3 inches. The gradient is 1 in 10; and the height from surface to surface of water, being, as before stated, ninety-six feet, and the length of the carriage 70 feet, the whole length of the incline requires to be 1030 feet; but an additional length of ten feet has been allowed as a provision for the case of the water being very low in the lower reach, and, consequently, the whole length of the incline is 1040 feet.

The rails are 65 lbs. to the yard, with flat soles, and are screwed down to longitudinal sleepers. These are of half logs where the ground is solid, laid on continuous stone blocks with cross-ties 15 feet apart; but are of whole timbers with cross bearers, resting on piles twelve feet apart, where the ground is made up and soft. There is a cast iron ratchet plate along the outside of each rail, also screwed down to the longitudinal sleeper, and as a means of safety in the event of any accident befalling the ropes or machinery, there are palls attached to the carriages, working constantly into the teeth of the ratchets while the caisson is ascending, and ready to drop into them when descending, the instant the tension is taken off the rope.

The motion is given by two coupled high pressure steam engines, of 25 horse power, each, with horizontal cylinders. This is a much greater power than is needed during a greater part of the transit; but it is nearly all required at the time when the descending caisson is entering the water and, so losing its gravity, ceases to act as a counterpoise, in consequence of which the engines have for a short distance, to pull up nearly the whole weight of the ascending caisson, water and boat.

There is a double friction drag on the fly wheel, acted on by the piston rod of a small steam cylinder, by means of which the machinery may be speedily stopped and held on.

A pinion on the crank shaft outside of the engine house, two feet four and a half inches in diameter, drives a spur wheel on the lying shaft of seven feet nine inches diameter, having a friction wheel in its interior, which, for the sake of safety, and of preventing shocks, is made to slip when any unusual resistance is met with. The introduction of this friction wheel, which is similar to that commonly used in dredging machines, was suggested by Messrs. Yule and Wilkie, the contractors for the machinery and is a decided improvement.

A pinion, two feet ten and a half inches, on the lying shaft, drives a spur wheel of ten feet seven inches on the drum shaft, which is farther down the incline, being on the left hand line of rails in looking down, or the further side from the engine house. This spur wheel drives another similar wheel on the drum shaft which is uppermost, and on the right hand line of rails looking down, or the side nearest the engine house. These shafts are all of wrought iron.

It is necessary to have the two drums on separate shafts, so as to move in opposite directions, in order that the one may coil and the other uncoil

the rope at the same time, both by the upper side, otherwise another drum or pulley would have been required to bring up the rope from the lower side of one of the drums. The drums, or rope rolls are sixteen feet in diameter, four feet broad, and make one turn nearly for every twelve strokes of the engine; so that, while the engines are going at their usual speed of forty strokes (though they often go considerably faster,) the caissons are travelling at the rate of about two miles per hour, and the time occupied in ascending or descending is between five and six minutes.

This arrangement of caissons and driving gear, and the application of steam power, although more complicated and expensive than that of the planes in use on the Morris canal, and with the advantage possessed by the latter, of a sufficient supply of water, far from being as economical in operation, gives, nevertheless a great superiority over any other mode of transferring the boats from one level to another.

The financial prosperity of the Monkland canal has been so much enhanced by the combined influence of these improvements and the development of the mineral district for which the canal is the outlet, that the original £100 shares, down at one time to £5 or £7, afterwards rose to be worth about £3,200.

Mr. Leslie states the total cost of the incline, including land, as £13,500, more than three times the cost of the first 56 feet plane, built on Talcott's plan, on the Morris Canal. From the 20th of March to August 23d, 1851, there were passed over the incline 5,227 boats up, and 225 down, making a total of 5,452. The longest days' work was ten hours, and the greatest number of boats passed in a single day was 55. Rather a singular effect, and one which it may be worth noticing, is produced in the frequently occurring cases of the boats being taken up, for the sake of lightening the load, with rather less than the full depth of water in the caisson, which is due to the level of the canal, or when the upper reach of the canal is over-full. On the opening the two gates or sluices, after the caisson has been pressed close to the mouth of the canal, a rush of water takes place from the canal into the caisson to level the surface, and this water being stopped by the after-end of the caisson, recoils, and forms a wave in the opposite direction, which, striking the stern of the boat, drives it with considerable impetus out of the caisson into the canal, without any help being required from the horse. This result, which was quite unlooked for, considerably expedites the working of the incline.

On the whole, American ingenuity, after receiving the credit due to the general idea of the manner in which the incline is worked, can reject many of the modifications applied by the Scotch engineer, as tending only to increase both the expense of construction and operation. In comparing the expense of the applications already made in each country, it must be remembered that the capacity of the American planes is more than double that of the other. The American plane combines greater simplicity of driving gear; equal power of control; greater facility in entering and clearing the boat; reduces and equalizes the whole load drawn, and reduces very much the expense of driving power and attendance. It is just, however, to observe that on the Morris and Lehigh

canals the boats were adapted to the section truck drawn over a summit out of the canal, by which there was no necessity of especial provision against straining the boat.

The American adaptation of the inclined plane to canals, possesses, in an eminent degree, the distinguishing traits of originality and simplicity.

Z. C.

Pacific Railroad.

Hon. Wm. H. Seward has introduced into the Senate, a Bill, of which the following is a copy, providing for the construction of a Railroad to the Pacific.

A BILL to Provide for the Construction of a Military and Postal Railroad through the Territories of the United States lying between the Atlantic States and the State of California:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled—That a good and substantial first class double track Railroad may and shall be constructed throughout the Territories of the United States north of the fortieth parallel of North latitude, from some point in the western boundary of some of the Atlantic States west of the Mississippi to some point in the eastern border of the State of California. The location and route of such railroad shall, within one year from the date of the contract hereinafter mentioned, be fixed and determined by the company who shall, in manner hereinafter mentioned, contract with the United States for the construction of the same. The public land necessary for the bed of such road, of a width to be determined by the Secretary of War, is hereby ceded and granted to the said company for the period that they shall exist and continue to work and operate such road in conformity to the act. The said railroad shall be commenced within eighteen months from the date of such contract, and shall be completed within five years thereafter, and one-fifth part thereof, having relation to the estimated cost of the entire construction and equipment thereof, shall be completed within each of the said five years. The road may be constructed by any company or association who, having been duly incorporated by the Legislature of any of the United States with powers for that purpose, shall obtain the contract with the United States hereinafter mentioned. The Secretary of War shall immediately after the passage of this act issue and publish in each of the cities of the United States for the term of — weeks, a notice inviting sealed proposals for the construction of the said railroad according to the conditions and provisions of this act, and at the expiration of that time the proposals shall be opened, and the said Secretary shall then award and make a contract of that date for the construction of the said railroad to and with the company who shall have proposed to contract the same upon the terms most favorable to the United States according to the provision of this act, and shall comply with the said provision in regard to the execution of the contract. The said contract shall bind the United States to pay the said company the sum so bid by the said company, being the lowest sum bid by any company complying with the provision herein contained, in the manner and at the times hereafter mentioned, in money or in five per cent. stock of the United States, redeemable after twenty years as the pleasure of the United States. The company who shall so contract shall, when executing the contract, deposit with the Treasurer of the United States in money or in State stocks, or in stocks of the United States, at par value, five millions of dollars as security for the performance of the contracts. They shall receive to their own use the interest on such moneys and stocks, provided that the United States will pay no more interest thereon than the rate of interest which the said stocks bear, and which shall actually be received in case of State stocks.

Whenever the company shall fail to carry on the construction and equipment of said road as is

herein before provided, they shall forfeit to the use of the United States one hundred thousand dollars of the moneys and stocks so deposited for every month such default shall continue. When the work shall have been completed within the period before mentioned, to the satisfaction of the Secretary of War, then the moneys or stocks so deposited, or the portion thereof remaining after such forfeitures, shall be repaid and redelivered to said company. The company constructing the said railroad shall within the said period of five years fully and adequately equip the same and put it into operation. They shall enjoy to their own use, for fifty years, the profits and emoluments of the said road, but they shall nevertheless at all times transport the mails, the troops, and the military and naval stores and munitions of war of the United States at reasonable rates, to be determined by the Department requiring such transportation, and Congress shall have the right at any time to reduce the tolls and fares to be charged for passengers and freight, if they shall think necessary, so, however, as to allow always a profit of ten per cent, upon the actual investment of the company, and the United States may also, by an act of Congress, resume the said road, and all the franchises hereby granted, on paying to the said company the moneys which they shall have actually expended in making and equipping said road, exclusive of the moneys and stocks received from the United States, with ten per cent. interest per annum thereon. The company contracting for the construction of the said railroad shall expend thereon actually and in good faith one million of dollars of its own moneys before it shall be entitled to receive any money from the United States. The whole amount of the probable cost of the said road shall be ascertained and certified by the chief of the Topographical Bureau of the United States, and when such sum of one million of dollars shall have been so expended by the company to the satisfaction of the Secretary of War, then the Treasurer of the United States shall, on the order of the Secretary of the Treasury, pay to said company such sum as in relation to the whole sum to be paid by the United States shall bear the same proportion as one million of dollars to be expended by the company shall bear to the whole amount of the estimated cost of the said railroad, exclusively of the moneys to be paid by the United States.

SEC. 2.—And be it further enacted, that the Secretary of War shall set apart and lay out into village and city lots sufficient plots of ground, at the several places which shall be fixed upon by the Engineers of said company or by himself, for depots and stations, and any such land shall thereafter not be sold as other public lands are sold, but only on due notice and for the highest terms that can be obtained. The price of the public lands, within the distance of six miles on each side of the said road and not included within said village and city plots, is hereby fixed at two dollars and fifty cents per acre, and the price of public lands lying more than six miles and not less than twelve miles distant from the track of the said road on either side thereof is hereby fixed at one dollar and eighty-seven cents per acre.

Whatever may be said of the general merits of the above bill, there are several objections which it strikes us are fatal to its success.

The first is the assumption of route. Now the question of route of a railroad to the Pacific, is not one of law, but of fact. Mr. Seward inverts the ordinary mode of proceeding in such cases. Routes for railroads are not determined by the opinions of interested parties, but by the testimony of engineers. Mr. Seward's plan precludes all resort to such testimony; and should it turn out that no practicable route can be found north of the 40th parallel, then his bill is one providing for the non-construction of a railroad to the Pacific.

When sensible men undertake the construction of a railroad, they very wisely send for an engineer

to determine whether the work be practicable, and which of the routes proposed, is the most so. Having determined these points, they proceed accordingly. To act otherwise, would be to attempt what might be impossible, and forfeit the confidence of the public, and perchance involve themselves in ruin.

Again, the only way in which the whole country can be brought into the support of one route, is to show its superiority to all others. The scheme must have the moral strength which this superiority alone can give. To assume that the best route is to be found north of the 40th parallel is a direct insult to all the claims south of that line. To say that all such are unworthy examination, would be to array one half of the country against the northern line. To a conviction that a more southern route would be the better one, would be added the keen sense of injustice, which, if it did not prove fatal to every project, would keep the country in a constant ferment, which could only be allayed by the construction of two roads. But should such route be taken, as is manifestly superior to all others, the general, would be followed by the particular, assent of every section of the country.

The question of route involves two considerations; that of comparative cost, and adaptation to the commercial wants of the country. Where the first is balanced in several routes proposed, that of convenience should be allowed to determine the result; and to say that the line of convenience is north of the 40th parallel, is a conclusion very different from that to which the parties may come who are to build the road. It is to be presumed that such persons are much more competent judges than mere members of Congress.

Again, Mr. Seward's Bill provides for the location of the route within one year from the date of the contract; a matter which any engineer would tell him is impossible. This is the second "*felo de se*" which the bill contains. With the imperfect data which exists, two or three years would not suffice for the location of a road. Each route proposed would have to be thoroughly examined, and the best one deduced from a comparison of all with each other. Neither can the road be built within five years after the completion of the contract for construction; a third "*felo de se*." As the cost of the road cannot be determined within one year from the date of such contract, the chief of the Topographical Bureau cannot ascertain its cost, consequently the payments cannot be made in the manner prescribed—a fourth *felo de se*.

As to the minor details of Mr. Seward's Bill we are indifferent. We question however, the expediency of having the general government aid the work by direct assistance in money. We believe the requisite aid might be given in some other manner. Our idea is that government should encourage two or three schemes, by liberal grants of lands upon their proposed lines; say the Northern, or Missouri, the Central, or Benton's, and the more Southern route by El Paso. Let government make similar grants to the parties or companies representing these three routes, and then let these parties present their claims to the Commercial World; which, left free to act upon an unbiased judgment, would certainly take up and complete the best route, first. Should the result justify their construction, the others would follow, and we

should thus have three routes instead of one, the capacity of all which, we are quite certain would fall far short of the business offering. These roads, if practicable, would secure us from an oppressive monopoly which one might inflict.

The policy last suggested would have this great effect, in satisfying all parts of the country. All would be impartially treated, and if either scheme could not enlist capital in its support, the inference would be that it was not feasible. The parties representing it would have only to blame themselves for taking up a project that had no merit.

There is another difficulty in the way of Mr. Seward's plan. It is generally believed that the present administration, which is to continue in power three years from March next, will veto any Bill giving money toward the construction of the road. Such being the fact, it is far better to avoid the objection by grants of land, provided that would accomplish the same result, then wait four years, for a change of parties, which after all, might bring no change of policy.

While we are glad to see this project brought up before Congress in any possible light as a means of furnishing discussion, and enquiry, we cannot help thinking it to be a very delicate subject for politicians to handle. Between their maxims and rules of contract, and the principle upon which a Railroad must rest their may be no agreement whatever.

So long as they confine themselves to the general question of its necessity, and permit these touching its route to be decided by Engineers and the commercial convenience they confine themselves to their proper sphere. If they go beyond this and descend to the details which belong entirely to other parties they may find themselves entirely out, and that they may have been going *astern* instead of acquiring popularity, or helping along this great work.

Journal of Railroad Law.

CAN A CORPORATION CHARTERED IN ONE STATE HOLD LANDS IN ANOTHER.

This question has lately been examined by the Supreme Court of Vermont upon a *quo warrants* in the case of the *State of Vermont vs. the Boston Concord and Montreal Railroad Company*. This road was chartered in *New Hampshire* to extend to the Vermont line at Wells river, and two Vermont roads have been authorized by the Legislature of that State to connect with the said Boston, Concord and Montreal road. The proprietors of the Boston, Concord and Montreal road have constructed a railroad bridge over the Connecticut river, and bought about 15 acres of land adjoining their terminus in Vermont. And there is no evidence that they mean to run cars into Vermont, unless a junction be formed with the Vermont roads.

The question presented to the Court then, was, whether the defendants had, by having purchased the land described, in any way invaded the sovereignty of the State of Vermont.

The Court, through Chief Justice Redfield, decided this question in the negative. And the more important portion of his argument may be briefly summed up as follows:

There are some rights and franchises which foreign Corporations may exercise in Vermont, without invoking any Legislative sanction, such as the right to hold property in the corporate name, to

sue and be sued by that name, to contract by a seal. If the corporation be recognized for any purposes these rights are also recognized. But to build and use a railroad, or take tolls or fare, calls for a special Legislative authority. So foreign Banks may sue in Vermont, levy their execution on land, and take land in payment of their debts, but they cannot issue notes as a currency, nor make discounts, without express permission so to do. Justice McKinley, indeed, denied to foreign Banks any title to the privileges above mentioned, but his decision was speedily reversed by the Supreme Court of the United States.

In the case of *Lumbard vs. Aldrich* (8 N. H. 31) it was held that a corporation created by the laws of another State, may take and hold land in New Hampshire. Parker J. says—If they may sue, they may satisfy their judgment by a levy on land, and of course, hold the land and convey it. And if they can do this they may take title by a deed in satisfaction of a debt, by agreement or upon any other consideration. The same point is decided in *Silver Lake Bank vs. North*, (4 Johns, Ch. R. 370,) and in cases in most other States of the Union. The like rule is declared in a multitude of Vermont cases, of which one of the most recent is the *Grafton Branch vs. Doe* 19th Vt. Rep. 463. Most of the bridges across the Connecticut, have been built by companies chartered in New Hampshire, but like the railroad in question their western termini are established in the soil of Vermont. And this has been acquiesced in for more than half a century. This indicates the law of Vermont in regard to the road and bridge corporations of States conterminous with Vermont, especially when it is considered that corporations have been created in the said State with express permission to connect with the Boston, Concord and Montreal road.

On the whole, the Court holds the sovereignty of Vermont to be intact, notwithstanding the doings of the defendants. Yet the railroad company have not the *paramount* right to the soil, which by virtue of the principle of what is technically called *eminent domain* is vested in the State. The Court will not permit any interference with the company's quiet possession of their land, upon the mere ground that they purpose to erect a bridge under a grant from the owners of the fee of the land.

Yet the company hold their 15 acres in question subject to the public reserved right of *eminent domain*, like all other land owners, and may be hereafter, possibly, in some measure curtailed in the enjoyment of their rights by the action of the Legislature.

NOTICES OF COMMON CARRIERS—WHEN INVALID.

The Supreme Court of Massachusetts have lately had under examination the case of *Sanford vs. the Housatonic Railroad Company*, which was brought to recover damages for injury sustained by plaintiff through careless transportation of butter, which he had sent to New York city, for sale on commission. The butter was spoilt from its proximity to the engine. The defence was that the carman of the consignee at New York gave the company a receipt for the goods, reciting that they were "received in good condition," with the following notice in the margin. *Consignees of goods by this line are requested to notice any errors in regard to the line within 24 hours, or the company*

will consider their responsibility ended. No notice was given by the consignees to the company before action brought.

The Court held on exceptions—

1. That the action was justly brought in the name of the consignor, as his ownership in the butter continued after his delivery thereof to the carriers.

2. That the notice would not protect the carrier from its being vague and ambiguous.

INJUNCTION AGAINST THE ERIE RIOTERS.

The Supreme Court of Pennsylvania have granted the application of the Franklin Canal Company for a special injunction to restrain the authorities of Erie from tearing up the rails of said company in the city of Erie. The injunction being merely to stay waste; the Court will hear the city of Erie on a motion to dissolve the injunction.

FRANKLIN CANAL CO. CASE.—We annex a copy of the unanimous opinion of the Supreme Court of Pennsylvania, delivered on Saturday, in the case of the Franklin Canal Co., against the city of Erie, praying for an injunction to prevent injury to the railroad of said Company, extending westwardly from Erie toward Cleveland. It enjoins the city authorities of Erie and all acting under them, and all others, not only from doing any further damage to the road, but also from doing any thing to prevent restoring the part already torn up or injured, and from hindering in any way the free and safe working of the road.

SUPREME COURT.—Present, Chief Justice Black and Justices Lowrie and Woodward.

The following opinion was given by Chief Justice Black:

The Franklin Canal Co. vs. City of Erie and others—in Equity.

This bill prays us to enjoin the defendants from tearing up and destroying the plaintiffs' railroad. The affidavits laid before us make it impossible for us to doubt that some mischief of the kind complained of has already been done and more threatened.

Upward of a year ago the Attorney-General filed a bill against the plaintiffs, complaining that they had violated their charter, and in fraud of the law which gave them a corporate existence, had made a road to connect Buffalo and Cleveland instead of Erie and Pittsburgh. On a motion for a special injunction, the whole subject (I mean the entire merits of the case) was elaborately argued. We refused the injunction then asked for, because a positive statute stood in the way, but expressed our conviction that the complaint was well founded. On the final hearing of that cause the rights of the Commonwealth and of the Company might have been fully settled long ago. We know not who is to blame for the delay. But it is certainly very unfortunate since it has caused a state of things so much to be deplored as that described in the bill now before us. If the citizens of Erie are wronged, and have no way of getting justice besides the irregular course of taking it with their own strong hands, then the law is in disgrace. If the judicial tribunals have still the power to right them, it is folly for them to resort to measures which nothing but the sheerest necessity can ever excuse.

We are not now to decide whether a railroad built by a company in contravention of its charter, is liable to be destroyed and torn up as a public nuisance. What effect the license of the City of Erie should have is also a question which is reserved for its proper time. We have not yet said, and we will not say at present, what portion of the plaintiffs' road is open to the objection even of illegality, or whether the departure from its proper track to make a connection with the Cleve-

land, Painesville and Ashtabula Railroad put the whole work out of the protection of the law. It may, however, be a very prudent thing for those who propose to tear it up, to consider whether anything can or ought to be done beyond what is necessary to prevent it from being used as a link between Ohio and New York. For that purpose the destruction of the Western end may not be necessary, and if not necessary it will be wanton mischief. These, however, are mere suggestions which do not bind us or anybody else. Assuming that our opinion of the Company's conduct will be, on final hearing, what we expressed it to be when we refused the special injunction, and that our decree will be in accordance therewith, the precise shape of it is not by any means settled; and the people of Erie have no right to anticipate it.

Our present action on the subject is based on this principle: that in a dispute about property the thing in controversy must remain in the situation it was in when the contest began, and during the pendency of the investigation neither the parties in Court nor third persons have any power to take the cause away from the proper tribunal by any interference whatever. The Commonwealth, by her Attorney-General, has taken proper measures to have the dispute between her and the Franklin Canal Company settled. Other parties cannot step in and change the attitude and relations of the disputants. The supreme authorities of the State have the matter under consideration, and there it must remain until it is determined. No inferior Court, no local Corporation, nor any private person can interfere. If a railroad be laid down under circumstances which make it a nuisance, every citizen has a right to abate it; but if the executive of the State appeal to this Court to determine whether it be a nuisance or not, we hold that it cannot be abated during the examination here. We will protect all parties as long as they are before us.

One of the rules of this Court requires that notice shall be given of a motion for a preliminary injunction. We think the rule a good one. It must be adhered to in all cases where it is practicable without causing a total failure of justice. But in a case like the present, where the danger of great and irreparable mischief is imminent, and where no possible injury can be caused by it to the parties enjoined, we feel it our duty not to pause a moment. We will hear the defendants with pleasure on a motion to dissolve it, and it will certainly be dissolved the moment we become convinced that the Franklin Canal Company is not using all reasonable efforts to bring the Commonwealth's case against them to a speedy hearing.

And now to-wit, December 24, 1853, upon reading the bill of complaint and affidavits filed in this case, it is ordered and decreed by the Court here that the defendants, and all and every one of them, officers, agents, workmen or servants, and all other persons whomsoever, be strictly and firmly enjoined and commanded that they do absolutely cease and desist from all the acts and doings complained of in the same bill until further order; and that for that purpose a writ of injunction be issued, upon the plaintiffs giving bond in the sum of \$10,000, according to law.

Union Railroad Car Works, PORTSMOUTH, VA.

FREIGHT, PASSENGER, BAGGAGE, EXPRESS, MARKET, Coal, Lumber and Hand Cars, manufactured at this establishment of the best material, and in the most approved manner, with either PLATE or SPOKE WHEELS and AXLES, of Salisbury or other Iron. Trucks fitted up, or Wheels and Axles separately will be furnished at the shortest notice, and shipped to any part of the United States.

Having extensive arrangements and superior facilities for manufacturing at this establishment, orders will be received and contracts made for equipping entire roads at short notice.

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Portsmouth, Va., December 30, 1853.

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Locomotives for Sale.

2 Locomotive Engines and Tenders, made to order for a five foot gauge (but which are not required at present as the road is not ready to receive them)

16 inch cylinder by 20 inch stroke, 2 pair drivers. One Engine 6 ft. diameter, and the other 5 1/2 ft. dia.—outside cylinders—have a large proportion of boiler, and are expected to be economical working engines—will be sold on very favorable terms, and are now ready for delivery. Apply to

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Machinists' Tools.

THE FAIRMAN and WILLARD MACHINE TOOL MANUFACTURING COMPANY offer for sale very superior Engine lathes, Planing Machines, Compound planers, upright drills and all other kinds of tools used in Railroad shops, upon reasonable terms.

They also manufacture Fairman's patent CAR WHEEL BORER, which is warranted to do more and better work than any other borer in use.

Also—all sizes Fairman's patent Universal Chuck.

Orders may be addressed to

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Locomotive Engines for Sale.

TWO first class engines, adapted to a 5 foot gauge, 22 tons weight, 16 + 20 inch Cylinders, and 5 1/2 and 6 feet drivers, built by one of the best makers in the country. New, and offered for sale because not required by those ordering them. Enquire at the office of American Railroad Journal, 9 Spruce-st., up stairs.

Dec. 24

To Locomotive Engine Builders and Engineers.

THE Proprietors offer for rent for a term of years, with immediate possession, the splendid property, known as the BELLEVILLE IRON WORKS, situated on the Mississippi, directly opposite the City of New Orleans, and within 300 feet of the River, with which it is connected by fine wharves and landings.

The buildings are of brick, with slated roofs, and were erected in 1848 at a very heavy expense; are of a most substantial and durable character and admirably fitted for a Foundry and Machine Shops, or almost any mechanical business. They now contain a new and powerful Engine and Boiler and sufficient machinery, say, planing machines—lathes—boring machines, blacksmith's tools, &c., &c., to employ 100 mechanics, and could be put in working order in a few days. The Buildings cover a lot 300 feet square and are amply large to receive the necessary machinery for the use of 800 to 1000 workmen.

The terminus and depot of the New Orleans, Opelousas and Great Western Railroad is situated about 300 yards from the above property, which could be availed of to great advantage for the manufacture of Locomotives and Railroad work, generally as well as Steam Engines, Sugar Mills, and other descriptions of Machinery.

There are no Shops in New Orleans for the manufacture of Railroad Machinery, and as the Railroad Companies now organized in that city contemplate the construction of over 1000 miles of road,—a large part of which is already under contract,—the property now offered for lease offers a most eligible opportunity for parties desiring to contract to furnish the Engines and Machinery,—for those roads. Responsible contractors with their works on the spot would have an advantage over Northern Workshops in contracting for the Work of the Railroads terminating in New Orleans.

The Establishment and prospect of remunerative work to be secured immediately are worthy the attention of manufacturers and Engineers generally.

Applications from responsible parties will be promptly attended to, and to satisfactory parties the proprietors of the Works can offer favorable terms and arrangements.

Letters may be addressed to

R. B. SUMNER,

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and further information may be had by applying to Messrs. BARSTOW & POPE, Pine Street, New York.

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NOTICE OF SUMMER ARRANGEMENTS,



Commencing Monday, May 9, 1853.



TRAINS FROM NEW YORK.	TRAINS TO NEW YORK.
7 A. M.—Accommodation to New Haven.	5.30 A. M.—Special, from Port Chester.
8 A. M.—Express for Boston, stopping at Stamford and Bridgeport.	5.00 A. M.—Commution from New Haven.
9.10 A. M.—Special for Port Chester.	6.15 A. M.—Accommodation from New Haven.
11.30 A. M.—Accommodation for New Haven.	8.15 A. M.—Accommodation from New Haven.
3.00 P. M.—Express for New Haven, stopping at Stamford, Norwalk and Bridgeport.	9.35 A. M.—Express from New Haven, stopping at Bridgeport, Norwalk and Stamford.
4.00 P. M.—Accommodation for New Haven.	1.07 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.
5.00 P. M.—Express for Boston, stopping at N. Haven.	4.00 P. M.—Special, from Port Chester.
5.35 P. M.—Commution for N. Haven.	4.00 P. M.—Accommodation from New Haven.
6.30 P. M.—Special for Port Chester.	9.30 P. M.—Boston Express, stopping at Bridgeport, Norwalk and Stamford.

GEORGE W. WHISTLER, Jr., Supt.

New Haven, May, 1853.

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Price One Dollar each—postage on the Curves Three Cents—on the Excavations and Embankments, Six Cents.

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May 4, 1853.

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Nov. 19, 1854

\$1,000,000 LITTLE MIAMI RAILROAD COMPANY SIX PER CENT. FIRST MORTGAGE BONDS FOR SALE.

OFFICE OF WINSLOW, LANIER & Co.
No. 52 Wall-st., Oct. 6, 1853.

THE LITTLE MIAMI RAILROAD COMPANY offer for sale one million of their **SIX PER CENT. BONDS**, with coupons. Interest and principal payable in New York, the former half-yearly, 1st of November and 1st of May. They are in sums of \$1,000 each, payable the 1st day of May, 1858.

These Bonds are issued under the express authority of the Legislature of the State of Ohio; and are a part of the \$1,500,000 Loan authorized to be issued by a vote of the stockholders, for the purpose of raising means to make a double track; the greatly increased and increasing business of the road makes this absolutely necessary.

The Little Miami Railroad is eighty-four miles long, commencing at the City of Cincinnati and terminating at Springfield; is now in complete running order; has cost, including equipments, stations, station-houses, &c., up to this date \$2,708,109 19.

This Company hold stock in the Columbus and Xenia Railroad Company to the amount of \$386,000; which now commands a premium of 20 per cent. Also, in the Hillsborough Road the amount of \$11,716.

The receipts of the Road have been as follows:

For the year ending Dec. 1, 1844.	.....	\$18,623 36
For the year ending Dec. 1, 1845.	.....	46,327 58
For the year ending Dec. 1, 1846.	.....	116,052 02
For the year ending Dec. 1, 1847.	.....	221,139 52
For the year ending Dec. 1, 1848.	.....	280,085 78
For the year ending Dec. 1, 1849.	.....	321,398 82
For the year ending Dec. 1, 1850.	.....	405,597 24
For the year ending Dec. 1, 1851.	.....	487,845 89
For the year ending Dec. 1, 1852.	.....	526,746 35
The receipts from Dec. 1, 1852, to Sept.	.....
1, 1853, 10 months were.	.....	544,625 59
For the same period year before.	.....	411,797 06

Increase in 10 months.....\$182,823 53

The position of this road, being the natural, shortest and most usually travelled route from Cincinnati and the vast country south and west of it, to the northern cities, must ever make it one of the most important and profitable lines in the country.

An inspection of a map will show its connections to be many and important. This road operates the Columbus and Xenia Road, and runs in connection with the Cleveland and Columbus Road; in fact they are now run as one line greatly to the advantage of all.

Regular annual 10 per cent. dividends have been declared since December, 1847, with an extra dividend of 5 per cent. in 1852. In 1852 two cash dividends of 5 per cent. were made.

The present surplus and reserve fund amounts to.....	\$98,546 10
The mortgage covers the entire line of road, costing to date...	2,708,108 19
To be expended on double track, &c.	1,500,000 00

Value of security.....\$4,208,109 19

The security for the payment of these Bonds is one of the most ample character, being a first and only mortgage or deed of trust (excepting one of \$100,000 to the City of Cincinnati) on the Company's Road, Stations, Franchises, net income, &c., to J. F. D. LANIER, Esq., of this city, in trust for the bondholders, with ample power to take possession of the Road, its real and personal estate, franchises, &c., and to sell the same to the highest bidder for cash, if default be made in payment of interest or principal. The mortgage is for \$1,500,000, and cannot be increased.

The Stock owned by the Road in the Columbus and Xenia and Hillsborough Railways will much more than pay off the \$100,000 prior lien to the

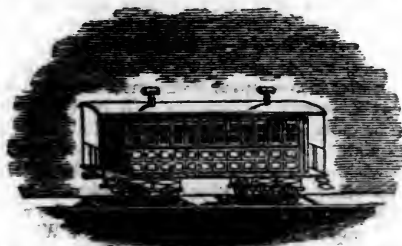
City of Cincinnati, and all other debts of the Company, excepting this loan of \$1,500,000.

These Bonds are offered at private sale by the undersigned, Agents of the Company.

Printed statements of the affairs of the Company, and any further information relative to the securities, will be given by

WINSLOW, LANIER & CO.,
No. 52 Wall-st.

Elmira Car Manufactory.



THE Undersigned is prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

W. M. E. RUTTER.

Elmira, N. Y., June 1, 1853.

The Hamilton Car Company,

ARE prepared to Contract for the Manufacture to order Rail Road Cars of every description, such as Passenger, Baggage, Freight, Dumping and Hand Cars, &c. &c.

Having ample facilities for Manufacturing at the lowest rates, and being supplied with Eastern Mechanics in every department under the Superintendence of H. P. Lanckton, who has had charge of T. W. Wason's well known establishment at Springfield Mass., for the last Six years, we can guaranty ours to be equal in style and quality to any manufactured.

Car Manufacturers and Rail Road Companies Supplied with Car wheels from the most approved patterns at the lowest prices. Castings of all kinds for Cars, Rail Road Bridges, &c. made to order at short notice.

Orders Respectfully Solicited.

Address, HENRY SIZER, Agent,
Cincinnati Ohio.
Office 596 Fifth Street, Cincinnati, at Rail Road Depot Building.

Railroad Car Works.

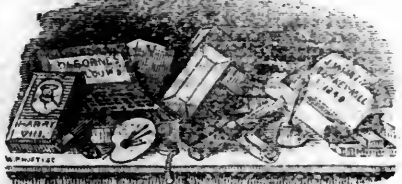
THE Undersigned are prepared to manufacture for Railroad Companies, Passenger, Baggage, Cattle, Freight, Gravel and Hand Cars, also Baggage Barrows and Freight Trucks.

F. HUNGERFORD & CO.

Maysville, Ky., Sept. 29, 1853.

Hufty's

Engineers, Architects and Draftsmen's STATIONERY EMPORIUM.



WHATMAN'S Turkey Mill Drawing paper, Tracing paper, Plan and Profile, Protractors, Drawing Pins, Faber's, Jackson's and other makers' Pencils; Field, Level, and Memorandum Books of various patterns; Mathematical Instruments, Tape-lines, Mouth Glue, Cross Section paper, Triangles, Sabel Brushes, Gum Bands, Maiden Gum, Red Tape, Ink, Inkstands and Sand, Water Colors, Pallets, Patent Binders for letters, Portfolios, etc., together with a general assortment of Stationery and Blank Books. All goods packed with care, and forwarded to any part of the United States.

JOSEPH HUFTY,
Successor to H. L. Lipman,
139 Chestnut st., Philadelphia.

May 15, 1851.

Buffalo Car Works.

TOWNSEND & COIT, Proprietors.

WE are now erecting an extensive Establishment for the manufacture of Railroad Cars, which will be furnished with all the conveniences known to the business, and ready for operation by the 1st day of June next, at which time we will be ready to execute orders for Baggage, Box, Platform and Cattle Cars, of the most approved style and finish. Meantime we are prepared to make contracts for work to be furnished during the summer and fall.

TOWNSEND & COIT, Buffalo.

February 23, 1853.

A. N. GRAY, Cleveland, O.,

RECEIVER AND FORWARDER of Railroad
Iron, Chairs and Spikes

Also, Cars, Locomotives, and all kinds of Machinery for Railroad purposes.

Office next door to the Custom House, Main st.
January 12, 1853.

SIXTY MILES DISTANCE SAVED!—ONLY THIRTY-SIX AND A HALF HOURS TO CHICAGO.

MICHIGAN SOUTHERN RAILROAD LINE, carrying the Great Western U. S. Through Mail—FOR CHICAGO AND ST. LOUIS, MILWAUKEE, RACINE, KENOSHA, and all Ports on Lake Michigan.—Through from Buffalo to Monroe IN FOURTEEN HOURS WITHOUT LANDING.

The following magnificent and unequalled steamers from the line between Buffalo and Monroe:

EMPIRE STATE, J. WILSON, Commander, leaves Buffalo Mondays and Thursdays.

SOUTHERN MICHIGAN, A. D. PERKINS, Commander, leaves Buffalo Tuesdays and Fridays.

NORTHERN INDIANA, I. T. PHATT, Commander, leaves Buffalo Wednesdays and Saturdays.

One of the above splendid steamers will leave the Michigan Southern Railroad Line Dock, at 9 o'clock, P. M. every day, (except Sundays) and run direct through to Monroe without landing, in 14 hours, where the Lightning Express Train will be in waiting to take passengers direct to Chicago in 5 hours; arriving next evening after leaving Buffalo.

THE LAKE SHORE RAILROAD.

runs in connection with this line, forming the only continuous line of Railroad to Chicago and the Illinois River.

For Through Tickets, by New-York and Erie and Buffalo and New-York City Railroad via Buffalo, or by the People's Line of Steamboats, Hudson River Railroad via Albany and Buffalo, apply to

JOHN F. PORTER, Agent,
No. 193 Broadway, corner Dey-st., N. Y.

MONTREAL & NEW YORK AND Plattsburgh and Montreal RAILROADS.

Open through from Plattsburgh to Montreal.

Passenger Trains leave Montreal for Plattsburgh at 6 30 a.m. and 5 p.m., arrive at 8 a.m. and 7 30 p.m.

Leave Plattsburgh for Montreal 7 30 a.m. and 4 p.m., arrive at 10 a.m. and 6 50 p.m.

Trains connect at Montreal with Steamers for Quebec, and the St. Lawrence and Atlantic Railroad for Sherbrooke and intermediate stations.

Trains connect at Moors Junction with Northern (Ogdensburg) Railroad for Ogdensburg and Lake Ontario Steamers for Lewiston, Niagara Falls and Upper Canada, and all ports on the Western Lakes.

Trains connect at Plattsburgh by Steamer to Burlington with Rutland and Burlington Railroad and connecting lines for Troy, Albany, New York and Boston, and all intermediate stations. Also with steamers for Whitehall to the Saratoga and Washington Railroad, and connecting lines of road to Troy, Albany and New York.

Passengers will find this route unequalled for comfort and dispatch, and attended with less fatigue and delay than any other. It possesses moreover the advantage of a short ferrage of only fifteen minutes across the River St. Lawrence at Caughnawaga, which has never been known to freeze, and can be confidently relied upon at all seasons of the year.

Freight Trains run daily each way.

For particulars see Freight and Passenger Tariff.

BAGGAGE checked through.

H. W. NELSON, Superintendent.

New York and Erie R. R.

PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

DAY EXPRESS, at 6 a. m. for Dunkirk and Buffalo.

MAIL, at 8 1/2 a. m. for Dunkirk and Buffalo, and all intermediate stations. Passengers by this train will remain over night at any station between Binghamton and Corning, and proceed the next morning.

ACCOMMODATION, at 12 1/2 p. m. for Delaware and all intermediate stations.

WAT, at 3 1/2 p. m. for Delaware and all intermediate stations.

NIGHT EXPRESS, at 5 p. m. for Dunkirk and Buffalo.

EMERALD, at 6 p. m. for Dunkirk and all intermediate stations. On Sundays only one Express Train—at 5 p. m.

The Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Chicago, etc., and at Buffalo with first class splendid steamers for Cleveland, Sandusky, Toledo, Detroit and Chicago.

CHAS. MENOT, Sup't.

Notice to Contractors.



WARSAW & ROCKFORD RAILROAD.

THE preliminary Surveys are now complete for the First Division, (about 120 miles) from Warsaw, through Nauvoo, Oquawka, Keithsburg, Rock Island and to Port Byron, including both Rapids of the Mississippi, and the location progressing. The character of the country is such, and the surveys so near to any location that will be made, that Contractors can satisfy themselves of the value of the work as well now as hereafter. Proposals are asked at the Office of the Company in Warsaw, Hancock County, Illinois, for the construction of the whole or part of the road, either by quantities or by the mile. Contract will not be made before the 1st of January, 1854, and only so soon thereafter as advantageous offers can be made. The Company are willing to make general contract, for cash or for cash and securities.

The route of the road is generally in the valley and second bottoms of the Mississippi, and the work can be completed very rapidly. The road is important as one of the improvements of the navigation of the Rapids, and also from its several (two at least) connections with other railroads.

WM. H. ROOSEVELT,
President.

W. R. KINGSLEY,
Engineer.

T. S. O'SULLIVAN,
Consulting Engineer.
Warsaw, Nov. 17, 1853.

Drawing.

B. BLANDOWSKI, Topographical and Ornamental Draughtsman and Designer. Maps accurately drawn, enlarged or reduced from notes or copies. Ornamental designs for decorations, furniture, fences and ornamental foundry work. Architectural designs. Drawings from nature carefully prepared.

REFERENCES. Messrs. Miller and Freund, Ligneous Marble Works, corner of Franklin and Center streets, New York. Also H. V. Poor, Esq., Editor Railroad Journal, and Zerah Colburn, Assistant do.

Address, care of Railroad Journal, 9 Spruce street New York.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WIGHTMAN, manufacturing Chemists, Philadelphia.
Jan. 20, 1849.

To Railroad Companies,
Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—

Railroad Iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

Krupp's
CELEBRATED CAST STEEL,

Which obtained the Council Medal at the London Exhibition in 1851.

Warranted unapproachable as to Quality and Size.

PLATES and other Cast-Steel Rollers, of any dimensions not exceeding six feet long by eighteen inches diameter. Piston Rods and Shafts for Steam Engines, not exceeding 3000 lbs. in weight.

Railway and other Axles, Cranks, Springs and Tyres. Cannon, Rifle and Gun Barrels. Mint and other Rolling Mills.

Orders received by

THOMAS PROSSER & SON,
22 Platt street, New York.

Sole Agents for the United States.
Nov. 19, 1853.

To Contractors.

RACINE, JANESVILLE & MISSISSIPPI
RAILROAD.

SEALED PROPOSALS will be received by the Racine, Janesville and Mississippi railroad Company, at their office, in the city of Racine, Wisconsin, until noon of Monday, the 2d day of January next, for the grading, masonry and bridging of their line of railroad, from near the village of Burlington, on Fox river, in Racine county, to the village of Beloit, on Rock River, in the county of Rock, a distance of forty-two miles. The work is divided into sections, from one to one and a half miles in length. Proposals will be received for one or more sections or for the whole work. Profiles and specifications can be examined by parties wishing to contract on and after the 20th inst. at the office of the Company in Racine.

This part of the line passes through the richest, most populous and healthiest part of Wisconsin, where provisions and other supplies can be obtained in abundance, and at low rates.

Any further information in reference to the work, may be obtained on application to Leverett H. Clark, Chief Engineer, or of the undersigned.

By order of the Board of Directors,
HENRY S. DURAND, President.

Communications by mail can be addressed as above.

Racine, Wis., Dec. 24, 1853.

To Railroad Companies.

COLLINS' PATENT
VENTILATORS,

FOR

Ventilating all kinds of
PUBLIC AND PRIVATE BUILDINGS
Railroad Cars, Depots, etc.

THE Subscribers would invite the attention of the public to the above celebrated Patent Ventilator. This Ventilator is the best one now known of, for giving a pure air in rooms, and ejecting all foul air. It has been adopted by all the principal Railroad Companies and Car Factories, and is extensively used for private dwellings, and for the cure of smoky Chimneys cannot be excelled. Manufactured and for sale by

BAKER & WILLIAMS,
No. 406 Market st., Girard Row,
Sole Agents for Pennsylvania.

CERTIFICATES.

Engineer Department P.R.R., Altoona, Feb. 8, 1853.

This is to certify that Messrs. BAKER & WILLIAMS, of 406 Market st., Philadelphia, have furnished a large number of Collins' Patent Galvanized Iron Ventilators for the P. R. R. Co., and that they have given every satisfaction, acting fully as represented. I consider them as a necessary appendage to an Engine House. We have them in use thirteen inches, and two feet diameter, acting equally well. So well satisfied am I of their usefulness, that the Engine Houses we are about building will be supplied with them at every point where a draft is necessary to free building of smoke.

STRIKLAND KNEASS,
Principal Assistant Engineer P. R. R. Co.

Engineer Depart. P. R. R. Co., Pittsburgh, May 12, 1853.

Messrs. BAKER & WILLIAMS,
Dear Sirs—The 23 Collins' Patent Ventilators furnished by you for the Engine House at this place, have been in use several months and their merits have been fully tested and have given most perfect satisfaction; being constructed on true principles of Ventilation, and the workmanship is of a substantial and superior character. Yours truly,

3m40 OLIVER W. BARNES,
Principal Assistant Engineer P. R. R. Co.

India-Rubber Railroad Car
Springs, etc.

THE UNITED STATES CAR SPRING COMPANY, having completed their new factory, are manufacturing and furnishing to Railroad Companies, and Car Builders, RUBBER SPRINGS of the best quality, on the most favorable terms. Also, McMillen's superior WHITE HOSE, not only for Railroads, but all other purposes, and of any size or thickness required.

Aug. 10, 1853. 3m New York.

Railroad Iron.

2,000 TONS FIRST CLASS WELSH RAILWAY IRON, to be made to any ordinary T pattern required by the buyers, and for shipment from Newport, Wales, in December, January, and March next, apply to the undersigned, for many years connected with the largest house in the trade.

JOHN H. AUSTIN & CO.,
445 2 Ingram Court, Fenchurch street London.

OFFICE OF MICHIGAN SOUTHERN AND NORTHERN INDIANA RAILROAD COMPANY, No. 18 William-st.—New York, Dec. 16, 1853—DIVIDEND—A dividend of 10 per cent. on the capital stock of these Companies has this day been declared out of the profits of the last six months, payable at the office of the Companies, on and after the 3d January next. The earnings having been appropriated to the construction of the new lines of Road in Indiana and Michigan, the dividend is made payable in "Construction Stock," bearing 8 per cent. interest until the completion of the work. All fractional parts of shares will be paid in cash. Holders of "Construction Stock" are notified that interest thereon to first January, at the rate of 8 per cent. per annum, will be paid in cash at this office on and after the 3d January next.

The Transfer Books will be closed from the 22d inst. to the 3d January.

By order of the Board of Directors,
EDWIN C. LITCHFIELD, Treasurer.

Small Rails.

THE SUBSCRIBERS manufacture and keep constantly for sale, Light Rails of the most approved patterns, weighing 22, 25, 28, 40 and 50 lbs per yard, suitable for Collars, Miners, Quarrymen and Contractors, or for turn outs, depot and branch tracks.

CHARLES E. SMITH & Co
1744 Fairmount Iron Works, Philadelphia.
CHAS. E. SMITH, HENRY MORRIS,
THOS. T. TASKER, WISTAR MORRIS.

Railroad Iron Via Quebec.

JOHN ANDERSON & Co.,

COMMISSION MERCHANTS,
SHIPPING AGENTS AND BROKERS,
QUEBEC,

PARTICULAR attention given to the Transhipment of Iron in Transit for the Western Lake Ports, likewise to the Shipment of Rails in Great Britain.
Quebec, Dec. 2, 1853.

Railroad Iron.

TWO THOUSAND TONS Erie Pattern, 58 lbs. to the yard, already shipped, and expected here soon—for sale by
381r JOHN H. HICKS, 90 Beaver st.

1300 Tons Yorkshire T rail, weighing 56 lbs. to the yard, and of a superior quality daily due and for sale by,
NAYLOR & CO.

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale, every variety and size of Railroad Wheels, made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.
Sept. 11, 1852. 1v

Machinists' Tools.

A SUPERIOR CLASS,

DESIGNED particularly for Railroad work, manufactured by L. B. TING & CO., (late ALDRICH, TING & Co.),
October 7, 1853. LOWELL, MASS.

Henry I. Ibbotson,

MANUFACTURER OF

FILES AND SAWS,

Warranted of superior quality.
Office and Warehouse, 218 Pearl st., New York.

Book and Job Printing.

The undersigned have added to the PRINTING ESTABLISHMENT of the "RAILROAD JOURNAL," an extensive OFFICE for BOOK AND JOB PRINTING, which they are now prepared to execute in the best manner, and with dispatch. They respectfully solicit from RAILROAD COMPANIES, orders for the PRINTING of Exhibits

Time-tables, Circulars, Tickets, &c., &c.

J. H. SCHULTZ & CO.

New York April 9, 1853.

UNIVERSITY OF ILLINOIS-URBANA



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